UNITED STATES
SECURITIES AND EXCHANGE
Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended May 31, 2019

OR

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

For the transition period from ______ to ______

Commission File Number: 1-7102

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
(Exact name of registrant as specified in its charter)

District of Columbia	**52-0891669**
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

20701 Cooperative Way, Dulles, Virginia, 20166

(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: **(703) 467-1800**

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

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
7.35% Collateral Trust Bonds, due 2026	NRUC 26	New York Stock Exchange
5.50% Subordinated Notes, due 2064	NRUC	New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transaction period for complying with any new or revised financial accounting standards provided pursuant to Section13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The Registrant is a tax-exempt cooperative and therefore does not issue capital stock.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (this "Report") contains certain statements that are considered "forward-looking statements" within the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended. Forward-looking statements, which are based on certain assumptions and describe our future plans, strategies and expectations, are generally identified by our use of words such as "intend," "plan," "may," "should," "will," "project," "estimate," "anticipate," "believe," "expect," "continue," "potential," "opportunity" and similar expressions, whether in the negative or affirmative. All statements about future expectations or projections, including statements about loan volume, the appropriateness of the allowance for loan losses, operating income and expenses, leverage and debt-to-equity ratios, borrower financial performance, impaired loans, and sources and uses of liquidity, are forward-looking statements. Although we believe that the expectations reflected in our forward-looking statements are based on reasonable assumptions, actual results and performance may differ materially from our forward-looking statements due to several factors. Factors that could cause future results to vary from our forward-looking statements include, but are not limited to, general economic conditions, legislative changes including those that could affect our tax status, governmental monetary and fiscal policies, demand for our loan products, lending competition, changes in the quality or composition of our loan portfolio, changes in our ability to access external financing, changes in the credit ratings on our debt, valuation of collateral supporting impaired loans, charges associated with our operation or disposition of foreclosed assets, technological changes within the rural electric utility industry, regulatory and economic conditions in the rural electric industry, nonperformance of counterparties to our derivative agreements, the costs and effects of legal or governmental proceedings involving us or our members and the factors listed and described under "Item 1A. Risk Factors" in this Report. Except as required by law, we undertake no obligation to update or publicly release any revisions to forward-looking statements to reflect events, circumstances or changes in expectations after the date on which the statement is made.

PART I

Item 1. Business

OVERVIEW

National Rural Utilities Cooperative Finance Corporation ("CFC") is a member-owned cooperative association incorporated under the laws of the District of Columbia in April 1969. CFC's principal purpose is to provide its members with financing to supplement the loan programs of the Rural Utilities Service ("RUS") of the United States Department of Agriculture ("USDA"). CFC makes loans to its rural electric members so they can acquire, construct and operate electric distribution, generation and transmission ("power supply") systems and related facilities. CFC also provides its members with credit enhancements in the form of letters of credit and guarantees of debt obligations. As a cooperative, CFC is owned by and exclusively serves its membership, which consists of not-for-profit entities or subsidiaries or affiliates of not-for-profit entities. CFC is exempt from federal income taxes under Section 501(c)(4) of the Internal Revenue Code. As a member-owned cooperative, CFC's objective is not to maximize profit, but rather to offer members cost-based financial products and services. As described below under "Allocation and Retirement of Patronage Capital," CFC annually allocates its net earnings, which consist of net income excluding the effect of certain noncash accounting entries, to: (i) a cooperative educational fund; (ii) a general reserve, if necessary; (iii) members based on each member's patronage of CFC's loan programs during the year; and (iv) a members' capital reserve. CFC funds its activities primarily through a combination of public and private issuances of debt securities, member investments and retained equity. As a Section 501(c)(4) tax-exempt, member-owned cooperative, we cannot issue equity securities.

Our financial statements include the consolidated accounts of CFC, National Cooperative Services Corporation ("NCSC"), Rural Telephone Finance Cooperative ("RTFC") and subsidiaries created and controlled by CFC to hold foreclosed assets resulting from defaulted loans or bankruptcy. We did not carry any foreclosed assets on our consolidated balance sheet as of May 31, 2019 or May 31, 2018. Unless stated otherwise, references to "we," "our" or "us" relate to CFC and its consolidated entities. All references to members within this document include members, associates and affiliates of CFC and its consolidated entities, except where indicated otherwise.

NCSC is a taxable cooperative incorporated in 1981 in the District of Columbia as a member-owned cooperative association. The principal purpose of NCSC is to provide financing to its members, entities eligible to be members of CFC and the for-profit and not-for-profit entities that are owned, operated or controlled by, or provide significant benefit to Class

A, B and C members of CFC. See “Members” below for a description of our member classes. NCSC’s membership consists of distribution systems, power supply systems and statewide and regional associations that were members of CFC as of May 31, 2019. CFC, which is the primary source of funding for NCSC, manages NCSC’s business operations under a management agreement that is automatically renewable on an annual basis unless terminated by either party. NCSC pays CFC a fee and, in exchange, CFC reimburses NCSC for loan losses under a guarantee agreement. As a taxable cooperative, NCSC pays income tax based on its reported taxable income and deductions. NCSC is headquartered with CFC in Dulles, Virginia.

RTFC is a taxable Subchapter T cooperative association originally incorporated in South Dakota in 1987 and reincorporated as a member-owned cooperative association in the District of Columbia in 2005. RTFC’s principal purpose is to provide financing for its rural telecommunications members and their affiliates. RTFC’s membership consists of a combination of not-for-profit and for-profit entities. CFC is the sole lender to and manages RTFC’s business operations through a management agreement that is automatically renewable on an annual basis unless terminated by either party. RTFC pays CFC a fee and, in exchange, CFC reimburses RTFC for loan losses under a guarantee agreement. As permitted under Subchapter T of the Internal Revenue Code, RTFC pays income tax based on its taxable income, excluding patronage-sourced earnings allocated to its patrons. RTFC is headquartered with CFC in Dulles, Virginia.

Our principal operations are currently organized for management reporting purposes into three business segments: CFC, NCSC and RTFC. We provide information on the financial performance of our business segments in “Note 15—Business Segments.”

OUR BUSINESS

Our business strategy and policies are set by our board of directors and may be amended or revised from time to time by the board of directors. We are a nonprofit tax-exempt cooperative finance organization, whose primary focus is to provide our members with the credit products they need to fund their operations. As such, our business focuses on lending to electric systems and securing access to capital through diverse funding sources at rates that allow us to offer cost-based credit products to our members.

Focus on Electric Lending

CFC focuses on lending to its member electric utility cooperatives. Substantially all of our electric cooperative borrowers continue to demonstrate stable operating performance and strong financial ratios. Our electric cooperative members experience limited competition as they generally operate in exclusive territories and the majority are not rate regulated. Loans to electric utility organizations represented approximately 99% of total loans outstanding as of both May 31, 2019 and 2018, respectively.

Maintain Diversified Funding Sources

We strive to maintain diversified funding sources beyond capital market offerings of debt securities. We offer various short- and long-term unsecured investment products to our members and affiliates, including commercial paper, select notes, daily liquidity fund notes, medium-term notes and subordinated certificates. We continue to issue debt securities, such as secured collateral trust bonds, unsecured medium-term notes and dealer commercial paper, in the capital markets. We also have access to funds through bank revolving line of credit arrangements, government-guaranteed programs such as funding from the Federal Financing Bank that is guaranteed by RUS through the Guaranteed Underwriter Program of the USDA (the “Guaranteed Underwriter Program”), as well as private placement note purchase agreements with the Federal Agricultural Mortgage Corporation (“Farmer Mac”). We provide additional information on our funding sources in “Item 7. MD&A—Consolidated Balance Sheet Analysis,” “Item 7. MD&A—Liquidity Risk,” “Note 6—Short-Term Borrowings,” “Note 7—Long-Term Debt,” “Note 8—Subordinated Deferrable Debt” and “Note 9—Members’ Subordinated Certificates.”

LOAN PROGRAMS

CFC lends to its members and associates. NCSC lends to its members, entities eligible to be members of CFC and its associates, for-profit and nonprofit entities that are owned, operated or controlled by, or provide significant benefit, to CFC members. RTFC lends to its members, associates and organizations affiliated with its members and associates. See “Item 1. Business—Members” for additional information on the entities that comprise our membership. Loans to NCSC associates may require a guarantee of repayment to NCSC from the CFC member cooperative with which it is affiliated. CFC, NCSC and RTFC loans generally contain provisions that restrict further borrower advances or trigger an event of default if there is any material adverse change in the business or condition, financial or otherwise, of the borrower.

CFC Loan Programs

Long-Term Loans

CFC’s long-term loans generally have the following characteristics:

- terms of up to 35 years on a senior secured basis;
- amortizing, bullet maturity or serial payment structures;
- the property, plant and equipment financed by and securing the long-term loan has a useful life equal to or in excess of the loan maturity;
- flexibility for the borrower to select a fixed interest rate for periods of one to 35 years or a variable interest rate; and
- the ability for the borrower to select various tranches with either a fixed or variable interest rate for each tranche.

Borrowers typically have the option of selecting a fixed or variable interest rate at the time of each advance on long-term loan facilities. When selecting a fixed rate, the borrower has the option to choose a fixed rate for a term of one year through the final maturity of the loan. When the selected fixed interest rate term expires, the borrower may select another fixed rate for a term of one year through the remaining loan maturity or the current variable rate. Long-term fixed rates are set daily for new loan advances and loans that reprice. The fixed rate on each loan is generally determined on the day the loan is advanced or repriced based on the term selected. The variable rate is set on the first day of each month.

To be in compliance with the covenants in the loan agreement and eligible for loan advances, distribution systems generally must maintain an average modified debt service coverage ratio, as defined in the loan agreement, of 1.35 or greater. CFC may make long-term loans to distribution systems, on a case-by-case basis, that do not meet these general criteria. Power supply systems generally are required: (i) to maintain an average modified debt service coverage ratio, as defined in the loan agreement, of 1.00 or greater; (ii) to establish and collect rates and other revenue in an amount to yield margins for interest, as defined in an indenture, in each fiscal year sufficient to equal at least 1.00; or (iii) both. CFC may make long-term loans to power supply systems, on a case-by-case basis, that may include other requirements, such as maintenance of a minimum equity level.

Line of Credit Loans

Line of credit loans are designed primarily to assist borrowers with liquidity and cash management and are generally advanced at variable interest rates. Line of credit loans are typically revolving facilities. Certain line of credit loans require the borrower to pay off the principal balance for at least five consecutive business days at least once during each 12-month period. Line of credit loans are generally unsecured and may be conditional or unconditional facilities.

Line of credit loans also are made available as interim financing when a member either receives RUS approval to obtain a loan and is awaiting its initial advance of funds or submits a loan application that is pending approval from RUS (sometimes referred to as “bridge loans”). In these cases, when the borrower receives the RUS loan advance, the funds must be used to repay the bridge loans.

Syndicated Line of Credit Loans

A syndicated line of credit loan is typically a large financing offered by a group of lenders that work together to provide funds for a single borrower. Syndicated loans are generally unsecured, floating-rate loans that can be provided on a revolving or term basis for tenors that range from several months to five years. Syndicated financings are arranged for borrowers on a case-by-case basis. CFC may act as lead lender, arranger and/or administrative agent for the syndicated facilities. CFC will syndicate these line of credit facilities on a best effort basis.

NCSC Loan Programs

Long-Term Loans

NCSC's long-term loans generally have the following characteristics:

- terms of up to 35 years on a senior secured or unsecured basis;
- amortizing, bullet maturity or serial payment structures;
- the property, plant and equipment financed by and securing the long-term loan has a useful life equal to or in excess of the loan maturity;
- flexibility for the borrower to select a fixed interest rate for periods of one to 35 years or a variable interest rate; and
- the ability for the borrower to select various tranches with either a fixed or variable interest rate for each tranche.

NCSC allows borrowers to select a fixed interest rate or a variable interest rate at the time of each advance on long-term loan facilities. When selecting a fixed rate, the borrower has the option to choose a fixed rate for a term of one year through the final maturity of the loan. When the selected fixed interest rate term expires, the borrower may select another fixed rate for a term of one year through the remaining loan maturity or the current variable rate. The fixed rate on a loan generally is determined on the day the loan is advanced or repriced based on the term selected. The variable rate is set on the first day of each month.

Line of Credit Loans

NCSC also provides revolving line of credit loans to assist borrowers with liquidity and cash management on terms similar to those provided by CFC as described herein.

RTFC Loan Programs

Long-Term Loans

RTFC primarily makes long-term loans to rural local exchange carriers or holding companies of rural local exchange carriers for debt refinancing, construction or upgrades of infrastructure, acquisitions and other corporate purposes. Most of these rural telecommunications companies have diversified their operations and also provide broadband services.

RTFC's long-term loans generally have the following characteristics:

- terms not exceeding 10 years on a senior secured basis;
- amortizing or bullet maturity payment structures;
- the property, plant and equipment financed by and securing the long-term loan has a useful life equal to or in excess of the loan maturity;
- flexibility for the borrower to select a fixed interest rate for periods from one year to the final loan maturity or a variable interest rate; and
- the ability for the borrower to select various tranches with either a fixed or variable interest rate for each tranche.

When a selected fixed interest rate term expires, generally the borrower may select another fixed-rate term or the current variable rate. The fixed rate on a loan is generally determined on the day the loan is advanced or converted to a fixed rate based on the term selected. The variable rate is set on the first day of each month.

To borrow from RTFC, a rural telecommunication system generally must be able to demonstrate the ability to achieve and maintain an annual debt service coverage ratio of 1.25. RTFC may make long-term loans to rural telecommunication systems, on a case-by-case basis, that do not meet this general criterion.

Line of Credit Loans

RTFC also provides revolving line of credit loans to assist borrowers with liquidity and cash management on terms similar to those provided by CFC as described herein.

Loan Features and Options

Interest Rates

As a member-owned cooperative finance organization, we are a cost-based lender. As such, our interest rates are set based on a yield that we believe will generate a reasonable level of earnings to cover our cost of funding, general and administrative expenses and loan loss provision. Various standardized discounts may reduce the stated interest rates for borrowers meeting certain criteria related to performance, volume, collateral and equity requirements.

Conversion Option

Generally, a borrower may convert a long-term loan from a variable interest rate to a fixed interest rate at any time without a fee and convert a long-term loan from a fixed rate to another fixed rate or to a variable rate at any time based on current loan policies.

Prepayment Option

Generally, borrowers may prepay long-term fixed-rate loans at any time, subject to payment of an administrative fee and a make-whole premium, and prepay long-term variable-rate loans at any time, subject to payment of an administrative fee. Line of credit loans may be prepaid at any time without a fee.

Loan Security

Long-term loans made by CFC typically are senior secured on parity with other secured lenders (primarily RUS), if any, by all assets and revenue of the borrower, subject to standard liens typical in utility mortgages such as those related to taxes, worker's compensation awards, mechanics' and similar liens, rights-of-way and governmental rights. We are able to obtain liens on parity with liens for the benefit of RUS because RUS' form of mortgage expressly provides for other lenders such as CFC to have a parity lien position if the borrower satisfies certain conditions or obtains a written lien accommodation from RUS. When we make loans to borrowers that have existing loans from RUS, we generally require those borrowers to either obtain such a lien accommodation or satisfy the conditions necessary for our loan to be secured on parity under the mortgage with the loan from RUS. As noted above, CFC line of credit loans generally are unsecured.

We provide additional information on our loan programs in "Item 7. MD&A—Consolidated Balance Sheet Analysis," "Item 7. MD&A—Off-Balance Sheet Arrangements" and "Item 7. MD&A—Credit Risk."

GUARANTEE PROGRAMS

When we guarantee our members' debt obligations, we use the same credit policies and monitoring procedures for guarantees as for loans. If a member system defaults in its obligation to pay debt service, then we are obligated to pay any required amounts under our guarantees. Meeting our guarantee obligations satisfies the underlying obligation of our member systems and prevents the exercise of remedies by the guarantee beneficiary based upon a payment default by a member system. The member system is required to repay any amount advanced by us with interest pursuant to the documents evidencing the member system's reimbursement obligation. We were not required to perform pursuant to any of our guarantee obligations during the year ended May 31, 2019.

Guarantees of Long-Term Tax-Exempt Bonds

We guarantee debt issued for our members' construction or acquisition of pollution control, solid waste disposal, industrial development and electric distribution facilities. Governmental authorities issue such debt on a nonrecourse basis and the interest thereon is exempt from federal taxation. The proceeds of the offering are made available to the member system, which in turn is obligated to pay the governmental authority amounts sufficient to service the debt.

If a system defaults for failure to make the debt payments and any available debt service reserve funds have been exhausted, we are obligated to pay scheduled debt service under our guarantee. Such payment will prevent the occurrence of an event of payment default that would otherwise permit acceleration of the bond issue. The system is required to repay any amount that we advance pursuant to our guarantee plus interest on that advance. This repayment obligation, together with the interest thereon, is typically senior secured on parity with other lenders (including, in most cases, RUS), by a lien on substantially all of the system's assets. If the security instrument is a common mortgage with RUS, then in general, we may not exercise remedies for up to two years following default. However, if the debt is accelerated under the common mortgage because of a determination that the related interest is not tax-exempt, the system's obligation to reimburse us for any guarantee payments will be treated as a long-term loan. The system is required to pay us initial and/or ongoing guarantee fees in connection with these transactions.

Certain guaranteed long-term debt bears interest at variable rates that are adjusted at intervals of one to 270 days including weekly, every five weeks or semi-annually to a level favorable to their resale or auction at par. If funding sources are available, the member that issued the debt may choose a fixed interest rate on the debt. When the variable rate is reset, holders of variable-rate debt have the right to tender the debt for purchase at par. In some transactions, we have committed to purchase this debt as liquidity provider if it cannot otherwise be re-marketed. If we hold the securities, the member cooperative pays us the interest earned on the bonds or interest calculated based on our short-term variable interest rate, whichever is greater. The system is required to pay us stand-by liquidity fees in connection with these transactions.

Letters of Credit

In exchange for a fee, we issue irrevocable letters of credit to support members' obligations to energy marketers, other third parties and to the USDA Rural Business-Cooperative Service. Each letter of credit is supported by a reimbursement agreement with the member on whose behalf the letter of credit was issued. In the event a beneficiary draws on a letter of credit, the agreement generally requires the member to reimburse us within one year from the date of the draw, with interest accruing from the draw date at our line of credit variable interest rate.

The Federal Communications Commission ("FCC") has designated CFC as an acceptable source for letters of credit in support of USDA and FCC programs that encourage deployment of high-speed broadband services throughout rural America. The designation allows CFC to provide credit support for rural electric and telecommunication cooperatives that participate in programs designed to increase deployment of broadband services to underserved rural areas.

Other Guarantees

We may provide other guarantees as requested by our members. Other guarantees are generally unsecured with guarantee fees payable to us.

We provide additional information on our guarantee programs and outstanding guarantee amounts as of May 31, 2019 and 2018 in "Item 7. MD&A—Off-Balance Sheet Arrangements" and "Note 13—Guarantees."

INVESTMENT POLICY

We invest funds in accordance with policies adopted by our board of directors. Pursuant to our current investment policy, an Investment Management Committee was established to oversee and administer our investments with the objective of seeking returns consistent with the preservation of principal and maintenance of adequate liquidity. The Investment Management Committee may direct funds to be invested in: direct obligations of, or obligations guaranteed by, the United States or agencies thereof and investments in government-sponsored enterprises, certain financial institutions in the form of overnight investment products and Eurodollar deposits, bankers' acceptances, certificates of deposit, working capital acceptances or other deposits. Other permitted investments include highly rated obligations, such as commercial paper, certain obligations of foreign governments, municipal securities, asset backed securities, mortgage-backed securities and certain corporate bonds. In addition, we may invest in overnight or term repurchase agreements. Investments are denominated in US dollars exclusively. All of these investments are subject to requirements, and limitations set forth in our investment policy.

INDUSTRY

Overview

Since the enactment of the Rural Electrification Act in 1936, RUS has financed the construction of electric generating plants, transmission facilities and distribution systems to provide electricity to rural areas. Today, with CFC membership comprised, in part, of rural electric utility systems in 49 states and three U.S. territories, the percentage of farms and residences in rural areas of the United States receiving central station electric service increased from 11% in 1934 to almost 100% currently.

RUS provides loans, guarantees and other forms of financial assistance to rural electric system borrowers. Under the Rural Electrification Act, RUS is authorized to make direct loans to systems that qualify for the hardship program (5% interest rate), the municipal rate program (based on a municipal government obligation index) and a Treasury rate program (at Treasury plus 0.125%). RUS also is authorized to guarantee loans that bear interest at a rate agreed upon by the borrower and the lender (which generally has been the Federal Financing Bank). RUS exercises oversight of borrowers' operations. Its loans and guarantees are secured by a mortgage or indenture on substantially all of the system's assets and revenue.

Leading up to CFC's formation in 1969, there was a growing need for capital for electric cooperatives to build new electric facilities due to growth in rural America. The electric cooperatives formed CFC to provide a supplemental financing source to RUS loan programs and to mitigate uncertainty related to government funding.

CFC aggregates the combined strength of its rural electric member cooperatives to access the public capital markets and other funding sources. CFC works cooperatively with RUS; however, CFC is not a federal agency or a government-sponsored enterprise. Our members are not required to have outstanding loans from RUS as a condition of borrowing from CFC. CFC meets the financial needs of its rural electric members by:

- providing financing to RUS-eligible rural electric systems for infrastructure, including for those facilities that are not eligible for financing from RUS;
- providing bridge loans required by borrowers in anticipation of receiving RUS funding;
- providing financial products not otherwise available from RUS, including lines of credit, letters of credit, guarantees on tax-exempt financing, weather-related disaster recovery lines of credit, unsecured loans and investment products such as commercial paper, member capital securities, select notes and medium-term notes; and
- meeting the financing needs of those rural electric systems that repay or prepay their RUS loans and replace the government loans with private capital.

Many electric cooperatives are making investments in fiber to support core electric plant communications. Some of these electric cooperatives are leveraging these fiber assets to offer broadband services, either directly or through partnering with local telecommunication companies and others.

Electric Member Operating Environment

In general, electric cooperatives have not been significantly impacted by the effects of retail deregulation. There were 19 states that had adopted programs that allow consumers to choose their supplier of electricity as of May 31, 2019. Depending on the state, the choices can range from being limited to commercial and industrial consumers to "retail choice" for all consumers. In most states, cooperatives have been exempted from or have been allowed to opt out of the regulations allowing for competition. In states offering retail competition, it is important to note that while consumers may be able to choose their energy supplier, the electric utility still receives compensation for the necessary service of delivering electricity to consumers through its utility transmission and distribution plant.

The electric industry is facing a potential decrease to kilowatt-hour sales due to technology advances that increase energy efficiency of all appliances and devices used in the home and in businesses as well as from distributed generation in the form of rooftop solar and home generators ("behind-the-meter generation"). Electric cooperatives are facing the same issues, but in general to a lesser extent than investor-owned power systems. Electric cooperatives have options available to mitigate the impact of such issues, such as rate structures to ensure that costs are appropriately recovered for grid and other necessary ancillary services. To date, we have not seen negative impacts in the electric cooperative financial results due to behind-the-meter generation.

Regulatory Oversight

There are 11 states in which some or all electric cooperatives are subject to state regulatory oversight of their rates and tariffs (terms and conditions) by state utility commissions. Those states are Arizona, Arkansas, Hawaii, Kentucky, Louisiana, Maine, Maryland, New Mexico, Vermont, Virginia and West Virginia.

Regulatory jurisdiction by state commissions generally includes rate and tariff regulation, the issuance of securities and the enforcement of service territory as provided for by state law.

Parts II and III of the Federal Power Act ("FPA") provide the Federal Energy Regulatory Commission ("FERC") with regulatory authority over three aspects of electric power:

- the transmission of electric energy in interstate commerce;
- the sale of electric energy at wholesale in interstate commerce; and
- the approval and enforcement of reliability standards affecting all users, owners and operators of the bulk power system.

The FERC also regulates the issuance of securities by public utilities under the FPA provided the state commission does not.

Our distribution and power supply members are subject to regulation by various federal, regional, state and local authorities with respect to the environmental effects of their operations. At the federal level, the U.S. Environmental Protection Agency ("EPA") from time to time proposes rulemakings that could force the electric utility industry to incur capital costs to comply with potential new regulations and possibly retire coal-fired generating capacity. Since there are only 11 states in which some or all electric cooperatives are subject to state regulatory oversight of their rates and tariffs, in most cases any associated costs of compliance can be passed on to cooperative consumers without additional regulatory approval. On June 19, 2019, the EPA issued the final Affordable Clean Energy ("ACE") rule. The ACE rule replaces the 2015 Clean Power Plan, which was stayed by the U.S. Supreme Court and never went into effect. Falling under Section 111(d) of the Federal Clean Air Act, the ACE rule addresses existing sources of emissions and sets a framework under which states should develop plans establishing standards of performance for their existing emissions sources and then submit those plans to the EPA for approval. States will have three years from the date of the final rule to prepare and submit a plan that establishes a standard of performance. It is expected that certain states and environmental groups will challenge the ACE rule in federal litigation.

LENDING COMPETITION

RUS is the largest lender to electric cooperatives. RUS provides long-term secured loans. CFC provides financial products and services, primarily in the form of long-term secured and short-term unsecured loans, to its electric cooperative members to supplement RUS financing, to provide loans to members that have elected not to borrow from RUS, and to bridge long-term financing provided by RUS.

CFC's primary competitor is CoBank, ACB, a federally chartered instrumentality of the United States that is a member of the Farm Credit System. CFC also competes with banks, other financial institutions and the capital markets to provide loans and other financial products to our members. As a result, we are competing with the customer service, pricing and funding options our members are able to obtain from these sources. We attempt to minimize the effect of competition by offering a variety of loan options and value-added services and by leveraging the working relationships developed with the majority of our members over the past 50 years. Further, on an annual basis, we allocate substantially all net earnings to members (i) in the form of patronage capital, which reduces our members' effective cost of borrowing, and (ii) through the members' capital reserve. The value-added services that we provide include, but are not limited to, benchmarking tools, financial models, publications and various conferences, meetings and training workshops.

In order to meet other financing needs of our members, we offer options that include credit support in the form of letters of credit and guarantees, loan syndications and loan participations. Our credit products are tailored to meet the specific needs of each member cooperative, and we often offer specific transaction structures that our competitors do not provide. CFC also offers certain risk mitigation products and interest rate discounts on secured, long-term loans for its members that meet certain criteria, including performance, volume, collateral and equity requirements.

CFC has established certain funds to benefit its members. Since 1981, CFC has set aside a portion of its annual net earnings in a cooperative educational fund to promote awareness and appreciation of the cooperative principles. As directed by the CFC Board of Directors, a portion of the contributions to the fund are distributed through the electric cooperative statewide associations. Since 1986, CFC has supported its members' efforts to protect their service territories from erosion or takeover by other utilities through assistance from the cooperative system integrity fund, which is funded through voluntary contributions from members. Amounts from the integrity fund are distributed to applicants who establish that: (i) all or a significant portion of their consumers, services or facilities face a hostile threat of acquisition or annexation by a competing entity; (ii) face a significant threat in their ability to continue to provide non-electric energy services to customers; or (iii) are facing regulatory, judicial or legislative challenges that threaten their existence under the cooperative business model.

Our rural electric borrowers are mostly private companies; thus, the overall size of the rural electric lending market cannot be determined from public information. We estimate the size of the overall rural electric lending market from the annual financial and statistical reports filed with us by our members using calendar year data; however, there are certain limitations with regard to these estimates, including the following:

- while the underlying data included in the financial and statistical reports may be audited, the preparation of the financial and statistical reports is not audited;
- in some cases, not all members provide the annual financial and statistical reports on a timely basis to be included in summarized results; and
- the financial and statistical reports do not include comprehensive data on indebtedness by lenders other than RUS.

The following table displays long-term debt outstanding to CFC, RUS and other lenders in the electric cooperative industry as of December 31, 2018 and 2017, based on financial data reported to us by our electric utility cooperative members. The data as of December 31, 2018 was provided by 812 distribution systems and 54 power supply systems, while the data as of December 31, 2017 was provided by 812 distribution systems and 58 power supply systems.

(Dollars in thousands)	December 31, 2018 Debt Outstanding	2018 % of Total	December 31, 2017 Debt Outstanding	2017 % of Total
Total long-term debt reported by members:[1]				
Distribution	**$ 49,464,999**		$ 48,147,703	
Power supply	**44,876,633**		47,862,984	
Less: Long-term debt funded by RUS	**(40,039,961)**		(39,180,420)	
Members' non-RUS long-term debt	**$ 54,301,671**		$ 56,830,267	
Funding source of members' long-term debt:				
Long-term debt funded by CFC	**$ 22,897,749**	**42%**	$ 22,671,264	40%
Long-term debt funded by other lenders	**31,403,922**	**58**	34,159,003	60
Members' non-RUS long-term debt	**$ 54,301,671**	**100%**	$ 56,830,267	100%

[1] Reported amounts are based on member-provided information, which may not have been subject to audit by an independent accounting firm.

Members' long-term debt funded by CFC, by type, as of December 31, 2018 and 2017 is summarized further below.

(Dollars in thousands)	December 31, 2018 Debt Outstanding	2018 % of Total	December 31, 2017 Debt Outstanding	2017 % of Total
Distribution	**$ 18,782,014**	**82%**	$ 18,489,086	82%
Power supply	**4,115,735**	**18**	4,182,178	18
Long-term debt funded by CFC	**$ 22,897,749**	**100%**	$ 22,671,264	100%

We are not able to specifically identify the amount of debt our members have outstanding to CoBank, ACB, from either the annual financial and statistical reports our members file with us or from CoBank, ACB's public disclosure; however, we believe CoBank, ACB, is the additional lender, along with CFC and RUS, with significant long-term debt outstanding to rural electric cooperatives.

REGULATION

General

CFC, NCSC and RTFC are not subject to direct federal regulatory oversight or supervision with regard to lending. CFC, NCSC and RTFC are subject to state and local jurisdiction commercial lending and tax laws that pertain to business conducted in each state, including but not limited to lending laws, usury laws and laws governing mortgages. These state and local laws regulate the manner in which we make loans and conduct other types of transactions. The statutes, regulations and policies to which the companies are subject may change at any time. In addition, the interpretation and application by regulators of the laws and regulations to which we are subject may change from time to time. Certain of our contractual arrangements, such as those pertaining to funding obtained through the Guaranteed Underwriter Program, provide for the Federal Financing Bank and RUS to periodically review and assess CFC's compliance with program terms and conditions.

Derivatives Regulation

CFC engages in over-the-counter derivative transactions to manage interest rate risk. As an end user of derivative financial instruments, CFC is subject to regulations that apply to derivatives generally. The Dodd-Frank Act ("DFA"), enacted July 2010, resulted in, among other things, comprehensive regulation of the over-the-counter ("OTC") derivatives market. The DFA provides for an extensive framework for the regulation of OTC derivatives, including mandatory clearing, exchange trading and transaction reporting of certain OTC derivatives. Subsequent to the enactment of the DFA, the U.S. Commodities Futures Trading Commission ("CFTC") issued a final rule, "Clearing Exemption for Certain Swaps Entered into by Cooperatives," which created an exemption from mandatory clearing for cooperatives. The CFTC's final rule, "Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants," includes an exemption from margin requirements for uncleared swaps for cooperatives that are financial end users. CFC is an exempt cooperative end user of derivative financial instruments and does not participate in the derivatives markets for speculative, trading or investing purposes and does not make a market in derivatives.

MEMBERS

Our consolidated membership, after taking into consideration entities that are members of both CFC and NCSC and eliminating memberships between CFC, NCSC and RTFC, totaled 1,447 members and 222 associates as of May 31, 2019.

CFC

CFC's bylaws provide that cooperative or nonprofit corporations, public corporations, utility districts and other public bodies that received or are eligible to receive a loan or commitment for a loan from RUS or any successor agency (as well as subsidiaries, federations or statewide and regional associations that are wholly owned or controlled by such entities) are eligible for membership. One of the criteria for eligibility for RUS financing is a "rural area" test. CFC relies on the definition of "rural" as specified in the Rural Electrification Act, as amended. "Rural" is defined in the Rural Electrification Act as any area other than a city, town or unincorporated area that has a population of less than 20,000, or any area within the service area of a borrower who, at the date of enactment of the Food, Conservation and Energy Act of 2008, had an outstanding RUS electric loan. The definition of "rural" under the act permits an area to be defined as "rural" regardless of the development of such area subsequent to the approval of the outstanding loan. Thus, those entities that received or qualify for financing from RUS are eligible to apply for membership, upon approval of membership by the CFC Board of Directors, and subsequently to borrow from CFC regardless of whether there is an outstanding loan with RUS. There are no requirements to maintain membership, although the board has the authority to suspend a member under certain circumstances. CFC has not suspended a member to date.

CFC has the following types of members, all of which are not-for-profit entities or subsidiaries or affiliates of not-for-profit entities.

Class A – Distribution Systems

Cooperative or nonprofit corporations, public corporations, utility districts and other public bodies, which received or are eligible to receive a loan or commitment for a loan from RUS or any successor agency, and that are engaged or planning to engage in furnishing utility services to their members and patrons for their use as ultimate consumers. The majority of our distribution system members are consumer-owned electric cooperatives.

Distribution systems are utilities engaged in retail sales of electricity to residential and commercial consumers in their defined service areas. Such sales are generally on an exclusive basis using the distribution system's infrastructure, including substations, wires and related support systems. Distribution systems vary in size from small systems that serve a few thousand customers to large systems that serve more than 200,000 customers. Thus, the amount of loan funding required by different distribution systems varies significantly. Distribution systems may serve customers in more than one state.

Most distribution systems have long-term power purchase contracts with their power supply systems, which are owned and controlled by the member distribution systems. Wholesale power for resale also comes from other sources, including power supply contracts with government agencies, investor-owned utilities and other entities, and, in some cases, the distribution systems own generating facilities.

Class B – Power Supply Systems

Cooperative or nonprofit corporations that are federations of Class A members or of other Class B members, or both, or that are owned and controlled by Class A members or by other Class B members, or both, and that are engaged or planning to engage in furnishing utility services primarily to Class A members or other Class B members. Our power supply system members are member-owned electric cooperatives.

The power supply systems vary in size from one with thousands of megawatts of power generation capacity to systems that have no generating capacity, which generally operate transmission lines to supply certain distribution systems or manage power supply purchase arrangements for the benefit of their distribution system members. Thus, the amount of loan funding required by different power supply systems varies significantly. Power supply members may serve distribution systems located in more than one state.

The wholesale power supply contracts with their distribution system members permit the power supply system, subject to regulatory approval in certain instances, to establish rates to produce revenue sufficient to cover debt service, to meet the cost of operation and maintenance of all power supply systems and related facilities and to pay the cost of any power and energy purchased for resale.

Class C – Statewide and Regional Associations

Statewide and regional associations that are wholly owned or controlled by Class A members or Class B members, or both, or that are wholly owned subsidiaries of a CFC member, and that do not furnish utility services but supply other forms of service to their members. Certain states have an organization that represents and serves the distribution systems and power supply systems located in the state. Such statewide organizations provide training and legislative, regulatory, media and related services.

Class D – National Associations of Cooperatives

National associations of cooperatives that are Class A, Class B and Class C members, provided said national associations have, at the time of admission to membership in CFC, members domiciled in at least 80% of the states in the United States. National Rural Electric Cooperative Association ("NRECA") is our sole Class D member. NRECA provides training, sponsors regional and national meetings, and provides legislative, regulatory, media and related services for nearly all rural electric cooperatives.

CFC Class A, B, C and D members are eligible to vote on matters put to a vote of the membership.

CFC's membership as of May 31, 2019 consisted of:

- 842 Class A distribution systems;
- 67 Class B power supply systems;
- 64 Class C statewide and regional associations, including NCSC; and
- 1 Class D national association of cooperatives.

In addition, CFC has associates that are nonprofit groups or entities organized on a cooperative basis that are owned, controlled or operated by Class A, B, C or D members and are engaged in or plan to engage in furnishing non-electric services primarily for the benefit of the ultimate consumers of CFC members. CFC had 46 associates, including RTFC, as of May 31, 2019. Associates are not eligible to vote on matters put to a vote of the membership.

NCSC

Membership in NCSC includes organizations that are Class A, B or C members of CFC, or eligible for such membership and are approved for membership by the NCSC Board of Directors.

NCSC's membership consisted of 441 distribution systems, two power supply systems and five statewide associations as of May 31, 2019. All of NCSC's members also were CFC members. CFC, however, is not a member of NCSC. In addition to members, NCSC had 171 associates as of May 31, 2019. NCSC's associates may include members of CFC, entities eligible to be members of CFC and for-profit and not-for-profit entities that are owned, controlled or operated by or provide significant benefit to Class A, B and C members of CFC.

RTFC

Membership in RTFC is limited to cooperative corporations, nonprofit corporations, private corporations, public corporations, utility districts and other public bodies that are approved by the RTFC Board of Directors and are actively borrowing or are eligible to borrow from RUS's traditional infrastructure loan program. These companies must be engaged directly or indirectly in furnishing telephone services as the licensed incumbent carrier. Holding companies, subsidiaries and other organizations that are owned, controlled or operated by members are referred to as affiliates, and are eligible to borrow from RTFC. Associates are organizations that provide non-telephone or non-telecommunications services to rural telecommunications companies that are approved by the RTFC Board of Directors. Neither affiliates nor associates are eligible to vote at meetings of the members.

RTFC's membership consisted of 474 members as of May 31, 2019. RTFC also had six associates as of May 31, 2019. CFC is not a member of RTFC.

The business affairs of CFC, NCSC and RTFC are governed by separate boards of directors for each entity. We provide additional information on CFC's corporate governance in "Item 10. Directors, Executive Officers and Corporate Governance."

TAX STATUS

In 1969, CFC obtained a ruling from the Internal Revenue Service recognizing CFC's exemption from the payment of federal income taxes as an organization described under Section 501(c)(4) of the Internal Revenue Code. In order for CFC to maintain its exemption under Section 501(c)(4) of the Internal Revenue Code, CFC must be "not organized for profit" and must be "operated exclusively for the promotion of social welfare" within the meaning of that section of the tax code. The Internal Revenue Service determined that CFC is an organization that is "operated exclusively for the promotion of social welfare" because the ultimate beneficiaries of its lending activities, like those of the RUS loan program, are the consumers of electricity produced by rural electric systems, the communities served by these systems and the nation as a whole.

As an organization described under Section 501(c)(4) of the Internal Revenue Code, no part of CFC's net earnings can inure to the benefit of any private shareholder or individual. This requirement is referred to as the private inurement prohibition and was added to Section 501(c)(4) of the Internal Revenue Code in 1996. A legislative exception allows organizations like CFC to continue to make allocations of net earnings to members in accordance with its cooperative status.

CFC believes its operations have not changed materially from those described to the Internal Revenue Service in its exemption filing. CFC reviews the impact on operations of any new activity or potential change in product offerings or business in general to determine whether such change in activity or operations would be inconsistent with its status as an organization described under Section 501(c)(4).

NCSC is a taxable cooperative that pays income tax based on its taxable income and deductions.

RTFC is a taxable cooperative under Subchapter T of the Internal Revenue Code and is not subject to income taxes on income from patronage sources that is allocated to its borrowers, as long as the allocation is properly noticed and at least 20% of the amount allocated is retired in cash prior to filing the applicable tax return. RTFC pays income tax based on its taxable income and deductions, excluding amounts allocated to its borrowers.

ALLOCATION AND RETIREMENT OF PATRONAGE CAPITAL

District of Columbia cooperative law requires cooperatives to allocate net earnings to patrons, to a general reserve in an amount sufficient to maintain a balance of at least 50% of paid-up capital and to a cooperative educational fund, as well as permits additional allocations to board-approved reserves. District of Columbia cooperative law also requires that a cooperative's net earnings be allocated to all patrons in proportion to their individual patronage and each patron's allocation be distributed to the patron unless the patron agrees that the cooperative may retain its share as additional capital.

CFC

Annually, the CFC Board of Directors allocates its net earnings to its patrons in the form of patronage capital, to a cooperative educational fund, to a general reserve, if necessary, and to other board-approved reserves. Net earnings are calculated by adjusting net income to exclude the noncash effects of the accounting for derivative financial instruments. Net losses, if any, are not allocated to board approved reserves or members and do not affect amounts previously allocated as patronage capital or to the reserves. Net earnings are first applied against prior-period losses, if any, before an allocation of patronage capital is made. CFC has never experienced an adjusted net loss.

An allocation to the general reserve is made, if necessary, to maintain the balance of the general reserve at 50% of the membership fees collected. CFC's bylaws require the allocation to the cooperative educational fund to be at least 0.25% of its net earnings. Funds from the cooperative educational fund are disbursed annually to statewide cooperative organizations to fund the teaching of cooperative principles and for other cooperative education programs.

Currently, CFC has one additional board-approved reserve, the members' capital reserve. The CFC Board of Directors determines the amount of net earnings that is allocated to the members' capital reserve, if any. The members' capital reserve represents net earnings that CFC holds to increase equity retention. The net earnings held in the members' capital reserve have not been specifically allocated to members, but may be allocated to individual members in the future as patronage capital if authorized by the CFC Board of Directors.

All remaining net earnings are allocated to CFC's members in the form of patronage capital. The amount of net earnings allocated to each member is based on the member's patronage of CFC's lending programs during the year. No interest is earned by members on allocated patronage capital. There is no effect on CFC's total equity as a result of allocating net earnings to members in the form of patronage capital or to board-approved reserves. The CFC Board of Directors has voted annually on whether or not to retire a portion of the patronage capital allocation. Upon retirement, patronage capital is paid out in cash to the members to which it was allocated. CFC's total equity is reduced by the amount of patronage capital retired to its members and by amounts disbursed from board-approved reserves.

Pursuant to CFC's bylaws, the CFC Board of Directors determines the method, basis, priority and order of retirement of amounts allocated. The current policy of the CFC Board of Directors is to retire 50% of the prior fiscal year's allocated net earnings following the end of each fiscal year and to hold the remaining 50% for 25 years to fund operations. The amount and timing of future retirements remains subject to annual approval by the CFC Board of Directors, and may be affected by CFC's financial condition and other factors. The CFC Board of Directors has the authority to change the current practice for allocating and retiring net earnings at any time, subject to applicable cooperative law.

NCSC

In accordance with District of Columbia cooperative law and its bylaws and board policies, NCSC allocates its net earnings to a cooperative educational fund, to a general reserve, if necessary, and to other board-approved reserves. Net earnings are calculated by adjusting net income to exclude the noncash effects of the accounting for derivative financial instruments. Net losses, if any, are not allocated to board-approved reserves and do not affect amounts previously allocated to the reserves.

Pursuant to NCSC's bylaws, the NCSC Board of Directors shall determine the method, basis, priority and order of amounts allocated. An allocation to the general reserve is made, if necessary, to maintain the balance of the general reserve at 50% of the membership fees collected. There is no effect on NCSC's total equity due to the allocation of net earnings to board-approved reserves. NCSC's bylaws require the allocation to the cooperative educational fund to be at least 0.25% of its net earnings. Funds from the cooperative educational fund are disbursed annually to fund the teaching of cooperative principles and for other cooperative education programs.

RTFC

In accordance with District of Columbia cooperative law and its bylaws and board policies, RTFC allocates its net earnings to its patrons, a cooperative educational fund and a general reserve, if necessary. Net losses are not allocated to members and do not affect amounts previously allocated as patronage capital or to the reserves. Current period earnings are first applied against any prior year losses before allocating patronage capital.

Pursuant to RTFC's bylaws, the RTFC Board of Directors shall determine the method, basis, priority and order of retirement of amounts allocated. RTFC's bylaws require that it allocate at least 1% of net earnings to a cooperative educational fund. Funds from the cooperative educational fund are disbursed annually to fund the teaching of cooperative principles and for other cooperative education programs. An allocation to the general reserve is made, if necessary, to maintain the balance of the general reserve at 50% of the membership fees collected. The remainder is allocated to borrowers in proportion to their patronage. RTFC provides notice to its members of the amount allocated and retires 20% of the allocation for that year in cash prior to the filing of the applicable tax return. Any additional amounts are retired as determined by the RTFC Board of Directors with due regard for RTFC's financial condition. There is no effect on RTFC's total equity due to the allocation of net earnings to members or board-approved reserves. The retirement of amounts previously allocated to members or amounts disbursed from board-approved reserves reduces RTFC's total equity.

EMPLOYEES

We had 257 employees as of May 31, 2019. We believe that our relations with our employees are good.

AVAILABLE INFORMATION

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to these reports, are available for free at www.nrucfc.coop as soon as reasonably practicable after they are electronically filed with or furnished to the U.S. Securities and Exchange Commission ("SEC"). These reports also are available for free on the SEC's website at www.sec.gov. Information posted on our website is not incorporated by reference into this Form 10-K.

Item 1A. Risk Factors

Our financial condition, results of operations and liquidity are subject to various risks and uncertainties inherent in our business. If any of the events or circumstances described in the following risks actually occur, our business, liquidity, financial condition or results of operations could be adversely affected. The risks described below are the risks we consider to be material to our business. Other risks and uncertainties, including those not currently known to us, could also negatively impact our business, results of operations and financial condition. You should consider the following risks together with all of the other information in this Annual Report on Form 10-K.

RISK FACTORS

If we are unable to access the capital markets or other external sources for funding, our liquidity position may be negatively affected and we may not have sufficient funds to meet all of our financial obligations as they become due.

We depend on access to the capital markets and other sources of financing, such as our bank revolving credit agreements, investments from our members, private debt issuances through Farmer Mac and through the Guaranteed Underwriter Program, to fund new loan advances and refinance our long- and short-term debt and, if necessary, to fulfill our obligations under our guarantee and repurchase agreements. Market disruptions, downgrades to our long-term and/or short-term debt ratings, adverse changes in our business or performance, downturns in the electric industry and other events over which we have no control may deny or limit our access to the capital markets and/or subject us to higher costs for such funding. Our access to other sources of funding also could be limited by the same factors, by adverse changes in the business or performance of our members, by the banks committed to our revolving credit agreements or Farmer Mac, or by changes in federal law or the Guaranteed Underwriter Program. Our funding needs are determined primarily by scheduled short- and long-term debt maturities and the amount of our loan advances to our borrowers relative to the scheduled payment amortization of loans previously made by us. If we are unable to timely issue debt into the capital markets or obtain funding from other sources, we may not have the funds to meet all of our obligations as they become due.

A reduction in the credit ratings for our debt could adversely affect our liquidity and/or cost of debt.

Our credit ratings are important to maintaining our liquidity position. We currently contract with three nationally recognized statistical rating organizations to receive ratings for our secured and unsecured debt and our commercial paper. In order to access the commercial paper markets at current levels, we believe that we need to maintain our current ratings for commercial paper of P-1 from Moody's Investors Service ("Moody's"), A-1 from S&P Global Inc. ("S&P") and F1 from

Fitch Ratings Inc. ("Fitch"). Changes in rating agencies' rating methodology, actions by governmental entities or others, losses from impaired loans and other factors could adversely affect the credit ratings on our debt. A reduction in our credit ratings could adversely affect our liquidity and competitive position, increase our borrowing costs or limit our access to the capital markets and the sources of financing available to us. A significant increase in our cost of borrowings and interest expense could cause us to sustain losses or impair our liquidity by requiring us to seek other sources of financing, which may be difficult to obtain.

Our ability to maintain compliance with the covenants related to our revolving credit agreements, collateral trust bond and medium-term note indentures and debt agreements could affect our ability to retire patronage capital, result in the acceleration of the repayment of certain debt obligations, adversely impact our credit ratings and hinder our ability to obtain financing.

We must maintain compliance with all covenants and conditions related to our revolving credit agreements and debt indentures. We are required to maintain a minimum average adjusted times interest earned ratio ("adjusted TIER") for the six most recent fiscal quarters of 1.025 and an adjusted leverage ratio of no more than 10-to-1. In addition, we must maintain loans pledged as collateral for various debt issuances at or below 150% of the related secured debt outstanding as a condition to borrowing under our revolving credit agreements. If we were unable to borrow under the revolving credit agreements, our short-term debt ratings would likely decline, and our ability to issue commercial paper could become significantly impaired. Our revolving credit agreements also require that we earn a minimum annual adjusted TIER of 1.05 in order to retire patronage capital to members. See "Item 7. MD&A—Non-GAAP Financial Measures" for additional information on our adjusted measures and a reconciliation to the most comparable GAAP measures.

Pursuant to our collateral trust bond indentures, we are required to maintain eligible pledged collateral at least equal to 100% of the principal amount of the bonds issued under the indenture. Pursuant to one of our collateral trust bond indentures and our medium-term note indenture, we are required to limit senior indebtedness to 20 times the sum of our members' equity, subordinated deferrable debt and members' subordinated certificates. If we were in default under our collateral trust bond or medium-term note indentures, the existing holders of these securities have the right to accelerate the repayment of the full amount of the outstanding debt of the security before the stated maturity of such debt. That acceleration of debt repayments poses a significant liquidity risk, as we might not have enough cash or committed credit available to repay the debt. In addition, if we are not in compliance with the collateral trust bond and medium-term note covenants, we would be unable to issue new debt securities under such indentures. If we were unable to issue new collateral trust bonds and medium-term notes, our ability to fund new loan advances and refinance maturing debt would be impaired.

We are required to pledge eligible distribution system or power supply system loans as collateral equal to at least 100% of the outstanding balance of debt issued under a revolving note purchase agreement with Farmer Mac. We also are required to pledge distribution or power supply loans as collateral equal to at least 100% of the outstanding balance of debt under the Guaranteed Underwriter Program. Collateral coverage less than 100% for either of these debt programs constitutes an event of default, which if not cured within 30 days, could result in creditors accelerating the repayment of the outstanding debt principal before the stated maturity. An acceleration of the repayment of debt could pose a liquidity risk if we had insufficient cash or committed credit available to repay the debt. In addition, we would be unable to issue new debt securities under the applicable debt agreement, which could impair our ability to fund new loan advances and refinance maturing debt.

Changes in the level and direction of interest rates or our ability to successfully manage interest rate risk could adversely affect our financial results and condition.

Our earnings are largely dependent on net interest income. Our interest rate risk exposure is primarily related to the funding of a fixed-rate loan portfolio. We have a matched funding objective that is intended to manage the funding of asset and liability repricing terms within a range of total assets based on the current environment and extended outlook for interest rates. We maintain a limited unmatched position, or interest rate gap, on our fixed-rate assets within a targeted range of adjusted total assets to provide us with funding flexibility.

Our primary strategies for managing interest rate risk include the use of derivatives and limiting the amount of interest rate gap between fixed-rate assets and fixed-rate liabilities to a specified percentage of total assets based on prevailing market conditions. We face the risk that changes in interest rates could reduce our net interest income and our earnings, especially if actual conditions turn out to be materially different than those we assumed. Fluctuations in interest rates, including changes in the relationship between short-term rates and long-term rates may affect the pricing of loans to borrowers and our cost of funds, which could adversely affect the difference between the interest that we earn on assets and the interest we pay on liabilities used to fund assets. Such changes may also affect our ability to hedge various forms of market and interest rate risk and may decrease the effectiveness of those hedges in helping to manage such risks, which could cause our interest rate gap to exceed our targeted range and have an adverse impact on net interest income, earnings and cash flows. See "Item 7. MD&A—Market Risk" for additional information.

The uncertainty as to the nature of potential changes or other reforms in the London Interbank Offered Rate ("LIBOR") benchmark interest rate may adversely affect our financial condition and results of operations.

We have loans, derivative contracts, debt securities and other financial instruments with attributes that are either directly or indirectly dependent on the LIBOR. In 2017, the United Kingdom's Financial Conduct Authority ("FCA"), which regulates LIBOR, announced that the FCA intends to stop persuading or compelling banks to submit the rates required to calculate LIBOR after 2021. This announcement indicates that the continuation of LIBOR on the current basis cannot and will not be guaranteed after 2021. Consequently, at this time, it is not possible to predict whether and to what extent banks will continue to provide submissions for the calculation of LIBOR. Similarly, it is not possible to predict whether LIBOR will continue to be viewed as an acceptable market benchmark, what rate or rates may become accepted alternatives to LIBOR or what the effect of any such changes in views or alternatives may be on the markets for LIBOR-indexed financial instruments. The replacement of LIBOR creates operational and market risks which will become clear as replacement choices are developed. We will continue to assess all of our contracts and financial instruments that are directly or indirectly dependent on LIBOR to determine the impact the replacement of LIBOR will have on us. Uncertainty as to the nature of such potential changes or other reforms may adversely affect our financial condition and results of operations.

We are subject to credit risk that a borrower or other counterparty may not be able to meet its contractual obligations in accordance with agreed-upon terms, which could result in significantly higher, unexpected losses.

Our loan portfolio, which represents the largest component of assets on our balance sheet, accounts for the substantial majority of exposure to credit risk. We had total loans outstanding of $25,906 million as of May 31, 2019. We reserve for credit losses in our loan portfolio by establishing an allowance for loan losses through a provision charge to earnings. The amount of the allowance for loan losses, which was $18 million as of May 31, 2019, is based on our assessment of credit losses inherent in our loan portfolio as of each balance sheet date, taking into consideration management's continuing evaluation of credit risk related to: industry concentrations; macro-economic conditions; specific credit risks; loan loss experience; current loan portfolio quality; present political and regulatory conditions; and unidentified losses and risks inherent in the current loan portfolio. We consider the process for determining the amount of the allowance as one of our critical accounting policies because it involves significant judgments and assumptions about highly complex and inherently uncertain matters, and the use of reasonably different estimates and assumptions could have a material impact on our results of operations or financial condition. Management believes that the allowance for loan losses appropriately reflects credit losses inherent in our loan portfolio as of May 31, 2019. However, our actual credit losses could exceed our estimate of probable losses due to changes in economic conditions that adversely affect borrowers, new information regarding existing loans, identification of additional problem loans and other factors, both within and outside of our control. In those cases, we may be required to increase the allowance for loan losses through an increase in the provision for loan losses, which would reduce net income and may have a material adverse effect on our financial results.

Adverse changes, developments or uncertainties in the rural electric utility industry could adversely impact the operations or financial performance of our member electric cooperatives, which, in turn, could have an adverse impact on our financial results.

Our focus as a tax-exempt, member-owned finance cooperative is on lending to our rural member electric utility cooperatives, which is the primary source of our revenue. As a result of lending primarily to our members, we have a loan portfolio with single-industry concentration. Loans to rural electric utility cooperatives accounted for approximately 99% of our total loans outstanding as of May 31, 2019. While we historically have experienced limited defaults and very low credit losses in our electric utility loan portfolio, factors that have a negative impact on the operations of our member rural electric cooperatives, including but not limited to, the price and availability of alternative energy sources and weather conditions, such as hurricanes, tornados or other weather-related events, could cause a deterioration in their financial performance and the value of the collateral securing their loans, which could impair their ability to repay us in accordance with the terms of their loans. In such case, it may be necessary to increase our allowance for loan losses, which would result in an increase in the provision for loan losses and a decrease in our net income.

We may obtain entities or other assets through foreclosure, which would subject us to the same performance and financial risks as any other owner or operator of similar businesses or assets.

As a financial institution, from time to time we may obtain entities and assets of borrowers in default through foreclosure proceedings. If we become the owner and operator of entities or assets obtained through foreclosure, we are subject to the same performance and financial risks as any other owner or operator of similar assets or entities. In particular, the value of the foreclosed assets or entities may deteriorate and have a negative impact on our results of operations. We assess foreclosed assets, if any, for impairment periodically as required under generally accepted accounting principles in the United States ("GAAP"). Impairment charges, if required, represent a reduction to earnings in the period of the charge. There may be substantial judgment used in the determination of whether such assets are impaired and in the calculation of the amount of the impairment. In addition, when foreclosed assets are sold to a third party, the sale price we receive may be below the amount previously recorded in our financial statements, which will result in a loss being recorded in the period of the sale.

The nonperformance of our derivative counterparties could impair our financial results.

We use interest rate swaps to manage our interest rate risk. There is a risk that the counterparties to these agreements will not perform as agreed, which could adversely affect our results of operations. The nonperformance of a counterparty on an agreement would result in the derivative no longer being an effective risk management tool, which could negatively affect our overall interest rate risk position. In addition, if a counterparty fails to perform on our derivative obligation, we could incur a financial loss to replace the derivative with another counterparty and/or a loss through the failure of the counterparty to pay us amounts owed. We were in a net payable position for all of our interest rate swaps, after taking into consideration master netting agreements, of $351 million as of May 31, 2019.

A decline in our credit rating could trigger payments under our derivative agreements, which could impair our financial results.

We have certain interest rate swaps that contain credit risk-related contingent features referred to as rating triggers. Under certain rating triggers, if the credit rating for either counterparty falls to the level specified in the agreement, the other counterparty may, but is not obligated to, terminate the agreement. If either counterparty terminates the agreement, a net payment may be due from one counterparty to the other based on the prevailing fair value, excluding credit risk, of the underlying derivative instrument. These rating triggers are based on our senior unsecured credit ratings by Moody's and S&P. Based on our interest rate swap agreements subject to rating triggers, if all agreements for which we owe amounts were terminated as of May 31, 2019 and our senior unsecured ratings fell below Baa3 by Moody's or below BBB- by S&P, we would have been required to make a payment of up to $253 million as of that date. In addition, if our senior unsecured ratings fell below Baa3 by Moody's, below BBB- by S&P or below BBB- by Fitch, we would have been required to make a payment of up to $20 million as of that date. In calculating the required payments, we only considered agreements that, when netted for each counterparty pursuant to a master netting agreement, would require a payment upon termination. In the event that we are required to make a payment as a result of a rating trigger, it could have a material adverse impact on our financial results.

Advances in technology may change the way electricity is generated and transmitted, which could adversely affect the business operations of our members and negatively impact the credit quality of our loan portfolio and financial results.

Advances in technology could reduce demand for power supply systems and distribution services. The development of alternative technologies that produce electricity, including solar cells, wind power and microturbines, has expanded and could ultimately provide affordable alternative sources of electricity and permit end users to adopt distributed generation systems that would allow them to generate electricity for their own use. As these and other technologies, including energy conservation measures, are created, developed and improved, the quantity and frequency of electricity usage by rural customers could decline. Advances in technology and conservation that cause our electric system members' power supply, transmission and/or distribution facilities to become obsolete prior to the maturity of loans secured by these assets could have an adverse impact on the ability of our members to repay such loans, which could result in an increase in nonperforming or restructured loans. These conditions could negatively impact the credit quality of our loan portfolio and financial results.

Breaches of our information technology systems, or those managed by third parties, may damage relationships with our members or subject us to reputational, financial, legal or operational consequences.

Cyber-related attacks pose a risk to the security of our members' strategic business information and the confidentiality and integrity of our data, which includes strategic and proprietary information. Security breaches may occur through the actions of third parties, employee error, malfeasance, technology failures or other irregularities. Any such breach or unauthorized access could result in a loss of this information, a loss of integrity of this information, a delay or inability to provide service of affected products, damage to our reputation, including a loss of confidence in the security of our products and services, and significant legal and financial exposure. Because the techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently, we may be unable to anticipate these techniques or implement adequate preventative measures. As a result, cyber-related attacks may remain undetected for an extended period and may be costly to remediate.

Our business depends on the reliable and secure operation of computer systems, network infrastructure, and other information technology managed by third parties including, but not limited to: our service providers for external storage and processing of our information on cloud-based systems; our consulting and advisory firms and contractors that have access to our confidential and proprietary data; and administrators for our employee payroll and benefits management. We have limited control and visibility over third-party systems that we rely on for our business. The occurrence of a cyber-related attack, breach, unauthorized access, or other cybersecurity event could result in damage to our third parties' operations. The failure of third parties to provide services agreed upon through service level agreements, whether as a result of the occurrence of a cyber-related attack or other event, could result in the loss of access to our data, the loss of integrity of our data, disruptions to our corporate functions, loss of business opportunities, reputational damage, or otherwise adversely impact our financial results and result in significant costs and liabilities.

While CFC maintains insurance coverage that, subject to policy terms and conditions, covers certain aspects of cyber risks, including business interruptions caused by cyber-related attacks on information technology systems managed by third parties, such insurance coverage may be insufficient to cover all losses. Our failure to comply with applicable laws and regulations regarding data security and privacy could result in fines, sanctions and litigation. Additionally, new regulation in the areas of data security and privacy may increase our costs and our members' costs.

Loss of our tax-exempt status could adversely affect our earnings.

CFC has been recognized by the Internal Revenue Service as an organization for which income is exempt from federal taxation under Section 501(c)(4) of the Internal Revenue Code (other than any net income from an unrelated trade or business). In order to maintain CFC's tax-exempt status, it must continue to operate exclusively for the promotion of social welfare by operating on a cooperative basis for the benefit of its members by providing them cost-based financial products and services consistent with sound financial management, and no part of CFC's net earnings may inure to the benefit of any private shareholder or individual other than the allocation or return of net earnings or capital to its members in accordance with CFC's bylaws and incorporating statute in effect in 1996.

If CFC were to lose its status as a 501(c)(4) organization, it would become a taxable cooperative and would be required to pay income tax based on its taxable income. If this event occurred, we would evaluate all options available to modify CFC's structure and/or operations to minimize any potential tax liability.

As a tax-exempt cooperative and nonbank financial institution, our lending activities are not subject to the regulations and oversight of U.S. financial regulators such as the Federal Reserve, the Federal Deposit Insurance Corporation or the Office of Comptroller of Currency. Because we are not under the purview of such regulation, we could engage in activities that could expose us to greater credit, market and liquidity risk, reduce our safety and soundness and adversely affect our financial results.

Financial institutions subject to regulations, oversight and monitoring by U.S. financial regulators are required to maintain specified levels of capital and may be restricted from engaging in certain lending-related and other activities that could adversely affect the safety and soundness of the financial institution or are considered conflicts of interest. As a tax-exempt, nonbank financial institution, we are not subject to the same oversight and supervision. There is no federal financial regulator that monitors compliance with our risk policies and practices or that identifies and addresses potential deficiencies that could adversely affect our financial results. Without regulatory oversight and monitoring, there is a greater potential for us to engage in activities that could pose a risk to our safety and soundness relative to regulated financial institutions.

Competition from other lenders could adversely impact our financial results.

We compete with other lenders for the portion of the rural utility loan demand for which RUS will not lend and for loans to members that have elected not to borrow from RUS. The primary competition for the non-RUS loan volume is from CoBank, ACB, a federally chartered instrumentality of the United States that is a member of the Farm Credit System. As a government-sponsored enterprise, CoBank, ACB has the benefit of an implied government guarantee with respect to its funding. Competition may limit our ability to raise rates to adequately cover increases in costs, which could have an adverse impact on our results of operations, and increasing interest rates to cover costs could cause a reduction in new lending business.

Our elected directors also serve as officers or directors of certain of our individual member cooperatives, which may result in a potential conflict of interest with respect to loans, guarantees and extensions of credit that we may make to or on behalf of such member cooperatives.

In accordance with our charter documents and the purpose for which we were formed, we lend only to our members and associates. CFC's directors are elected or appointed from our membership, with 10 director positions filled by directors of members, 10 director positions filled by general managers or chief executive officers of members, two positions appointed by NRECA and one at-large position that must, among other things, be a director, financial officer, general manager or chief executive of one of our members. CFC currently has loans outstanding to members that are affiliated with CFC directors and may periodically extend new loans to such members. The relationship of CFC's directors to our members may give rise to conflicts of interests from time to time. See "Item 13. Certain Relationships and Related Transactions, and Director Independence—Review and Approval of Transactions with Related Persons" for a description of our policies with regard to approval of loans to members affiliated with CFC directors.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

CFC owns an office building with approximately 141,000 gross square footage that serves as its headquarters in Loudoun County, Virginia.

Item 3. Legal Proceedings

From time to time, CFC is subject to certain legal proceedings and claims in the ordinary course of business, including litigation with borrowers related to enforcement or collection actions. Management presently believes that the ultimate outcome of these proceedings, individually and in the aggregate, will not materially harm our financial position, liquidity, or results of operations. CFC establishes reserves for specific legal matters when it determines that the likelihood of an unfavorable outcome is probable and the loss is reasonably estimable. Accordingly, no reserve has been recorded with respect to any legal proceedings at this time.

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

Not applicable.

Item 6. Selected Financial Data

The following table provides a summary of consolidated selected financial data for the fiscal five-year period ended May 31, 2019. In addition to financial measures determined in accordance with generally accepted accounting principles in the United States ("GAAP"), management also evaluates performance based on certain non-GAAP measures and metrics, which we refer to as "adjusted" measures. Certain financial covenant provisions in our credit agreements are also based on non-GAAP financial measures. Our key non-GAAP financial measures are adjusted net income, adjusted net interest income, adjusted interest expense, adjusted net interest yield, adjusted times interest earned ratio ("adjusted TIER") and adjusted debt-to-equity ratio. The most comparable GAAP measures are net income, net interest income, interest expense, net interest yield, TIER and debt-to-equity ratio, respectively. The primary adjustments we make to calculate these non-GAAP measures consist of (i) adjusting interest expense and net interest income to include the impact of net periodic derivative cash settlements expense; (ii) adjusting net income, senior debt and total equity to exclude the non-cash impact of the accounting for derivative financial instruments; (iii) adjusting senior debt to exclude the amount that funds CFC member loans guaranteed by RUS, subordinated deferrable debt and members' subordinated certificates; and (iv) adjusting total equity to include subordinated deferrable debt and members' subordinated certificates and exclude cumulative derivative forward value gains and losses and accumulated other comprehensive income ("AOCI"). We believe our non-GAAP adjusted measures, which are not a substitute for GAAP and may not be consistent with similarly titled non-GAAP measures used by other companies, provide meaningful information and are useful to investors because management evaluates performance based on these metrics, and certain financial covenants in our committed bank revolving line of credit agreements and debt indentures are based on adjusted measures. See "Item 7. MD&A—Non-GAAP Financial Measures" for a detailed reconciliation of these adjusted measures to the most comparable GAAP measures.

Five-Year Summary of Selected Financial Data[1]

	Year Ended May 31,					Change	
(Dollars in thousands)	**2019**	**2018**	**2017**	**2016**	**2015**	**2019 vs. 2018**	**2018 vs. 2017**
Statement of operations							
Interest income	**$ 1,135,670**	$ 1,077,357	$ 1,036,634	$ 1,012,636	$ 952,976	5%	4%
Interest expense	**(836,209)**	(792,735)	(741,738)	(681,850)	(635,684)	5	7
Net interest income	**299,461**	284,622	294,896	330,786	317,292	5	(3)
Fee and other income	**15,355**	17,578	19,713	21,785	36,783	(13)	(11)
Total revenue	**314,816**	302,200	314,609	352,571	354,075	4	(4)
Benefit (provision) for loan losses	**1,266**	18,575	(5,978)	646	21,954	(93)	**
Derivative gains (losses)[2]	**(363,341)**	231,721	94,903	(309,841)	(196,999)	**	144
Results of operations of foreclosed assets	**—**	—	(1,749)	(6,899)	(120,148)	—	**
Unrealized losses on equity securities	**(1,799)**	—	—	—	—	**	—
Operating expenses[3]	**(93,166)**	(90,884)	(86,226)	(86,343)	(76,530)	3	5
Other non-interest expense	**(8,775)**	(1,943)	(1,756)	(1,593)	(870)	352	11
Income (loss) before income taxes	**(150,999)**	459,669	313,803	(51,459)	(18,518)	**	46
Income tax benefit (expense)	**(211)**	(2,305)	(1,704)	(57)	(409)	(91)	35
Net income (loss)	**$ (151,210)**	$ 457,364	$ 312,099	$ (51,516)	$ (18,927)	**	47
Adjusted operational financial measures							
Adjusted interest expense[4]	**$ (879,820)**	$ (867,016)	$ (826,216)	$ (770,608)	$ (718,590)	1%	5%
Adjusted net interest income[4]	**255,850**	210,341	210,418	242,028	234,386	22	—
Adjusted net income[4]	**168,520**	151,362	132,718	169,567	95,166	11	14
Selected ratios							
Fixed-charge coverage ratio/ TIER[5]	**0.82**	1.58	1.42	0.92	0.97	(76) bps	16 bps
Adjusted TIER[4]	**1.19**	1.17	1.16	1.22	1.13	2	1
Net interest yield[6]	**1.14%**	1.12%	1.20%	1.43%	1.47%	2	(8)
Adjusted net interest yield[4][7]	**0.97**	0.83	0.86	1.05	1.08	14	(3)
Net charge-off rate[8]	**0.00**	0.00	0.01	0.00	0.00	0	(1)

(Dollars in thousands)	Year Ended May 31, 2019	2018	2017	2016	2015	Change 2019 vs. 2018	Change 2018 vs. 2017
Balance sheet							
Cash, cash equivalents and restricted cash	**$ 186,204**	$ 238,824	$ 188,421	$ 209,168	$ 249,321	(22)%	27%
Investment securities	**652,977**	609,851	92,554	87,940	84,472	7	559
Loans to members[9]	**25,916,904**	25,178,608	24,367,044	23,162,696	21,469,017	3	3
Allowance for loan losses	**(17,535)**	(18,801)	(37,376)	(33,258)	(33,690)	(7)	(50)
Loans to members, net	**25,899,369**	25,159,807	24,329,668	23,129,438	21,435,327	3	3
Total assets	**27,124,372**	26,690,204	25,205,692	24,270,200	22,846,059	2	6
Short-term borrowings	**3,607,726**	3,795,910	3,342,900	2,938,848	3,127,754	(5)	14
Long-term debt	**19,210,793**	18,714,960	17,955,594	17,473,603	16,244,794	3	4
Subordinated deferrable debt	**986,020**	742,410	742,274	742,212	395,699	33	—
Members' subordinated certificates	**1,357,129**	1,379,982	1,419,025	1,443,810	1,505,420	(2)	(3)
Total debt outstanding	**25,161,668**	24,633,262	23,459,793	22,598,473	21,273,667	2	5
Total liabilities	**25,820,490**	25,184,351	24,106,887	23,452,822	21,934,273	3	4
Total equity	**1,303,882**	1,505,853	1,098,805	817,378	911,786	(13)	37
Guarantees[10]	**837,435**	805,161	889,617	909,208	986,500	4	(9)
Selected ratios period end							
Allowance coverage ratio[11]	**0.07%**	0.07%	0.15%	0.14%	0.16%	— bps	(8) bps
Debt-to-equity ratio[12]	**19.80**	16.72	21.94	28.69	24.06	308	(522)
Adjusted debt-to-equity ratio[4]	**5.73**	6.18	5.95	5.82	6.26	(45)	23

**Calculation of percentage change is not meaningful.

(1)Certain reclassifications have been made to prior periods to conform to the current period presentation.

(2)Consists of interest rate swap cash settlements expense and forward value gains (losses). Derivative cash settlement amounts represent net periodic contractual interest accruals related to derivatives not designated for hedge accounting. Derivative forward value gains (losses) represent changes in fair value during the period, excluding net periodic contractual interest accruals, related to derivatives not designated for hedge accounting and expense amounts reclassified into income related to the cumulative transition loss recorded in accumulated other comprehensive income on June 1, 2001, as a result of the adoption of the derivative accounting guidance that required derivatives to be reported at fair value on the balance sheet.

(3)Consists of salaries and employee benefits and the other general and administrative expenses components of non-interest expense, each of which are presented separately on our consolidated statements of operations.

(4)See "Item 7. MD&A—Non-GAAP Financial Measures" for details on the calculation of these non-GAAP adjusted measures and the reconciliation to the most comparable GAAP measures.

(5)Calculated based on net income (loss) plus interest expense for the period divided by interest expense for the period. The fixed-charge coverage ratios and TIER were the same during each period presented because we did not have any capitalized interest during these periods.

(6)Calculated based on net interest income for the period divided by average interest-earning assets for the period.

(7)Calculated based on adjusted net interest income for the period divided by average interest-earning assets for the period.

(8)Calculated based on net charge-offs (recoveries) for the period divided by average total outstanding loans for the period.

(9)Consists of the outstanding principal balance of member loans plus unamortized deferred loan origination costs, which totaled $11 million as of May 31, 2019, 2018 and 2017, and $10 million as of both May 31, 2016 and 2015.

(10)Reflects the total amount of member obligations for which CFC has guaranteed payment to a third party as of the end of each period. This amount represents our maximum exposure to loss, which significantly exceeds the guarantee liability recorded on our consolidated balance sheets. See "Note 13—Guarantees" for additional information.

(11)Calculated based on the allowance for loan losses at period end divided by total outstanding loans at period end.

(12)Calculated based on total liabilities at period end divided by total equity at period end.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations (“MD&A”)

INTRODUCTION

Our financial statements include the consolidated accounts of CFC, NCSC, RTFC and any subsidiaries created and controlled by CFC to hold foreclosed assets resulting from defaulted loans or bankruptcy. CFC did not hold and did not have any subsidiaries or other entities that held foreclosed assets as of either May 31, 2019 or May 31, 2018. See “Item 1. Business—Overview” for information on the business activities of each of these entities. Unless stated otherwise, references to “we,” “our” or “us” relate to CFC and its consolidated entities. All references to members within this document include members, associates and affiliates of CFC and its consolidated entities.

Our principal operations are currently organized for management reporting purposes into three business segments: CFC, NCSC and RTFC. Loans to members totaled $25,917 million as of May 31, 2019, of which 96% was attributable to CFC. We generated total revenue, which consists of net interest income and fee and other income, of $315 million and $302 million for fiscal years ended May 31, 2019 and 2018, respectively, of which 99% and 97% were attributable to CFC. We provide information on the financial performance of each of our business segments in “Note 15—Business Segments.”

Management monitors a variety of key indicators to evaluate our business performance. In addition to financial measures determined in accordance with GAAP, management also evaluates performance based on certain non-GAAP measures and metrics, which we refer to as “adjusted” measures. We identify our non-GAAP measures and discuss why these measures are useful in “Item 6. Selected Financial Data.” We provide a reconciliation of our non-GAAP measures to the most comparable GAAP measures below under “Non-GAAP Financial Measures.”

The following MD&A is intended to provide the reader with an understanding of our consolidated results of operations, financial condition and liquidity by discussing the factors influencing changes from period to period and the key measures used by management to evaluate performance, such as net interest income, net interest yield, loan growth, debt-to-equity ratio, credit quality metrics and also non-GAAP measures. The MD&A section is provided as a supplement to, and should be read in conjunction with, our audited consolidated financial statements and related notes in this Annual Report on Form 10-K for the fiscal year ended May 31, 2019, and the additional information contained elsewhere in this Report, including the risk factors discussed under “Item 1A. Risk Factors.”

EXECUTIVE SUMMARY

Our primary objective as a member-owned cooperative lender is to provide cost-based financial products to our rural electric members while maintaining a sound financial position required for investment-grade credit ratings on our debt instruments. Our objective is not to maximize net income; therefore, the rates we charge our member-borrowers reflect our funding costs plus a spread to cover our operating expenses, a provision for loan losses and earnings sufficient to achieve interest coverage to meet our financial objectives. Our goal is to earn an annual minimum adjusted TIER of 1.10 and to maintain an adjusted debt-to-equity ratio at approximately or below 6.00-to-1.

We are subject to period-to-period volatility in our reported GAAP results due to changes in market conditions and differences in the way our financial assets and liabilities are accounted for under GAAP. Our financial assets and liabilities expose us to interest-rate risk. We use derivatives, primarily interest rate swaps, as part of our strategy in managing this risk. Our derivatives are intended to economically hedge and manage the interest-rate sensitivity mismatch between our financial assets and liabilities. We are required under GAAP to carry derivatives at fair value on our consolidated balance sheet; however, the financial assets and liabilities for which we use derivatives to economically hedge are carried at amortized cost. Changes in interest rates and the shape of the yield curve result in periodic fluctuations in the fair value of our derivatives, which may cause volatility in our earnings because we do not apply hedge accounting for our interest rate swaps. As a result, the mark-to-market changes in our interest rate swaps are recorded in earnings. Because our derivative portfolio consists of a higher proportion of pay-fixed swaps than receive-fixed swaps, we generally record derivative losses when interest rates decline and derivative gains when interest rates rise. This earnings volatility generally is not indicative of the underlying economics of our business, as the derivative forward fair value gains or losses recorded each period may or may not be realized over time, depending on the terms of our derivative instruments and future changes in market conditions that impact the periodic cash settlement amounts of our interest rate swaps. As such, management uses our adjusted non-GAAP results to evaluate our operating performance. Our adjusted results include realized net periodic interest rate swap settlement amounts but exclude the impact of unrealized forward fair value gains and losses. Our financial debt covenants are also based on our non-GAAP adjusted results, as the forward fair value gains and losses related to our interest rate swaps do not affect our cash flows, liquidity or ability to service our debt.

Financial Performance

Reported Results

We reported a net loss of $151 million for fiscal year ended May 31, 2019 (“fiscal year 2019”), which resulted in a TIER of 0.82. In comparison, we reported net income of $457 million and a TIER of 1.58 for fiscal year ended May 31, 2018 (“fiscal year 2018”). The significant variance between our reported results for the current fiscal year and the prior fiscal year was primarily attributable to mark-to-market changes in the fair value of our derivative instruments. Our debt-to-equity ratio increased to 19.80 as of May 31, 2019, from 16.72 as of May 31, 2018, primarily due to the decrease in equity resulting from our reported net loss of $151 million for fiscal year 2019 and the patronage capital retirement of $48 million in August 2018.

The variance of $609 million between our reported net loss of $151 million for fiscal year 2019 and our net income of $457 million for fiscal year 2018 was driven by a shift in derivative fair value changes of $595 million. We recorded derivative losses of $363 million in fiscal year 2019, due to decreases in the fair value of our pay-fixed swaps attributable to a decline in medium and longer-term interest rates during the second half of fiscal year 2019. Short-term interest rates rose and exceeded medium and longer-term interest rates during the fourth quarter of fiscal year 2019, which resulted in an inverted yield curve. In comparison, we reported derivative gains of $232 million in fiscal year 2018 due to a rise in interest rates across the swap yield curve. Net interest income, which accounted for 95% and 94% of total revenue for fiscal years 2019 and 2018, respectively, increased $15 million, or 5%, primarily attributable to the combined impact of an increase in the net interest yield of 2 basis points, or 2%, to 1.14%, and an increase in our average interest-earning assets of $942 million, or 4%. The increase in the net interest yield reflected an increase in the average yield on our interest-earning assets of 7 basis points to 4.31%, which was largely offset by an increase in our average cost of funds of 6 basis points to 3.36%, both of which were largely due to the increase in short-term interest rates that resulted in higher average yields on line of credit and variable-rate loans and a higher average cost on short-term and variable-rate funding. On July 12, 2018, we early redeemed $300 million of the $1 billion aggregate principal amount of 10.375% collateral trust bonds and repaid the remaining $700 million principal amount of these bonds on the maturity date of November 1, 2018. We replaced this high-cost debt with lower-cost funding. While we experienced an overall increase in our average cost of funds during fiscal year 2019, resulting primarily from the increase in the average cost of our short-term and variable-rate funding, the cost savings from the repayment of the 10.375% collateral trust bonds mitigated this increase.

Other factors affecting the variance between our current year results and the prior fiscal year include a loss on the early redemption of the 10.375% collateral trust bonds of $7 million attributable to the premium paid to redeem the bonds and a decrease in the benefit for loan losses of $17 million. The premium paid for the early redemption of the collateral trust bonds was offset by the interest cost savings following the redemption. We recorded a benefit for loan losses of $1 million for fiscal year 2019, compared with a benefit for loan losses of $18 million for fiscal year 2018. The benefit for loan losses of $18 million for fiscal year 2018 was attributable to a reduction in the allowance for loan losses resulting from favorable changes in the loss severity rate, or recovery rate, assumptions used in determining the collective allowance for our electric distribution and power supply loan portfolios.

Adjusted Non-GAAP Results

Our adjusted net income totaled $169 million and our adjusted TIER was 1.19 for fiscal year 2019, compared with adjusted net income of $151 million and adjusted TIER of 1.17 for fiscal year 2018. Our adjusted debt-to-equity ratio decreased to 5.73 as of May 31, 2019, from 6.18 as of May 31, 2018, primarily attributable to an increase in adjusted equity resulting from the issuance of subordinated deferrable debt totaling $250 million in the fourth quarter of fiscal year 2019.

The increase in adjusted net income of $18 million in fiscal year 2019 from fiscal year 2018 was attributable to an increase in adjusted net interest income of $46 million, or 22%, which was partially offset by the reduction in the benefit for loan losses of $17 million and the loss on the early extinguishment of debt of $7 million. The increase in adjusted net interest income was driven by an increase in the adjusted net interest yield of 14 basis points, or 17%, to 0.97%, coupled with the increase in average interest-earning assets of 4%. The increase in the adjusted net interest yield reflected the combined impact of an increase in the average yield on interest-earning assets of 7 basis points to 4.31% and a reduction in our adjusted average cost of funds of 7 basis points to 3.54%. This reduction was largely due to the interest savings from the repayment of the $1 billion aggregate principal amount of the 10.375% collateral trust bonds, the replacement of this debt with lower-cost funding and a decrease in the net periodic derivative settlement expense amounts on our interest rate swaps resulting from higher short-term interest rates, which together more than offset the increase in the average cost of our short-term, variable-rate borrowings resulting from the increase in short-term interest rates.

See "Non-GAAP Financial Measures" for additional information on our adjusted measures, including a reconciliation of these measures to the most comparable GAAP measures.

Lending Activity

Loans to members totaled $25,917 million as of May 31, 2019, an increase of $738 million, or 3%, from May 31, 2018. CFC distribution loans and power supply loans increased by $603 million and $182 million, respectively, which was partially offset by a decrease in NCSC and RTFC loans of $43 million and $18 million, respectively. Long-term and line-of-credit revolving loans accounted for $425 million and $313 million, respectively, of the $738 million increase in loans. Based on our historical experience, however, long-term loans typically account for the substantial majority of loan growth.

Long-term loan advances totaled $1,843 million during fiscal year 2019, with approximately 87% of those advances for capital expenditures by members and 10% for the refinancing of loans made by other lenders. In comparison, long-term loan advances totaled $2,203 million during fiscal year 2018, with approximately 67% of those advances for capital expenditures by members and 24% for the refinancing of loans made by other lenders. The decrease in long-term loan advances from the same prior-year period primarily resulted from weaker demand from borrowers to refinance other lender debt. CFC had long-term fixed-rate loans totaling $761 million that were scheduled to reprice during fiscal year 2019. Of this total, $568 million repriced to a new long-term fixed rate; $124 million repriced to a long-term variable rate; and $69 million was repaid in full.

Credit Quality

The overall credit quality of our loan portfolio remained high as of May 31, 2019, as evidenced by our strong credit performance metrics. We had no delinquent or nonperforming loans as of May 31, 2019, and we have not experienced any charge-offs for two consecutive fiscal years. Outstanding loans to electric utility organizations represented approximately 99% of total outstanding loan portfolio as of May 31, 2019, unchanged from May 31, 2018. We historically have had limited defaults and losses on loans in our electric utility loan portfolio. We generally lend to members on a senior secured basis, which reduces the risk of loss in the event of a borrower default. Of our total loans outstanding, 92% were secured and 8% were unsecured as of May 31, 2019, compared with 93% secured and 7% unsecured as of May 31, 2018. The allowance for loan losses was $18 million and $19 million as of May 31, 2019 and 2018, respectively, and the allowance coverage ratio was 0.07% as of each date.

Financing Activity

We issue debt primarily to fund growth in our loan portfolio. As such, our outstanding debt volume generally increases and decreases in response to member loan demand. Total debt outstanding increased by $528 million, or 2%, from the prior fiscal year end due to an increase in borrowings to fund the increase in loans to members. The increase was primarily attributable to a net increase in borrowings under the Guaranteed Underwriter Program of $554 million, a net increase in subordinated deferrable debt of $244 million, a net increase in Farmer Mac notes payable of $163 million and a net increase in member commercial paper, select notes and daily liquidity fund notes of $51 million. These increases were partially offset by net decreases in collateral trust bonds outstanding of $255 million, dealer commercial paper of $120 million and dealer medium-term notes of $61 million. Outstanding dealer commercial paper of $945 million as of May 31, 2019 was below our targeted limit of $1,250 million.

Outlook for the Next 12 Months

We currently expect that our net interest income, adjusted net interest income, tier, adjusted tier, net interest yield and adjusted net interest yield will increase over the next 12 months, largely due to the cost savings from the repayment of the $1 billion aggregate principal amount of 10.375% collateral trust bonds, which matured on November 1, 2018, and the replacement of this debt with lower-cost funding.

Long-term debt scheduled to mature over the next 12 months totaled $1,638 million as of May 31, 2019, consisting of $1,416 million of fixed-rate debt at a weighted average cost of 2.26% and $222 million of variable-rate debt. We believe we have sufficient liquidity from the combination of existing cash and cash equivalents, member loan repayments, committed bank revolving lines of credit, committed loan facilities under the Guaranteed Underwriter Program, revolving note purchase agreements with Farmer Mac and our ability to issue debt in the capital markets, to our members and in private placements to meet the demand for member loan advances and satisfy our obligations to repay long-term debt maturing over the next 12 months. As of May 31, 2019, sources of liquidity readily available for access totaled $6,945 million, consisting of (i) $178 million in cash and cash equivalents; (ii) up to $1,350 million available under committed loan facilities under the Guaranteed Underwriter Program; (iii) up to $2,972 million available for access under committed bank revolving line of credit agreements; (iv) up to $2,145 million available under a revolving note purchase agreement with Farmer Mac, subject to market conditions; and (v) up to $300 million available under a committed revolving note purchase agreement with Farmer Mac.

We believe we can continue to roll over outstanding member short-term debt of $2,663 million as of May 31, 2019, based on our expectation that our members will continue to reinvest their excess cash in our commercial paper, daily liquidity fund notes, select notes and medium-term notes. We expect to continue accessing the dealer commercial paper market to help meet our liquidity needs. Although the intra-period amount of outstanding dealer commercial paper may fluctuate based on our liquidity requirements, we intend to manage our short-term wholesale funding risk by maintaining outstanding dealer commercial paper at an amount near or below $1,250 million for the foreseeable future. We expect to continue to be in compliance with the covenants under our committed bank revolving line of credit agreements, which will allow us to mitigate roll-over risk as we can draw on these facilities to repay dealer or member commercial paper that cannot be refinanced with similar debt.

While we are not subject to bank regulatory capital rules, we generally aim to maintain an adjusted debt-to-equity ratio at approximately or below 6.00-to-1. As discussed above, we issued $250 million of subordinated deferrable debt in the fourth quarter of fiscal year 2019. Subordinated debt is treated in the same manner as equity in calculating our adjusted debt-to-equity ratio, pursuant to the financial covenants under our revolving bank line of credit agreements, as further discussed below under “Non-GAAP Financial Measures.” The subordinated deferrable debt issuance contributed to a reduction in our adjusted debt-to-equity ratio to 5.73 as of May 31, 2019, from 6.18 as of May 31, 2018. Based on our projection of loan advances and adjusted equity over the next 12 months, we anticipate that our adjusted debt-to-equity ratio will remain below our target threshold of 6.00-to-1.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of financial statements in accordance with GAAP requires management to make a number of judgments, estimates and assumptions that affect the amount of assets, liabilities, income and expenses in the consolidated financial statements. Understanding our accounting policies and the extent to which we use management’s judgment and estimates in applying these policies is integral to understanding our financial statements. We provide a discussion of our significant accounting policies under “Note 1—Summary of Significant Accounting Policies.”

We have identified certain accounting policies as critical because they involve significant judgments and assumptions about highly complex and inherently uncertain matters, and the use of reasonably different estimates and assumptions could have a material impact on our results of operations or financial condition. Our most critical accounting policies and estimates involve the determination of the allowance for loan losses and fair value. We evaluate our critical accounting estimates and judgments required by our policies on an ongoing basis and update them as necessary based on changing conditions. Management has discussed significant judgments and assumptions in applying our critical accounting policies with the Audit Committee of our board of directors. See “Item 1A. Risk Factors” for a discussion of the risks associated with management’s judgments and estimates in applying our accounting policies and methods.

Allowance for Loan Losses

We maintain an allowance for loan losses that represents management's estimate of probable losses inherent in our loan portfolio as of each balance sheet date. Our allowance for loan losses consists of a collective allowance for loans in our portfolio that are not individually impaired and a specific allowance for loans identified as individually impaired. Our allowance for loan losses was $18 million and $19 million as of May 31, 2019 and 2018, respectively, and the allowance coverage ratio was 0.07% as of each date. The methodology used to estimate the allowance for loan losses is described in "Note 1—Summary of Significant Accounting Policies."

Key Assumptions

Determining the appropriateness of the allowance for loan losses is subject to numerous estimates and assumptions requiring significant management judgment about matters that involve a high degree of subjectivity and are difficult to predict. The key assumptions in determining our collective allowance that require significant management judgment and may have a material impact on the amount of the allowance include: our evaluation of the risk profile of various loan portfolio segments and internally assigned borrower risk ratings; the estimated loss emergence period; the probability of default; loss severity or recovery rate in the event of default for each portfolio segment; and management's judgment in the selection and evaluation of qualitative factors to assess the overall current level of exposure within our loan portfolio.

As discussed below in "Credit Risk—Loan Portfolio Credit Risk," CFC has experienced only 16 defaults in its 50-year history. In addition, we have had no defaults in our electric utility loan portfolio during the past five fiscal years. As such, we have a limited history of defaults to develop reasonable and supportable estimated probability of default rates for our existing loan portfolio. We therefore utilize third-party default data for the utility sector as a proxy to estimate probability of default rates for our loan portfolio segments. However, we utilize our internal historical loss experience to estimate loss given default, or the recovery rate, for each of our loan portfolio segments, as we believe it provides a more reliable estimate than third-party loss severity data due to the organizational structure and operating environment of rural utility cooperatives, our lending practice of generally requiring a senior security position on the assets and revenues of borrowers for long-term loans, the approach we take in working with borrowers that may be experiencing operational or financial issues and other factors discussed under "Credit Risk—Loan Portfolio Credit Risk."

The key assumptions in determining our specific allowance that require significant management judgment and may have a material impact on the amount of the allowance include estimating the amount and timing of expected cash flows from impaired loans and estimating the value of underlying collateral, each of which impacts loss severity and certain cash flow assumptions. The degree to which any particular assumption affects the allowance for loan losses depends on the severity of the change and its relationship to the other assumptions. We regularly evaluate the underlying assumptions used in determining the allowance for loan losses and periodically update our assumptions to better reflect present conditions, including current trends in credit performance and borrower risk profile, portfolio concentration risk, changes in risk-management practices, changes in the regulatory environment, general economic trends and other factors specific to our loan portfolio segments. We did not change the nature of the underlying assumptions and inputs used in determining our allowance for loan losses during fiscal year 2019.

Sensitivity Analysis

As noted above, our allowance for credit losses is sensitive to a variety of factors. While management uses its best judgment to assess loss data and other factors to determine the allowance for loan losses, changes in our loss assumptions, adjustments to assigned borrower risk ratings, the use of alternate external data sources or other factors could affect our estimate of probable credit losses inherent in the portfolio as of each balance sheet date, which would also impact the related provision for loan losses recognized in our consolidated statements of operations. For example, changes in the inputs below, without taking into consideration the impact of other potential offsetting or correlated inputs, would have the following effect on our allowance of loan losses as of May 31, 2019.

- A 10% increase or decrease in the default rates for all of our portfolio segments would result in a corresponding increase or decrease of approximately $2 million.
- A 1% increase or decrease in the recovery rates for all of our portfolio segments would result in a corresponding decrease or increase of approximately $4 million.

- A one-notch downgrade in the internal borrower risk ratings for our entire loan portfolio would result in an increase of approximately $17 million, while a one-notch upgrade would result in a decrease of approximately $11 million.

These sensitivity analyses are intended to provide an indication of the isolated impact of hypothetical alternative assumptions on our allowance for loan losses. Because management evaluates a variety of factors and inputs in determining the allowance for loan losses, these sensitivity analyses are not considered probable and do not imply an expectation of future changes in loss rates or borrower risk ratings. Given current processes employed in estimating the allowance for loan losses, management believes the inherent loss rates and currently assigned risk ratings are appropriate. It is possible that others performing the analyses, given the same information, may at any point in time reach different reasonable conclusions that could be significant to our consolidated financial statements.

We provide information on our allowance for loan losses under "Credit Risk—Allowance for Loan Losses" and "Note 5—Allowance for Loan Losses." Also refer to "Credit Risk—Loan and Guarantee Portfolio Credit Risk—Credit Quality" and "Note 4—Loans" for information on the credit performance and quality of our loan portfolios.

Fair Value

Certain of our financial instruments are carried at fair value on our consolidated balance sheet, with changes in fair value recorded either through earnings or other comprehensive income (loss) in accordance with applicable accounting standards. These include our equity securities and derivatives. The determination of fair value is important for certain other assets that are periodically evaluated for impairment using fair value, such as individually impaired loans.

Fair value is defined as the price that would be received for an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date (also referred to as an exit price). The fair value accounting guidance provides a three-level fair value hierarchy for classifying fair value measurement techniques. This hierarchy is based on the markets in which the assets or liabilities trade and whether the inputs to the valuation techniques used to measure fair value are observable or unobservable. Fair value measurement is assigned a level based on the lowest level of any input that is significant to the fair value measurement in its entirety. The three levels of the fair value hierarchy are summarized below:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
Level 2: Observable market-based inputs, other than quoted prices in active markets for identical assets or liabilities
Level 3: Unobservable inputs

The degree of management judgment involved in determining fair value is dependent upon the availability of quoted prices in active markets or observable market parameters. When quoted prices and observable data in active markets are not fully available, management's judgment is necessary to estimate fair value. Changes in market conditions, such as reduced liquidity in the capital markets or changes in secondary market activities, may reduce the availability and reliability of quoted prices or observable data used to determine fair value.

Significant judgment may be required to determine whether certain assets and liabilities measured at fair value are classified as Level 2 or Level 3. In making this determination, we consider all available information that market participants use to measure fair value, including observable market data, indications of market liquidity and orderliness, and our understanding of the valuation techniques and significant inputs used. Based upon the specific facts and circumstances, judgments are made regarding the significance of Level 3 inputs used in determining the fair value of the asset or liability in its entirety. If Level 3 inputs are considered significant, the valuation technique is classified as Level 3. The process for determining fair value using unobservable inputs is generally more subjective and involves a high degree of management judgment and assumptions.

Financial instruments recorded at fair value on a recurring basis, which consisted primarily of equity securities, deferred compensation investments and derivatives, represented approximately 1% of our total assets as of May 31, 2019 and 2018, and 2% and 1%, respectively, of total liabilities as of May 31, 2019 and 2018. The fair value of these financial instruments was determined using either Level 1 or 2 inputs. We did not have any financial instruments recorded at fair value on a recurring basis for which the fair value was determined using Level 3 inputs as of May 31, 2019 and 2018.
We discuss the valuation inputs and assumptions used in determining the fair value, including the extent to which we have relied on significant unobservable inputs to estimate fair value, in "Note 14—Fair Value Measurement."

RECENT ACCOUNTING CHANGES AND OTHER DEVELOPMENTS

Recent Accounting Changes

See “Note 1—Summary of Significant Accounting Policies” for information on accounting standards adopted during the current year, as well as recently issued accounting standards not yet required to be adopted and the expected impact of the adoption of these accounting standards. To the extent we believe the adoption of new accounting standards has had or will have a material impact on our consolidated results of operations, financial condition or liquidity, we also discuss the impact in the applicable section(s) of this MD&A.

Other Developments

SEC Rule—FAST Act Modernization and Simplification of Regulation S-K

In March 2019, the SEC adopted amendments to modernize and simplify certain disclosure requirements in Regulation S-K FAST Act Modernization and Simplification of Regulation S-K and related rules and forms. The amendments, which, among other things, change the requirements for the content of MD&A and change the process for redacting confidential information in certain exhibits, are intended to improve the readability and navigability of disclosure documents and discourage repetition and disclosure of immaterial information. The final rule became effective May 2, 2019.

The provisions of the rule that have the most significant impact on our disclosures under Regulation S-K and the content of this Report include: (i) the elimination of the requirement to disclose business segment information in “Item 1. Business” because this information is also required to be disclosed in the financial statements; (ii) the elimination of the requirement to include in MD&A a discussion of the earliest year for registrants that provide financial statements covering three years in their filings, as such discussion is already included in prior filings; and (iii) a requirement that registrants identify the location in the prior filing where the omitted discussion can be found.

CONSOLIDATED RESULTS OF OPERATIONS

The section below provides a comparative discussion of our consolidated results of operations between fiscal year 2019 and 2018. Following this section, we provide a comparative analysis of our consolidated balance sheets as of May 31, 2019 and 2018. You should read these sections together with our “Executive Summary—Outlook for the Next 12 Months” where we discuss trends and other factors that we expect will affect our future results of operations. See “Item 7. MD&A—Consolidated Results of Operations ” in our Annual Report on Form 10-K for the fiscal year ended May 31, 2018 for a comparative discussion of our consolidated results of operations between fiscal year 2018 and 2017.

Net Interest Income

Net interest income represents the difference between the interest income earned on our interest-earning assets, which includes loans and investment securities, and the interest expense on our interest-bearing liabilities. Our net interest yield represents the difference between the yield on our interest-earning assets and the cost of our interest-bearing liabilities plus the impact from non-interest bearing funding. We expect net interest income and our net interest yield to fluctuate based on changes in interest rates and changes in the amount and composition of our interest-earning assets and interest-bearing liabilities. We do not fund each individual loan with specific debt. Rather, we attempt to minimize costs and maximize efficiency by proportionately funding large aggregated amounts of loans.

Table 1 presents average balances for fiscal years 2019, 2018 and 2017, and for each major category of our interest-earning assets and interest-bearing liabilities, the interest income earned or interest expense incurred, and the average yield or cost. Table 1 also presents non-GAAP adjusted interest expense, adjusted net interest income and adjusted net interest yield, which reflect the inclusion of net accrued periodic derivative cash settlements expense in interest expense. We provide reconciliations of our non-GAAP adjusted measures to the most comparable GAAP measures under “Non-GAAP Financial Measures.”

Table 1: Average Balances, Interest Income/Interest Expense and Average Yield/Cost

(Dollars in thousands)	Year Ended May 31, 2019			2018			2017		
Assets:	**Average Balance**	**Interest Income/ Expense**	**Average Yield/ Cost**	**Average Balance**	**Interest Income/ Expense**	**Average Yield/ Cost**	**Average Balance**	**Interest Income/ Expense**	**Average Yield/ Cost**
Long-term fixed-rate loans[(1)]	**$ 22,811,905**	**$1,012,277**	**4.44%**	$ 22,570,209	$1,000,492	4.43%	$ 21,896,200	$ 980,173	4.48%
Long-term variable-rate loans	**1,093,455**	**41,219**	**3.77**	925,910	27,152	2.93	799,412	19,902	2.49
Line of credit loans	**1,609,629**	**57,847**	**3.59**	1,402,555	38,195	2.72	1,124,471	25,389	2.26
TDR loans [(2)]	**12,183**	**846**	**6.94**	12,885	889	6.90	14,349	905	6.31
Other income, net[(3)]	**—**	**(1,128)**	**—**	—	(1,185)	—	—	(1,082)	—
Total loans	**25,527,172**	**1,111,061**	**4.35**	24,911,559	1,065,543	4.28	23,834,432	1,025,287	4.30
Cash, time deposits and investment securities	**838,599**	**24,609**	**2.93**	512,517	11,814	2.31	734,095	11,347	1.55
Total interest-earning assets	**$ 26,365,771**	**$1,135,670**	**4.31%**	$ 25,424,076	$1,077,357	4.24%	$ 24,568,527	$1,036,634	4.22%
Other assets, less allowance for loan losses	**879,817**			644,563			574,682		
Total assets	**$ 27,245,588**			$ 26,068,639			$ 25,143,209		
Liabilities:									
Short-term borrowings	**$ 3,729,239**	**$ 92,854**	**2.49%**	$ 3,294,573	$ 50,616	1.54%	$ 3,185,084	$ 26,684	0.84%
Medium-term notes	**3,813,666**	**133,797**	**3.51**	3,361,484	111,814	3.33	3,345,410	99,022	2.96
Collateral trust bonds	**7,334,957**	**273,413**	**3.73**	7,625,182	336,079	4.41	7,293,251	340,854	4.67
Guaranteed Underwriter Program notes payable	**5,045,478**	**147,895**	**2.93**	4,956,417	140,551	2.84	4,873,520	142,661	2.93
Farmer Mac notes payable	**2,807,705**	**90,942**	**3.24**	2,578,793	56,004	2.17	2,355,324	33,488	1.42
Other notes payable	**28,044**	**1,237**	**4.41**	33,742	1,509	4.47	39,314	1,780	4.53
Subordinated deferrable debt	**759,838**	**38,628**	**5.08**	742,336	37,661	5.07	742,203	37,657	5.07
Subordinated certificates	**1,369,051**	**57,443**	**4.20**	1,396,449	58,501	4.19	1,433,657	59,592	4.16
Total interest-bearing liabilities	**$ 24,887,978**	**$ 836,209**	**3.36%**	$ 23,988,976	$ 792,735	3.30%	$ 23,267,763	$ 741,738	3.19%
Other liabilities	**816,074**			822,745			921,749		
Total liabilities	**25,704,052**			24,811,721			24,189,512		
Total equity	**1,541,536**			1,256,918			953,697		
Total liabilities and equity	**$ 27,245,588**			$ 26,068,639			$ 25,143,209		
Net interest spread[(4)]			**0.95%**			0.94%			1.03%
Impact of non-interest bearing funding[(5)]			**0.19**			0.18			0.17
Net interest income/net interest yield[(6)]		**$ 299,461**	**1.14%**		$ 284,622	1.12%		$ 294,896	1.20%
Adjusted net interest income/ adjusted net interest yield:									
Interest income		**$1,135,670**	**4.31%**		$1,077,357	4.24%		$1,036,634	4.22%
Interest expense		**836,209**	**3.36**		792,735	3.30		741,738	3.19
Add: Net accrued periodic derivative cash settlement[(7)]		**43,611**	**0.40**		74,281	0.69		84,478	0.80
Adjusted interest expense/ adjusted average cost[(8)]		**$ 879,820**	**3.54%**		$ 867,016	3.61%		$ 826,216	3.55%
Adjusted net interest spread[(4)]			**0.77%**			0.63%			0.67%
Impact of non-interest bearing funding			**0.20**			0.20			0.19
Adjusted net interest income/ adjusted net interest yield[(9)]		**$ 255,850**	**0.97%**		$ 210,341	0.83%		$ 210,418	0.86%

[(1)]Interest income on long-term, fixed-rate loans includes loan conversion fees, which are generally deferred and recognized as interest income using the effective interest method.

[(2)]Troubled debt restructuring ("TDR") loans.

[(3)]Consists of late payment fees and net amortization of deferred loan fees and loan origination costs.

[(4)]Net interest spread represents the difference between the average yield on total average interest-earning assets and the average cost of total average interest-bearing liabilities. Adjusted net interest spread represents the difference between the average yield on total average interest-earning assets and the adjusted average cost of total average interest-bearing liabilities.

[(5)]Includes other liabilities and equity.

[(6)]Net interest yield is calculated based on net interest income for the period divided by total average interest-earning assets for the period.

[(7)]Represents the impact of net accrued periodic interest rate swap settlements during the period. This amount is added to interest expense to derive non-GAAP adjusted interest expense. The average (benefit)/cost associated with derivatives is calculated based on net accrued periodic interest rate swap settlements during the period divided by the average outstanding notional amount of derivatives during the period. The average outstanding notional amount of interest rate swaps was $10,968 million, $10,816 million and $10,590 million for fiscal year 2019, 2018 and 2017, respectively.

[(8)]Adjusted interest expense represents interest expense plus net accrued periodic interest rate swap cash settlements expense during the period. Net accrued periodic derivative cash settlements are reported on our consolidated statements of operations as a component of derivative gains (losses). Adjusted average cost is calculated based on adjusted interest expense for the period divided by total average interest-bearing liabilities during the period.

[(9)]Adjusted net interest yield is calculated based on adjusted net interest income for the period divided by total average interest-earning assets for the period.

Table 2 displays the change in net interest income between periods and the extent to which the variance is attributable to: (i) changes in the volume of our interest-earning assets and interest-bearing liabilities or (ii) changes in the interest rates of these assets and liabilities. The table also presents the change in adjusted net interest income between periods. Changes that are not solely due to either volume or rate are allocated to these categories on a pro-rata basis based on the absolute value of the change due to average volume and average rate.

Table 2: Rate/Volume Analysis of Changes in Interest Income/Interest Expense

	2019 vs. 2018			2018 vs. 2017		
	Total	Variance due to:[1]		Total	Variance due to:[1]	
(Dollars in thousands)	Variance	Volume	Rate	Variance	Volume	Rate
Interest income:						
Long-term fixed-rate loans	**$ 11,785**	**$ 10,714**	**$ 1,071**	$ 20,319	$ 30,172	$ (9,853)
Long-term variable-rate loans	**14,067**	**4,913**	**9,154**	7,250	3,149	4,101
Line of credit loans	**19,652**	**5,639**	**14,013**	12,806	6,279	6,527
Restructured loans	**(43)**	**(48)**	**5**	(16)	(92)	76
Other income, net	**57**	**—**	**57**	(103)	—	(103)
Total loans	**45,518**	**21,218**	**24,300**	40,256	39,508	748
Cash, time deposits and investment securities	**12,795**	**7,516**	**5,279**	467	(3,425)	3,892
Interest income	**$ 58,313**	**$ 28,734**	**$ 29,579**	$ 40,723	$ 36,083	$ 4,640
Interest expense:						
Short-term borrowings	**$ 42,238**	**$ 6,678**	**$ 35,560**	$ 23,932	$ 917	$ 23,015
Medium-term notes	**21,983**	**15,041**	**6,942**	12,792	476	12,316
Collateral trust bonds	**(62,666)**	**(12,792)**	**(49,874)**	(4,775)	15,513	(20,288)
Guaranteed Underwriter Program notes payable	**7,344**	**2,526**	**4,818**	(2,110)	2,427	(4,537)
Farmer Mac notes payable	**34,938**	**4,971**	**29,967**	22,516	3,177	19,339
Other notes payable	**(272)**	**(255)**	**(17)**	(271)	(252)	(19)
Subordinated deferrable debt	**967**	**888**	**79**	4	7	(3)
Subordinated certificates	**(1,058)**	**(1,148)**	**90**	(1,091)	(1,547)	456
Interest expense	**43,474**	**15,909**	**27,565**	50,997	20,718	30,279
Net interest income	**$ 14,839**	**$ 12,825**	**$ 2,014**	$ (10,274)	$ 15,365	$ (25,639)
Adjusted net interest income:						
Interest income	**$ 58,313**	**$ 28,734**	**$ 29,579**	$ 40,723	$ 36,083	$ 4,640
Interest expense	**43,474**	**15,909**	**27,565**	50,997	20,718	30,279
Net accrued periodic derivative cash settlements expense[2]	**(30,670)**	**1,047**	**(31,717)**	(10,197)	1,802	(11,999)
Adjusted interest expense[3]	**12,804**	**16,956**	**(4,152)**	40,800	22,520	18,280
Adjusted net interest income	**$ 45,509**	**$ 11,778**	**$ 33,731**	$ (77)	$ 13,563	$ (13,640)

(1) The changes for each category of interest income and interest expense are divided between the portion of change attributable to the variance in volume and the portion of change attributable to the variance in rate for that category. The amount attributable to the combined impact of volume and rate has been allocated to each category based on the proportionate absolute dollar amount of change for that category.

(2) For net accrued periodic derivative cash settlements, the variance due to average volume represents the change in derivative cash settlements resulting from the change in the average notional amount of derivative contracts outstanding. The variance due to average rate represents the change in derivative cash settlements resulting from the net difference between the average rate paid and the average rate received for interest rate swaps during the period.

(3) See "Non-GAAP Financial Measures" for additional information on our adjusted non-GAAP measures.

Reported Net Interest Income

Reported net interest income of $299 million for fiscal year 2019 was up $15 million, or 5%, from fiscal year 2018, driven by an increase in average interest-earning assets of 4%, coupled with an increase in the net interest yield of 2% (2 basis points) to 1.14%.

- *Average Interest-Earning Assets:* The increase in average interest-earning assets of 4% during fiscal year 2019 was attributable to growth in average total loans of $616 million, or 2%, over the prior fiscal year and an expansion of our investment securities portfolio.

- *Net Interest Yield:* The increase of 2 basis points in the net interest yield in fiscal year 2019 reflected the combined impact of an increase in the average yield on interest-earning assets of 7 basis points to 4.31%, which was partially offset by an increase in the average cost of funds of 6 basis points to 3.36%. The increase in the average yield on interest-earning assets was primarily attributable to higher rates on our line of credit and variable-rate loans due to a rise in short-term interest rates. On July 12, 2018, we early redeemed $300 million aggregate principal amount of our 10.375% collateral trust bonds and repaid the remaining $700 million principal amount of these bonds on the maturity date of November 1, 2018. We replaced this high-cost debt with lower-cost funding. While we experienced an overall increase in our average cost of funds during fiscal year 2019, largely due to the increase in the average cost of our short-term and variable-rate funding, the cost savings from the repayment of the 10.375% collateral trust bonds and replacement with lower-cost funding mitigated this increase. The 3-month London Interbank Offered Rate ("LIBOR") and federal funds target rate, which are benchmark rates used as references in establishing pricing for line of credit and variable-rate loans and determining the cost of our short-term and variable-rate borrowings, were both 2.50% as of May 31, 2019. The 3-month LIBOR rate was up 18 basis points from May 31, 2018, while the federal funds target rate was up 75 basis points.

Adjusted Net Interest Income

Adjusted net interest income of $256 million for fiscal year 2019 was up $46 million, or 22%, from fiscal year 2018, driven by an increase in the adjusted net interest yield of 17% (14 basis points) to 0.97% and the increase in average interest-earning assets of 4%. The increase in the adjusted net interest yield was primarily due to the combined impact of an increase in the average yield on interest-earning assets of 7 basis points to 4.31% and a reduction in our adjusted average cost of funds of 7 basis points to 3.54%. As noted above, the increase in the average yield on interest-earning assets was attributable to higher rates on our line of credit and variable-rate loans due to the rise in short-term interest rates. The reduction in our adjusted average cost of funds was largely attributable to the cost savings from the early redemption and maturity of the $1 billion aggregate principal amount of the 10.375% collateral trust bonds, the replacement of this debt with lower-cost funding and a decrease in net periodic derivative cash settlements expense amounts. Together these amounts more than offset the increase in the average cost of our short-term, variable-rate borrowings resulting from higher short-term interest rates throughout the fiscal year.

Net periodic derivative cash settlements expense totaled $44 million in fiscal year 2019, a decrease of $31 million, or 41%, from $74 million in fiscal years 2018. Pay-fixed swaps represent the substantial majority of our derivatives portfolio. The floating rate payments on our interest rate swaps are typically determined based on the 3-month LIBOR. The increase in the 3-month LIBOR rate resulted in an increase in the periodic floating rate interest payments due to us on our pay-fixed, receive-variable swaps and a significant reduction in our net periodic derivative cash settlements expense in fiscal year 2019.

We include net accrued periodic derivative cash settlements during the period in the calculation of our adjusted average cost of funds, which, as a result, also impacts the calculation of adjusted net interest income and adjusted net interest yield. See "Non-GAAP Financial Measures" for additional information on our adjusted measures, including a reconciliation of these measures to the most comparable GAAP measures.

Provision for Loan Losses

Our provision for loan losses in each period is primarily driven by the level of allowance that we determine is necessary for probable incurred loan losses inherent in our loan portfolio as of each balance sheet date. The allowance for loan losses was $18 million and $19 million as of May 31, 2019 and 2018, respectively.

We recorded a benefit for loan losses of $1 million in fiscal year 2019. In comparison, we recorded a benefit of $18 million in fiscal year 2018, which was due to an allowance release attributable to increases in the recovery rate assumptions used in determining the collective allowance for our electric distribution and power supply loan portfolios. The increase in the recovery rate assumptions were based on management's assessment of the most recent credit performance of electric utility loan portfolios, including consecutive fiscal years in which we had no payment defaults, delinquent loans, nonperforming loans or charge-offs in our electric utility loan portfolios, and the overall credit quality of these portfolios. The credit quality and performance statistics of our loan portfolio continues to remain strong. We had no payment defaults or charge-offs during fiscal year 2019, and no delinquent loans or nonperforming loans in our loan portfolio as of May 31, 2019.

We provide additional information on our allowance for loan losses under "Credit Risk—Allowance for Loan Losses" and "Note 5—Allowance for Loan Losses" of this Report. For additional information on our allowance methodology, see "Critical Accounting Policies and Estimates" above and "Note 1—Summary of Significant Accounting Policies" of this Report.

Non-Interest Income

Non-interest income consists of fee and other income, gains and losses on derivatives not accounted for in hedge accounting relationships and results of operations of foreclosed assets.

Table 3 presents the components of non-interest income (loss) recorded in our consolidated results of operations for fiscal years 2019, 2018 and 2017.

Table 3: Non-Interest Income

	Year Ended May 31,		
(Dollars in thousands)	**2019**	**2018**	**2017**
Non-interest income (loss):			
Fee and other income	**$ 15,355**	$ 17,578	$ 19,713
Derivative gains (losses)	**(363,341)**	231,721	94,903
Results of operations of foreclosed assets	**—**	—	(1,749)
Unrealized losses on equity securities	**(1,799)**	—	—
Total non-interest income (loss)	**$ (349,785)**	$ 249,299	$ 112,867

The significant variances in non-interest income (loss) between years were primarily attributable to changes in net derivative gains (losses) recognized in our consolidated statements of operations.

Derivative Gains (Losses)

Our derivative instruments are an integral part of our interest rate risk management strategy. Our principal purpose in using derivatives is to manage our aggregate interest rate risk profile within prescribed risk parameters. The derivative instruments we use primarily include interest rate swaps, which we typically hold to maturity. In addition, we may on occasion use treasury locks to manage the interest rate risk associated with debt that is scheduled to reprice in the future. The primary factors affecting the fair value of our derivatives and derivative gains (losses) recorded in our results of operations include changes in interest rates, the shape of the swap curve and the composition of our derivative portfolio. We generally do not designate our interest rate swaps, which currently account for the substantial majority of our derivatives, for hedge accounting. Accordingly, changes in the fair value of interest rate swaps are reported in our condensed consolidated statements of operations under derivative gains (losses). However, we typically designate treasury locks as cash flow hedges. We did not have any derivatives designated as accounting hedges as of May 31, 2019.

We currently use two types of interest rate swap agreements: (i) we pay a fixed rate of interest and receive a variable rate of interest ("pay-fixed swaps"); and (ii) we pay a variable rate of interest and receive a fixed rate of interest ("receive-fixed swaps"). The interest amounts are based on a specified notional balance, which is used for calculation purposes only. The benchmark variable rate for the substantial majority of the floating rate payments under our swap agreements is 3-month LIBOR.

Table 4 displays the average notional amount outstanding, by swap agreement type, and the weighted-average interest rate paid and received for interest rate swap settlements during fiscal years 2019, 2018 and 2017. As indicated in Table 4, our derivative portfolio consists of a higher proportion of pay-fixed swaps than receive-fixed swaps. The profile of our interest rate swap portfolio, however, may change as a result of changes in market conditions and actions taken to manage exposure to interest rate risk.

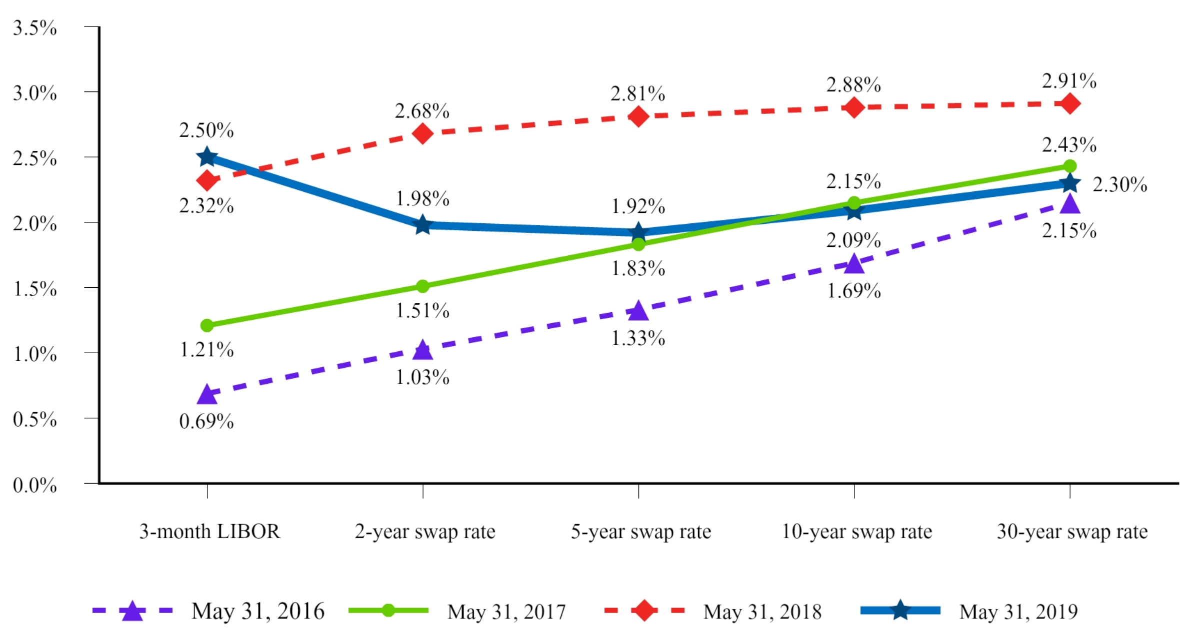
Table 4: Derivative Average Notional Amounts and Average Interest Rates

	Year Ended May 31,								
	2019			2018			2017		
(Dollars in thousands)	Average Notional Balance	Weighted-Average Rate Paid	Weighted-Average Rate Received	Average Notional Balance	Weighted-Average Rate Paid	Weighted-Average Rate Received	Average Notional Balance	Weighted-Average Rate Paid	Weighted-Average Rate Received
Pay-fixed swaps.......	**$ 7,352,704**	**2.83%**	**2.53%**	$ 7,007,207	2.82%	1.58%	$ 6,675,617	2.89%	0.90%
Receive-fixed swaps	**3,615,781**	**3.15**	**2.53**	3,808,794	2.16	2.60	3,914,479	1.34	2.71
Total.........................	**$10,968,485**	**2.93%**	**2.53%**	$10,816,001	2.58%	1.94%	$10,590,096	2.32%	1.57%

Pay-fixed swaps represented approximately 68% and 65% of the outstanding notional amount of our derivative portfolio as of May 31, 2019 and May 31, 2018, respectively. The average remaining maturity of our pay-fixed and receive-fixed swaps was 19 years and four years, respectively, as of May 31, 2019. In comparison, the average remaining maturity of our pay-fixed and receive-fixed swaps was 19 years and five years, respectively, as of May 31, 2018.

As interest rates decline, pay-fixed swaps generally decrease in value and result in the recognition of derivative losses, as the amount of interest we pay remains fixed, while the amount of interest we receive declines. In contrast, as interest rates rise, pay-fixed swaps generally increase in value and result in the recognition of derivative gains, as the amount of interest we pay remains fixed, but the amount we receive increases. With a receive-fixed swap, the opposite results occur as interest rates decline or rise. Because our pay-fixed and receive-fixed swaps are referenced to different maturity terms along the swap curve, different changes in the swap curve—parallel, flattening or steepening—will also impact the fair value of our derivatives. The chart below provides comparative swap curves as of May 31, 2019, 2018, 2017 and 2016.

Comparative Swap Curves



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Benchmark rates obtained from Bloomberg.

Table 5 presents the components of net derivative gains (losses) recorded in our consolidated results of operations. Derivative cash settlements expense represents the net periodic contractual interest amount for our interest-rate swaps for the reporting period. Derivative forward value gains (losses) represent the change in fair value of our interest rate swaps during the reporting period due to changes in expected future interest rates over the remaining life of our derivative contracts.

Table 5: Derivative Gains (Losses)

	Year Ended May 31,		
(Dollars in thousands)	**2019**	**2018**	**2017**
Derivative gains (losses) attributable to:			
Derivative cash settlements expense	**$ (43,611)**	$ (74,281)	$ (84,478)
Derivative forward value gains (losses)	**(319,730)**	306,002	179,381
Derivative gains (losses)	**$ (363,341)**	$ 231,721	$ 94,903

The net derivative losses of $363 million in fiscal year 2019 were primarily attributable to a net decrease in the fair value of our pay-fixed swaps resulting from a decline in medium and longer-term interest rates during the year, as depicted by the May 31, 2019 swap curve presented in the above chart. As medium and longer-term interest rates fell, short-term interest rates rose and exceeded medium and longer-term interest rates, resulting in an inverted yield curve beginning in March 2019. The rise in the 3-month LIBOR resulted in an increase in the floating rate payments due to us on our pay-fixed, receive-variable swaps, which drove a significant reduction in our net periodic derivative cash settlements expense amounts in fiscal year 2019.

The net derivative gains of $232 million in fiscal year 2018 resulted from a net increase in the fair value of our pay-fixed swaps, primarily attributable to an increase in interest rates across the swap curve.

See “Note 1—Summary of Significant Accounting Policies—Derivative Instruments” and “Note 10—Derivative Instruments and Hedging Activities” for additional information on our derivative instruments. Also refer to “Note 14—Fair Value Measurement” for information on how we estimate the fair value of our derivative instruments.

Results of Operations of Foreclosed Assets

Results of operations of foreclosed assets consists of the operating results of entities controlled by CFC that hold foreclosed assets, impairment charges related to those entities, gains or losses related to the disposition of the assets and potential subsequent charges related to those assets. On July 1, 2016, we completed the sale of Caribbean Asset Holdings, LLC (“CAH”). As a result, we did not carry any foreclosed assets on our consolidated balance sheet as of May 31, 2019 or May 31, 2018.

Non-Interest Expense

Non-interest expense consists of salaries and employee benefit expense, general and administrative expenses, gains (losses) on early extinguishment of debt and other miscellaneous expenses.

Table 6 presents the components of non-interest expense recorded in our consolidated results of operations in fiscal years 2019, 2018 and 2017.

Table 6: Non-Interest Expense

(Dollars in thousands)	Year Ended May 31, 2019	2018	2017
Non-interest expense:			
Salaries and employee benefits	**$ (49,824)**	$ (51,422)	$ (47,769)
Other general and administrative expenses	**(43,342)**	(39,462)	(38,457)
Gains (losses) on early extinguishment of debt	**(7,100)**	—	192
Other non-interest expense	**(1,675)**	(1,943)	(1,948)
Total non-interest expense	**$ (101,941)**	$ (92,827)	$ (87,982)

Non-interest expense of $102 million for fiscal year 2019 increased by $9 million, or 10%, from fiscal year 2018. The increase was largely due to the loss on early extinguishment of debt of $7 million, attributable to the premium for the early redemption of $300 million of the $1 billion collateral trust bonds.

Net Income (Loss) Attributable to Noncontrolling Interests

Net income (loss) attributable to noncontrolling interests represents 100% of the results of operations of NCSC and RTFC, as the members of NCSC and RTFC own or control 100% of the interest in their respective companies. The fluctuations in net income (loss) attributable to noncontrolling interests are primarily due to changes in the fair value of NCSC's derivative instruments recognized in NCSC's earnings.

We recorded net loss attributable to noncontrolling interests of $2 million in fiscal year 2019, compared with net income of $2 million in both fiscal years 2018 and 2017.

CONSOLIDATED BALANCE SHEET ANALYSIS

Total assets of $27,124 million as of May 31, 2019 increased by $434 million, or 2%, from May 31, 2018, primarily due to growth in our loan portfolio. Total liabilities of $25,820 million as of May 31, 2019 increased by $636 million, or 3%, from May 31, 2018, largely due to debt issuances to fund loan growth. Total equity decreased by $202 million during fiscal year 2019 to $1,304 million as of May 31, 2019, attributable to our reported net loss of $151 million and patronage capital retirement of $48 million in August 2018.

Following is a discussion of changes in the major components of our assets and liabilities during fiscal year 2019. Period-end balance sheet amounts may vary from average balance sheet amounts due to liquidity and balance sheet management activities that are intended to manage liquidity requirements for the company and our customers, and our market risk exposure in accordance with our risk appetite.

Loan Portfolio

We offer long-term loans that provide borrowers the option to select fixed- and variable-rate loan advances and line of credit loans. The substantial majority of loans in our portfolio represent fixed-rate advances under secured long-term facilities with terms up to 35 years. Line of credit loans are typically variable-rate revolving facilities and are generally unsecured.

Loans Outstanding

Table 7 summarizes loans to members, by loan type and by member class, for the five-year period ended May 31, 2019. As indicated in Table 7, long-term fixed-rate loans accounted for 89% and 90% of loans to members as of May 31, 2019 and 2018, respectively.

Table 7: Loans Outstanding by Type and Member Class

(Dollars in millions)	May 31, 2019		2018		2017		2016		2015	
Loans by type:	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
Long-term loans:										
Fixed-rate	**$ 23,094**	**89%**	$22,696	90%	$22,137	91%	$21,391	93%	$19,722	92%
Variable-rate	**1,067**	**4**	1,040	4	847	3	757	3	699	3
Total long-term loans	**24,161**	**93**	23,736	94	22,984	94	22,148	96	20,421	95
Lines of credit	**1,745**	**7**	1,432	6	1,372	6	1,005	4	1,038	5
Total loans outstanding	**$ 25,906**	**100%**	$25,168	100%	$24,356	100%	$23,153	100%	$21,459	100%
Deferred loan origination costs	**11**	**—**	11	—	11	—	10	—	10	—
Loans to members	**$ 25,917**	**100%**	$25,179	100%	$24,367	100%	$23,163	100%	$21,469	100%
Loans by member class:										
CFC:										
Distribution	**$ 20,155**	**78%**	$19,552	78%	$18,825	77%	$17,674	77%	$16,095	75%
Power supply	**4,579**	**18**	4,397	18	4,505	19	4,401	19	4,181	20
Statewide and associate	**84**	**—**	70	—	58	—	55	—	65	—
CFC total	**24,818**	**96**	24,019	96	23,388	96	22,130	96	20,341	95
NCSC	**743**	**3**	786	3	614	3	681	3	732	3
RTFC	**345**	**1**	363	1	354	1	342	1	386	2
Total loans outstanding	**$ 25,906**	**100%**	$25,168	100%	$24,356	100%	$23,153	100%	$21,459	100%
Deferred loan origination costs	**11**	—	11	—	11	—	10	—	10	—
Loans to members	**$ 25,917**	**100%**	$25,179	100%	$24,367	100%	$23,163	100%	$21,469	100%

Loans to members totaled $25,917 million as of May 31, 2019, an increase of $738 million, or 3%, from May 31, 2018. CFC distribution loans and power supply loans increased by $603 million and $182 million, respectively, which was partially offset by a decrease in NCSC and RTFC loans of $43 million and $18 million, respectively. Long-term and line-of-credit revolving loans accounted for $425 million and $313 million, respectively, of the $738 million increase in loans. Based on our historical experience, however, long-term loans typically account for the substantial majority of loan growth.

Long-term loan advances totaled $1,843 million during fiscal year 2019, with approximately 87% of those advances for capital expenditures by members and 10% for the refinancing of loans made by other lenders. In comparison, long-term loan advances totaled $2,203 million during fiscal year 2018, with approximately 67% of those advances for capital expenditures by members and 24% for the refinancing of loans made by other lenders. The decrease in long-term loan advances from the same prior-year period primarily resulted from weaker demand from borrowers to refinance other lender debt.

We provide additional information on our loan product types in "Item 1. Business—Loan Programs" and "Note 4—Loans." See "Debt—Collateral Pledged" below for information on encumbered and unencumbered loans and "Credit Risk Management" for information on the credit risk profile of our loan portfolio.

Loan Retention Rate

Table 8 presents a comparison between the historical retention rate of CFC's long-term fixed-rate loans that repriced in accordance with our standard loan provisions, during the past three fiscal years and provides information on the percentage of loans that repriced to either another fixed-rate term or a variable rate. The retention rate is calculated based on the election made by the borrower at the repricing date. The average annual retention rate of CFC's repriced loans has been 96% over the last three fiscal years.

Table 8: Historical Retention Rate and Repricing Selection[1]

(Dollars in thousands)	May 31, 2019 Amount	2019 % of Total	2018 Amount	2018 % of Total	2017 Amount	2017 % of Total
Loans retained:						
Long-term fixed rate selected	**$ 568,252**	**75%**	$ 741,792	82%	$ 824,415	84%
Long-term variable rate selected	**123,636**	**16**	157,539	17	137,835	14
Total loans retained by CFC	**691,888**	**91**	899,331	99	962,250	98
Loans repaid[2]	**69,250**	**9**	4,637	1	25,076	2
Total	**$ 761,138**	**100%**	$ 903,968	100%	$ 987,326	100%

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(1) Does not include NCSC and RTFC loans.

(2) Includes loans totaling $1 million as of both May 31, 2018 and 2017 that were converted to new loans at the repricing date and transferred to a third party as part of our direct loan sale program. See "Note 4—Loans" for information on our sale of loans.

Scheduled Loan Principal Payments

Table 9 displays scheduled long-term loan principal payments as of May 31, 2019, for each of the five fiscal years subsequent to May 31, 2019 and thereafter.

Table 9: Long-Term Loan Scheduled Principal Payments

(Dollars in thousands)	Fixed Rate: Scheduled Principal Payments	Fixed Rate: Weighted-Average Interest Rate	Variable Rate: Scheduled Principal Payments	Total Scheduled Principal Payments[1]
Fiscal year:				
2020	**$ 1,181,811**	**4.42%**	**$ 72,027**	**$ 1,253,838**
2021	**1,179,099**	**4.46**	**49,686**	**1,228,785**
2022	**1,180,497**	**4.50**	**50,727**	**1,231,224**
2023	**1,177,197**	**4.52**	**42,846**	**1,220,043**
2024	**1,136,044**	**4.59**	**48,153**	**1,184,197**
Thereafter	**17,239,605**	**4.67**	**803,441**	**18,043,046**
Total	**$ 23,094,253**	**4.62**	**$ 1,066,880**	**$ 24,161,133**

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(1)Excludes line of credit loans.

Debt

We utilize both short-term borrowings and long-term debt as part of our funding strategy and asset/liability interest rate risk management. We seek to maintain diversified funding sources across products, programs and markets to manage funding concentrations and reduce our liquidity or debt rollover risk. Our funding sources include a variety of secured and unsecured debt securities in a wide range of maturities to our members and affiliates and in the capital markets.

Debt Product Types

We offer various short- and long-term unsecured debt securities to our members and affiliates, including commercial paper, select notes, daily liquidity fund notes, medium-term notes and subordinated certificates. We also issue commercial paper, medium-term notes and collateral trust bonds in the capital markets. Additionally, we have access to funds under borrowing arrangements with banks, private placements and U.S. government agencies. Table 10 displays our primary funding sources and their selected key attributes.

Table 10: Debt Product Types

Debt Product Type:	Maturity Range	Market	Secured/ Unsecured
Short-term funding programs:			
Commercial paper	1 to 270 days	Capital markets, members and affiliates	Unsecured
Select notes	30 to 270 days	Members and affiliates	Unsecured
Daily liquidity fund notes	Demand note	Members and affiliates	Unsecured
Other funding programs:			
Medium-term notes	9 months to 30 years	Capital markets, members and affiliates	Unsecured
Collateral trust bonds[(1)]	Up to 30 years	Capital markets	Secured
Guaranteed Underwriter Program notes payable[(2)]	Up to 20 years	U.S. government	Secured
Farmer Mac notes payable[(3)]	Up to 30 years	Private placement	Secured
Other notes payable[(4)]	Up to 30 years	Private placement	Both
Subordinated deferrable debt[(5)]	Up to 45 years	Capital markets	Unsecured
Members' subordinated certificates[(6)]	Up to 100 years	Members	Unsecured
Revolving credit agreements	3 to 5 years	Bank institutions	Unsecured

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(1) Collateral trust bonds are secured by the pledge of permitted investments and eligible mortgage notes from distribution system borrowers in an amount at least equal to the outstanding principal amount of collateral trust bonds.

(2) Represents notes payable under the Guaranteed Underwriter Program, which supports the Rural Economic Development Loan and Grant program. The Federal Financing Bank provides the financing for these notes, and RUS provides a guarantee of repayment. We are required to pledge eligible mortgage notes from distribution and power supply system borrowers in an amount at least equal to the outstanding principal amount of the notes payable.

(3) We are required to pledge eligible mortgage notes from distribution and power supply system borrowers in an amount at least equal to the outstanding principal amount under note purchase agreements with Farmer Mac.

(4) Other notes payable consist of unsecured and secured Clean Renewable Energy Bonds and unsecured notes payable issued by NCSC. We are required to pledge eligible mortgage notes from distribution and power supply system borrowers in an amount at least equal to the outstanding principal amount under the Clean Renewable Energy Bonds Series 2009A note purchase agreement.

(5) Subordinated deferrable debt is subordinate and junior to senior debt and debt obligations we guarantee, but senior to subordinated certificates. We have the right at any time, and from time to time, during the term of the subordinated deferrable debt to suspend interest payments for a maximum period of 20 consecutive quarters for $1,000 par notes, or a maximum period of 40 consecutive quarters for $25 par notes. To date, we have not exercised our option to suspend interest payments. We have the right to call the subordinated deferrable debt, at par, any time after 10 years for $1,000 par notes or 5 years for $25 par notes.

(6) Members' subordinated certificates consist of membership subordinated certificates, loan and guarantee certificates and member capital securities, and are subordinated and junior to senior debt, subordinated debt and debt obligations we guarantee. Membership subordinated certificates generally mature 100 years subsequent to issuance. Loan and guarantee subordinated certificates have the same maturity as the related long-term loan. Some certificates also may amortize annually based on the outstanding loan balance. Member capital securities mature 30 years subsequent to issuance. Member capital securities are callable at par beginning 10 years subsequent to the issuance and anytime thereafter.

Debt Outstanding

Table 11 displays the composition, by product type, of our outstanding debt and the weighted average interest rate as of May 31, 2019, 2018 and 2017. Table 11 also displays the composition of our debt based on several additional selected attributes.

Table 11: Total Debt Outstanding and Weighted-Average Interest Rates

	May 31,					
	2019		2018		2017	
(Dollars in thousands)	Outstanding Amount	Weighted-Average Interest Rate	Outstanding Amount	Weighted-Average Interest Rate	Outstanding Amount	Weighted-Average Interest Rate
Debt product type:						
Commercial paper:						
Members, at par	**$ 1,111,795**	**2.52%**	$ 1,202,105	1.89%	$ 928,158	0.95%
Dealer, net of discounts	**944,616**	**2.46**	1,064,266	1.87	999,691	0.93
Total commercial paper	**2,056,411**	**2.49**	2,266,371	1.88	1,927,849	0.94
Select notes to members	**1,023,952**	**2.70**	780,472	2.04	696,889	1.12
Daily liquidity fund notes to members	**298,817**	**2.25**	400,635	1.50	527,990	0.80
Medium-term notes:						
Members, at par	**625,626**	**2.97**	643,821	2.31	612,951	1.97
Dealer, net of discounts	**2,942,045**	**3.55**	3,002,979	3.51	2,364,671	3.48
Total medium-term notes	**3,567,671**	**3.45**	3,646,800	3.30	2,977,622	3.17
Collateral trust bonds	**7,383,732**	**3.19**	7,639,093	3.89	7,634,048	4.08
Guaranteed Underwriter Program notes payable	**5,410,507**	**2.97**	4,856,143	2.85	4,985,484	2.83
Farmer Mac notes payable	**3,054,914**	**3.33**	2,891,496	2.88	2,513,389	1.71
Other notes payable	**22,515**	**3.46**	29,860	3.42	35,223	3.55
Subordinated deferrable debt	**986,020**	**5.11**	742,410	4.98	742,274	4.98
Members' subordinated certificates:						
Membership subordinated certificates	**630,474**	**4.95**	630,448	4.94	630,098	4.94
Loan and guarantee subordinated certificates	**505,485**	**2.95**	528,386	2.93	567,830	3.02
Member capital securities	**221,170**	**5.00**	221,148	5.00	221,097	5.00
Total members' subordinated certificates	**1,357,129**	**4.21**	1,379,982	4.18	1,419,025	4.18
Total debt outstanding	**$ 25,161,668**	**3.24%**	$24,633,262	3.25%	$23,459,793	3.07%
Security type:						
Unsecured debt	**37%**		37%		35%	
Secured debt	**63**		63		65	
Total	**100%**		100%		100%	
Funding source:						
Members	**18%**		18%		18%	
Private placement:						
Guaranteed Underwriter Program notes payable	**21**		20		21	
Farmer Mac notes payable	**12**		12		11	
Total private placement	**33**		32		32	
Capital markets	**49**		50		50	
Total	**100%**		100%		100%	
Interest rate type:						
Fixed-rate debt	**77%**		74%		74%	
Variable-rate debt	**23**		26		26	
Total	**100%**		100%		100%	
Interest rate type including the impact of swaps:						
Fixed-rate debt[(1)]	**93%**		87%		87%	
Variable-rate debt[(2)]	**7**		13		13	
Total	**100%**		100%		100%	
Maturity classification:[(3)]						
Short-term borrowings	**14%**		15%		14%	
Long-term and subordinated debt[(4)]	**86**		85		86	
Total	**100%**		100%		100%	

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(1) Includes variable-rate debt that has been swapped to a fixed rate, net of any fixed-rate debt that has been swapped to a variable rate.

(2) Includes fixed-rate debt that has been swapped to a variable rate, net of any variable-rate debt that has been swapped to a fixed rate. Also includes commercial paper notes, which generally have maturities of less than 90 days. The interest rate on commercial paper notes does not change once the note has been issued; however, the interest rate for new commercial paper issuances changes daily.

(3) Borrowings with an original contractual maturity of one year or less are classified as short-term borrowings. Borrowings with an original contractual maturity of greater than one year are classified as long-term debt.

(4) Consists of long-term debt, subordinated deferrable debt and total members' subordinated debt reported on the consolidated balance sheets. Maturity classification is based on the original contractual maturity as of the date of issuance of the debt.

Our outstanding debt volume generally increases and decreases in response to member loan demand. As outstanding loan balances increased during the year ended May 31, 2019, our debt volume also increased. Total debt outstanding of $25,162 million as of May 31, 2019, increased by $528 million, or 2%, from May 31, 2018, due to an increase in borrowings to fund the increase in loans to members. The increase was primarily attributable to an increase in borrowings under the Guaranteed Underwriter Program of $554 million, a net increase in Farmer Mac notes payable of $163 million, a net increase in subordinated deferrable debt of $244 million and an aggregate increase in member commercial paper, select notes and daily liquidity fund notes of $51 million. These increases were partially offset by net decreases in collateral trust bonds of $255 million, a decrease in dealer commercial paper outstanding of $120 million and a net decreases in medium-term notes of $79 million.

Below is a summary of significant financing activities during fiscal year 2019.

- On July 12, 2018, we redeemed $300 million of the $1 billion 10.375% collateral trust bonds due November 1, 2018, at a premium of $7 million. We repaid the remaining $700 million of these bonds on the maturity date.
- On July 26, 2018, we issued $300 million aggregate principal amount of dealer medium-term notes at a variable rate of 3-month LIBOR plus 37.5 basis points due 2021.
- On October 31, 2018, we issued $325 million aggregate principal amount of 3.90% collateral trust bonds due 2028 and $300 million aggregate principal amount of 4.40% collateral trust bonds due 2048.
- On November 15, 2018, we closed on a $750 million committed loan facility ("Series N") from the Federal Financing Bank under the Guaranteed Underwriter Program.
- On November 28, 2018, we amended the three-year and five-year committed bank revolving line of credit agreements to extend the maturity dates to November 28, 2021 and November 28, 2023, respectively, and to terminate certain third-party bank commitments.
- On January 31, 2019, we issued $450 million aggregate principal amount of 3.70% collateral trust bonds due 2029 and $500 million aggregate principal amount of 4.30% collateral trust bonds due 2049.
- On May 6, 2019, we issued $250 million of 5.50% subordinated deferrable debt due 2064, which is fixed for the life of the transaction and is callable at par on or after May 15, 2024.

Member Investments

Debt securities issued to our members represent an important, stable source of funding. Table 12 displays outstanding member debt, by debt product type, as of May 31, 2019 and 2018.

Table 12: Member Investments

	May 31,				
	2019		2018		
(Dollars in thousands)	Amount	% of Total [1]	Amount	% of Total [1]	Change
Commercial paper	**$ 1,111,795**	**54%**	$ 1,202,105	53%	$ (90,310)
Select notes	**1,023,952**	**100**	780,472	100	243,480
Daily liquidity fund notes	**298,817**	**100**	400,635	100	(101,818)
Medium-term notes	**625,626**	**18**	643,821	18	(18,195)
Members' subordinated certificates	**1,357,129**	**100**	1,379,982	100	(22,853)
Total outstanding member debt	**$ 4,417,319**		$ 4,407,015		$ 10,304
Percentage of total debt outstanding	**18%**		18%		

(1) Represents outstanding debt attributable to members for each debt product type as a percentage of the total outstanding debt for each debt product type.

Member investments accounted for 18% of total debt outstanding as of both May 31, 2019 and 2018. Over the last three fiscal years, outstanding member investments as of the end of each quarterly reporting period have averaged $4,426 million.

Short-Term Borrowings

Short-term borrowings consist of borrowings with an original contractual maturity of one year or less and do not include the current portion of long-term debt. Short-term borrowings totaled $3,608 million and accounted for 14% of total debt outstanding as of May 31, 2019, compared with $3,796 million, or 15%, of total debt outstanding as of May 31, 2018. See "Liquidity Risk" below and "Note 6—Short-Term Borrowings" for information on the composition of our short-term borrowings.

Long-Term and Subordinated Debt

Long-term debt, defined as debt with an original contractual maturity term of greater than one year, primarily consists of medium-term notes, collateral trust bonds, notes payable under the Guaranteed Underwriter Program and notes payable under our note purchase agreement with Farmer Mac. Subordinated debt consists of subordinated deferrable debt and members' subordinated certificates. Our subordinated deferrable debt and members' subordinated certificates have original contractual maturity terms of greater than one year.

Long-term and subordinated debt totaled $21,554 million and accounted for 86% of total debt outstanding as of May 31, 2019, compared with $20,837 million, or 85%, of total debt outstanding as of May 31, 2018. As discussed above, the increase in total debt outstanding, including long-term and subordinated debt, was primarily due to the issuance of debt to fund the growth in our loan portfolio. See Table 32 in the "Liquidity Risk" section for a summary of long-term subordinated debt issuances and repayments for fiscal year 2019.

Collateral Pledged

We are required to pledge loans or other collateral in transactions under our collateral trust bond indentures, note purchase agreements with Farmer Mac and bond agreements under the Guaranteed Underwriter Program. We are required to maintain pledged collateral equal to at least 100% of the face amount of outstanding borrowings. However, as discussed below, we typically maintain pledged collateral in excess of the required percentage. Under the provisions of our committed bank revolving line of credit agreements, the excess collateral that we are allowed to pledge cannot exceed 150% of the outstanding borrowings under our collateral trust bond indentures, Farmer Mac note purchase agreements or the Guaranteed Underwriter Program. In certain cases, provided that all conditions of eligibility under the different programs are satisfied, we may withdraw excess pledged collateral or transfer collateral from one borrowing program to another to facilitate a new debt issuance.

Table 13 displays the collateral coverage ratios as of May 31, 2019 and 2018 for the debt agreements noted above that require us to pledge collateral.

Table 13: Collateral Pledged

	Requirement/Limit		Actual[1]	
			May 31,	
Debt Agreement	Debt Indenture Minimum	Committed Bank Revolving Line of Credit Agreements	2019	2018
Collateral trust bonds 1994 indenture	**100%**	**150%**	**118%**	111%
Collateral trust bonds 2007 indenture	**100**	**150**	**117**	114
Guaranteed Underwriter Program notes payable	**100**	**150**	**114**	119
Farmer Mac notes payable	**100**	**150**	**123**	115
Clean Renewable Energy Bonds Series 2009A	**100**	**150**	**112**	109

[1] Calculated based on the amount of collateral pledged divided by the face amount of outstanding secured debt.

Of our total debt outstanding of $25,162 million as of May 31, 2019, $15,858 million, or 63%, was secured by pledged loans totaling $18,877 million. In comparison, of our total debt outstanding of $24,633 million as of May 31, 2018, $15,398 million, or 63%, was secured by pledged loans totaling $18,145 million. Total debt outstanding on our consolidated balance sheet is presented net of unamortized discounts and issuance costs. However, our collateral pledging requirements are based on the face amount of secured outstanding debt, which does not take into consideration the impact of net unamortized discounts and issuance costs.

Table 14 displays the unpaid principal balance of loans pledged for secured debt, the excess collateral pledged and unencumbered loans as of May 31, 2019 and 2018.

Table 14: Unencumbered Loans

	May 31,	
(Dollars in thousands)	2019	2018
Total loans outstanding[1]	**$ 25,905,664**	$ 25,167,494
Less: Loans required to be pledged for secured debt [2]	**(16,137,357)**	(15,677,138)
Loans pledged in excess of requirement[2][3]	**(2,739,248)**	(2,467,444)
Total pledged loans	**$ (18,876,605)**	$ (18,144,582)
Unencumbered loans	**$ 7,029,059**	$ 7,022,912
Unencumbered loans as a percentage of total loans	**27%**	28%

[1] Represents the unpaid principal amount of loans as of the end of each period presented and excludes unamortized deferred loan origination costs of $11 million as of both May 31, 2019 and 2018.

[2] Reflects unpaid principal balance of pledged loans.

[3] Excludes cash collateral pledged to secure debt. If there is an event of default under most of our indentures, we can only withdraw the excess collateral if we substitute cash or permitted investments of equal value.

As displayed above in Table 14, we had excess loans pledged as collateral totaling $2,739 million and $2,467 million as of May 31, 2019 and 2018, respectively. We typically pledge loans in excess of the required amount for the following reasons: (i) our distribution and power supply loans are typically amortizing loans that require scheduled principal payments over the life of the loan, whereas the debt securities issued under secured indentures and agreements typically have bullet maturities; (ii) distribution and power supply borrowers have the option to prepay their loans; and (iii) individual loans may become ineligible for various reasons, some of which may be temporary.

We provide additional information on our borrowings, including the maturity profile, below in "Liquidity Risk." Refer to "Note 4—Loans—Pledging of Loans" for additional information related to pledged collateral. Also refer to "Note 6—Short-

Term Borrowings," "Note 7—Long-Term Debt," "Note 8—Subordinated Deferrable Debt" and "Note 9—Members' Subordinated Certificates" for additional information on each of our debt product types.

Equity

Table 15 presents the components of total CFC equity and total equity as of May 31, 2019 and 2018.

Table 15: Equity

	May 31,		
(Dollars in thousands)	**2019**	**2018**	**Change**
Membership fees and educational fund:			
Membership fees	**$ 969**	$ 969	$ —
Educational fund	**2,013**	1,976	37
Total membership fees and educational fund	**2,982**	2,945	37
Patronage capital allocated	**860,578**	811,493	49,085
Members' capital reserve	**759,097**	687,785	71,312
Total allocated equity	**1,622,657**	1,502,223	120,434
Unallocated net income (loss):			
Prior year-end cumulative derivative forward value losses	**(30,831)**	(332,525)	301,694
Current year derivative forward value gains (losses)[(1)]	**(318,134)**	301,694	(619,828)
Current year-end cumulative derivative forward value losses	**(348,965)**	(30,831)	(318,134)
Other unallocated net income (loss)	**3,190**	(5,603)	8,793
Unallocated net loss	**(345,775)**	(36,434)	(309,341)
CFC retained equity	**1,276,882**	1,465,789	(188,907)
Accumulated other comprehensive income (loss)	**(147)**	8,544	(8,691)
Total CFC equity	**1,276,735**	1,474,333	(197,598)
Noncontrolling interests	**27,147**	31,520	(4,373)
Total equity	**$ 1,303,882**	$ 1,505,853	$ (201,971)

[(1)]Represents derivative forward value gains (losses) for CFC only, as total CFC equity does not include the noncontrolling interests of the variable interest entities NCSC and RTFC, which we are required to consolidate. See "Note 15—Business Segments" for the statements of operations for CFC.

Total equity decreased by $202 million during fiscal year 2019 to $1,304 million as of May 31, 2019, attributable to our reported net loss of $151 million and patronage capital retirement of $48 million in August 2018.

In July 2019, the CFC Board of Directors authorized the allocation of fiscal year 2019 adjusted net income as follows: $97 million to members in the form of patronage capital; $71 million to the members' capital reserve and $1 million to the cooperative educational fund. The amount of patronage capital allocated each year by CFC's Board of Directors is based on adjusted non-GAAP net income, which excludes the impact of derivative forward value gains (losses). We provide a reconciliation of our adjusted net income to our reported net income and an explanation of the adjustments below in "Non-GAAP Financial Measures."

In July 2019, the CFC Board of Directors also authorized the retirement of patronage capital totaling $63 million, consisting of $48 million, which represented 50% of the patronage capital allocation for fiscal year 2019, and $15 million, which represented the portion of the allocation from fiscal year 1994 net earnings that has been held for 25 years pursuant to the CFC Board of Directors policy. We expect to return the $63 million to members in cash in the first quarter of fiscal year 2020. The remaining portion of the allocated amount will be retained by CFC for 25 years under guidelines adopted by the CFC Board of Directors in June 2009.
In July 2018, the CFC Board of Directors also authorized the retirement of patronage capital totaling $48 million, which represented 50% of the patronage capital allocation for fiscal year 2018. This amount was returned to members in cash in

August 2018. The remaining portion of the allocated amount will be retained by CFC for 25 years under guidelines adopted by the CFC Board of Directors in June 2009.

The CFC Board of Directors is required to make annual allocations of adjusted net income, if any. CFC has made annual retirements of allocated net earnings in 39 of the last 40 fiscal years; however, future retirements of allocated amounts are determined based on CFC's financial condition. The CFC Board of Directors has the authority to change the current practice for allocating and retiring net earnings at any time, subject to applicable laws. See "Item 1. Business—Allocation and Retirement of Patronage Capital" for additional information.

OFF-BALANCE SHEET ARRANGEMENTS

In the ordinary course of business, we engage in financial transactions that are not presented on our consolidated balance sheets, or may be recorded on our consolidated balance sheets in amounts that are different from the full contract or notional amount of the transaction. Our off-balance sheet arrangements consist primarily of guarantees of member obligations and unadvanced loan commitments intended to meet the financial needs of our members.

Guarantees

We provide guarantees for certain contractual obligations of our members to assist them in obtaining various forms of financing. We use the same credit policies and monitoring procedures in providing guarantees as we do for loans and commitments. If a member defaults on its obligation, we are obligated to pay required amounts pursuant to our guarantees. Meeting our guarantee obligations satisfies the underlying obligation of our member systems and prevents the exercise of remedies by the guarantee beneficiary based upon a payment default by a member. In general, the member is required to repay any amount advanced by us with accrued interest, pursuant to the documents evidencing the member's reimbursement obligation. Table 16 displays the notional amount of our outstanding guarantee obligations, by guarantee type and by company, as of May 31, 2019 and 2018.

Table 16: Guarantees Outstanding

	May 31,		
(Dollars in thousands)	**2019**	**2018**	**Change**
Guarantee type:			
Long-term tax-exempt bonds	**$ 312,190**	$ 316,985	$ (4,795)
Letters of credit	**379,001**	343,970	35,031
Other guarantees	**146,244**	144,206	2,038
Total	**$ 837,435**	$ 805,161	$ 32,274
Company:			
CFC	**$ 826,117**	$ 793,156	$ 32,961
NCSC	**8,714**	10,431	(1,717)
RTFC	**2,604**	1,574	1,030
Total	**$ 837,435**	$ 805,161	$ 32,274

Of the total notional amount of our outstanding guarantee obligations of $837 million and $805 million as of May 31, 2019 and 2018, respectively, 55% and 57%, respectively, were secured by a mortgage lien on substantially all of the assets and future revenue of our member cooperatives for which we provide guarantees.

In addition to providing a guarantee on long-term tax-exempt bonds issued by member cooperatives totaling $312 million as of May 31, 2019, we also were the liquidity provider on $247 million of those tax-exempt bonds. As liquidity provider, we may be required to purchase bonds that are tendered or put by investors. Investors provide notice to the remarketing agent that they will tender or put a certain amount of bonds at the next interest rate reset date. If the remarketing agent is unable to sell such bonds to other investors by the next interest rate reset date, we have unconditionally agreed to purchase such bonds. We were not required to perform as liquidity provider pursuant to these obligations during fiscal year 2019 or 2018.

We had outstanding letters of credit for the benefit of our members totaling $379 million as of May 31, 2019. These letters of credit relate to obligations for which we may be required to advance funds based on various trigger events specified in the letter of credit agreements. If we are required to advance funds, the member is obligated to repay the advance amount and accrued interest to us. In addition to these letters of credit, we had master letter of credit facilities in place under which we may be required to issue letters of credit to third parties for the benefit of our members up to an additional $53 million as of May 31, 2019. All of our master letter of credit facilities as of May 31, 2019 were subject to material adverse change clauses at the time of issuance. Prior to issuing a letter of credit under these facilities, we confirm that there has been no material adverse change in the business or condition, financial or otherwise, of the borrower since the time the loan was approved and that the borrower is currently in compliance with the letter of credit terms and conditions.

Table 17 presents the maturities for each of the next five fiscal years and thereafter of the notional amount of our outstanding guarantee obligations of $837 million as of May 31, 2019.

Table 17: Maturities of Guarantee Obligations

		Maturities of Guarantee Obligations					
(Dollars in thousands)	**Outstanding Amount**	**2020**	**2021**	**2022**	**2023**	**2024**	**Thereafter**
Guarantees	**$ 837,435**	**$ 246,143**	**$ 133,015**	**$ 30,882**	**$ 159,059**	**$ 31,162**	**$ 237,174**

We recorded a guarantee liability of $14 million and $11 million as of May 31, 2019 and 2018, respectively, for our guarantee and liquidity obligations associated with our members' debt. We provide additional information about our guarantee obligations in "Note 13—Guarantees."

Unadvanced Loan Commitments

Unadvanced loan commitments represent approved and executed loan contracts for which funds have not been advanced to borrowers. Our line of credit commitments include both contracts that are subject to material adverse change clauses and contracts that are not subject to material adverse change clauses, while our long-term loan commitments are typically subject to material adverse change clauses.

Table 18 displays the amount of unadvanced loan commitments, which consist of line of credit and long-term loan commitments, as of May 31, 2019 and 2018.

Table 18: Unadvanced Loan Commitments

	May 31,				
	2019		2018		
(Dollars in thousands)	**Amount**	**% of Total**	**Amount**	**% of Total**	**Change**
Line of credit commitments:					
Conditional[1]	**$ 4,845,306**	**37%**	$ 4,835,434	38%	$ 9,872
Unconditional[2]	**2,943,616**	**22**	2,857,350	23	86,266
Total line of credit unadvanced commitments	**7,788,922**	**59**	7,692,784	61	96,138
Total long-term loan unadvanced commitments[1]	**5,448,636**	**41**	4,952,834	39	495,802
Total unadvanced loan commitments	**$ 13,237,558**	**100%**	$ 12,645,618	100%	$ 591,940

[1]Represents amount related to facilities that are subject to material adverse change clauses.
[2]Represents amount related to facilities that are not subject to material adverse change clauses.

Table 19 presents the amount of unadvanced loan commitments, by loan type, as of May 31, 2019 and the maturities of the commitment amounts for each of the next five fiscal years and thereafter.

Table 19: Notional Maturities of Unadvanced Loan Commitments

(Dollars in thousands)	Available Balance	Notional Maturities of Unadvanced Loan Commitments					
		2020	2021	2022	2023	2024	Thereafter
Line of credit	**$ 7,788,922**	**$3,998,036**	**$ 908,628**	**$ 488,017**	**$1,391,887**	**$ 872,813**	**$ 129,541**
Long-term loans............	**5,448,636**	**389,799**	**736,621**	**1,404,204**	**1,210,164**	**1,694,441**	**13,407**
Total..............................	**$13,237,558**	**$4,387,835**	**$1,645,249**	**$1,892,221**	**$2,602,051**	**$2,567,254**	**$ 142,948**

Unadvanced line of credit commitments accounted for 59% of total unadvanced loan commitments as of May 31, 2019, while unadvanced long-term loan commitments accounted for 41% of total unadvanced loan commitments. Unadvanced line of credit commitments are typically revolving facilities for periods not to exceed five years and generally serve as supplemental back-up liquidity to our borrowers. Historically, borrowers have not drawn the full commitment amount for line of credit facilities, and we have experienced a very low utilization rate on line of credit loan facilities regardless of whether or not we are obligated to fund the facility where a material adverse change exists.

Our unadvanced long-term loan commitments generally have a five-year draw period under which a borrower may advance funds prior to the expiration of the commitment. We expect that the majority of the long-term unadvanced loan commitments of $5,449 million will be advanced prior to the expiration of the commitment.

Because we historically have experienced a very low utilization rate on line of credit loan facilities, which account for the majority of our total unadvanced loan commitments, we believe the unadvanced loan commitment total of $13,238 million as of May 31, 2019 is not necessarily representative of our future funding requirements.

Unadvanced Loan Commitments—Conditional

The majority of our line of credit commitments and all of our unadvanced long-term loan commitments include material adverse change clauses. Unadvanced loan commitments subject to material adverse change clauses totaled $10,294 million and $9,789 million as of May 31, 2019 and 2018, respectively, and accounted for 78% and 77% of the combined total of unadvanced line of credit and long-term loan commitments as of May 31, 2019 and 2018, respectively. Prior to making advances on these facilities, we confirm that there has been no material adverse change in the borrower's business or condition, financial or otherwise, since the time the loan was approved and confirm that the borrower is currently in compliance with loan terms and conditions. In some cases, the borrower's access to the full amount of the facility is further constrained by use of proceeds restrictions, imposition of borrower-specific restrictions, or by additional conditions that must be met prior to advancing funds. Since we generally do not charge a fee for the borrower to have an unadvanced amount on a loan facility that is subject to a material adverse change clause, our borrowers tend to request amounts in excess of their immediate estimated loan requirements.

Unadvanced Loan Commitments—Unconditional

Unadvanced loan commitments not subject to material adverse change clauses at the time of each advance consisted of unadvanced committed lines of credit totaling $2,944 million and $2,857 million as of May 31, 2019 and 2018, respectively. For contracts not subject to a material adverse change clause, we are generally required to advance amounts on the committed facilities as long as the borrower is in compliance with the terms and conditions of the facility.

Syndicated loan facilities, where the pricing is set at a spread over a market index rate as agreed upon by all of the participating financial institutions based on market conditions at the time of syndication, accounted for 90% of unconditional line of credit commitments as of May 31, 2019. The remaining 10% represented unconditional committed line of credit loans, which under any new advance would be made at rates determined by us.

Table 20 presents the maturities for each of the next five fiscal years of the notional amount of unconditional committed lines of credit not subject to a material adverse change clause as of May 31, 2019.

Table 20: Maturities of Notional Amount of Unconditional Committed Lines of Credit

(Dollars in thousands)	Available Balance	Notional Maturities of Unconditional Committed Lines of Credit				
		2020	2021	2022	2023	2024
Committed lines of credit....	$ 2,943,616	$ 340,361	$ 451,865	$ 191,634	$1,239,917	$ 719,839

RISK MANAGEMENT

Overview

We face a variety of risks that can significantly affect our financial performance, liquidity, reputation and ability to meet the expectations of our members, investors and other stakeholders. As a financial services company, the major categories of risk exposures inherent in our business activities include credit risk, liquidity risk, market risk and operational risk. These risk categories are summarized below.

- *Credit risk* is the risk that a borrower or other counterparty will be unable to meet its obligations in accordance with agreed-upon terms.
- *Liquidity risk* is the risk that we will be unable to fund our operations and meet our contractual obligations or that we will be unable to fund new loans to borrowers at a reasonable cost and tenor in a timely manner.
- *Market risk* is the risk that changes in market variables, such as movements in interest rates, may adversely affect the match between the timing of the contractual maturities, re-pricing and prepayments of our financial assets and the related financial liabilities funding those assets.
- *Operational risk* is the risk of loss resulting from inadequate or failed internal controls, processes, systems, human error or external events. Operational risk also includes compliance risk, fiduciary risk, reputational risk and litigation risk.

Effective risk management is critical to our overall operations and to achieving our primary objective of providing cost-based financial products to our rural electric members while maintaining the sound financial results required for investment-grade credit ratings on our rated debt instruments. Accordingly, we have a risk-management framework that is intended to govern the principal risks we face in conducting our business and the aggregate amount of risk we are willing to accept, referred to as risk appetite, in the context of CFC's mission and strategic objectives and initiatives.

Risk-Management Framework

Our risk-management framework consists of defined policies, procedures and risk tolerances that are intended to align with CFC's mission. The CFC Board of Directors is responsible for risk governance by approving the enterprise risk-management framework and providing oversight on risk policies, risk appetite and our performance against established goals. In fulfilling its risk governance responsibility, the CFC Board of Directors receives periodic reports on business activities from management. The CFC Board of Directors reviews CFC's risk profile and management's assessment of those risks throughout the year at its periodic meetings. The board also establishes CFC's loan policies and has established a Loan Committee of the board comprising no fewer than 10 directors that reviews the performance of the loan portfolio in accordance with those policies. For additional information about the role of the CFC Board of Directors in risk governance and oversight, see "Item 10. Directors, Executive Officers and Corporate Governance."

Management is responsible for execution of the risk-management framework, risk policy formation and daily management of the risks associated with our business. Management executes its responsibility by establishing processes for identifying, measuring, assessing, managing, monitoring and reporting risks. Management and operating groups maintain policies and procedures, specific to each major risk category, to identify and measure our primary risk exposures at the transaction, obligor and portfolio levels and ensure that our exposures remain within prescribed limits. Management also is responsible for establishing and maintaining internal controls to mitigate key risks. We have a number of management-level risk oversight committees across the organization and groups within the organization that have a defined set of authorities and responsibilities specific to one or more risk types, including the Corporate Credit Committee, Credit Risk Management group, Treasury group, Asset Liability Committee, Investment Management Committee, Corporate Compliance, Internal Audit group and Disclosure Committee. These risk oversight committees and groups collectively help management facilitate enterprise-wide understanding and monitoring of CFC's risk profile and the control processes with respect to our inherent risks. Management and the risk oversight committees periodically report actual results, significant current and emerging risks, initiatives and risk-management concerns to the CFC Board of Directors.

CREDIT RISK

Our loan portfolio, which represents the largest component of assets on our balance sheet, and guarantees account for the substantial majority of our credit risk exposure. We also engage in certain non-lending activities that may give rise to credit and counterparty settlement risk, including the purchase of investment securities and entering into derivative transactions to manage interest rate risk. Our primary credit exposure is to rural electric cooperatives that provide essential electric services to end-users, the majority of which are residential customers. We also have a limited portfolio of loans to not-for-profit and for-profit telecommunication companies.

Credit Risk Management

We manage portfolio and borrower credit risk consistent with credit policies established by the CFC Board of Directors and through credit underwriting, approval and monitoring processes and practices adopted by management. Our board-established credit policies include guidelines regarding the types of credit products we offer, limits on credit we extend to individual borrowers, approval authorities delegated to management, and use of syndications and loan sales. We maintain an internal risk rating system in which we assign a rating to each borrower and credit facility. We review and update the risk ratings at least annually. Assigned risk ratings inform our credit approval, borrower monitoring and portfolio review processes. Our Corporate Credit Committee approves individual credit actions within its own authority and together with our Credit Risk Management group, establishes standards for credit underwriting, oversees credits deemed to be higher risk, reviews assigned risk ratings for accuracy, and monitors the overall credit quality and performance statistics of our loan portfolio.

Loan Portfolio Credit Risk

Below we provide information on the credit risk profile of our loan portfolio, including security provisions, loan concentration, credit performance and our allowance for loan losses.

Security Provisions

Except when providing line of credit loans, we generally lend to our members on a senior secured basis. Long-term loans are generally secured on parity with other secured lenders (primarily RUS), if any, by all assets and revenue of the borrower with exceptions typical in utility mortgages. Line of credit loans are generally unsecured. In addition to the collateral pledged to secure our loans, distribution and power supply borrowers also are required to set rates charged to customers to achieve certain specified financial ratios.

Table 21 presents, by loan type and by company, the amount and percentage of secured and unsecured loans in our loan portfolio as of May 31, 2019 and 2018. Of our total loans outstanding, 92% were secured and 8% were unsecured as of May 31, 2019. In comparison, of our total loans outstanding, 93% were secured and 7% were unsecured as of May 31, 2018.

Table 21: Loan Portfolio Security Profile[1]

(Dollars in thousands)	May 31, 2019				
	Secured	**% of Total**	**Unsecured**	**% of Total**	**Total**
Loan type:					
Long-term loans:					
Long-term fixed-rate loans	**$ 22,674,330**	**98%**	**$ 419,923**	**2%**	**$ 23,094,253**
Long-term variable-rate loans	**1,058,434**	**99**	**8,446**	**1**	**1,066,880**
Total long-term loans	**23,732,764**	**98**	**428,369**	**2**	**24,161,133**
Line of credit loans	**121,741**	**7**	**1,622,790**	**93**	**1,744,531**
Total loans outstanding	**$ 23,854,505**	**92**	**$ 2,051,159**	**8**	**$ 25,905,664**
Company:					
CFC	**$ 22,861,414**	**92%**	**$ 1,956,262**	**8%**	**$ 24,817,676**
NCSC	**664,618**	**89**	**78,270**	**11**	**742,888**
RTFC	**328,473**	**95**	**16,627**	**5**	**345,100**
Total loans outstanding	**$ 23,854,505**	**92**	**$ 2,051,159**	**8**	**$ 25,905,664**

(Dollars in thousands)	May 31, 2018				
	Secured	**% of Total**	**Unsecured**	**% of Total**	**Total**
Loan type:					
Long-term loans:					
Long-term fixed-rate loans	$ 22,220,087	98%	$ 476,098	2%	$ 22,696,185
Long-term variable-rate loans	996,970	96	42,521	4	1,039,491
Total long-term loans	23,217,057	98	518,619	2	23,735,676
Line of credit loans	69,097	5	1,362,721	95	1,431,818
Total loans outstanding	$ 23,286,154	93	$ 1,881,340	7	$ 25,167,494
Company:					
CFC	$ 22,233,592	93%	$ 1,784,327	7%	$ 24,017,919
NCSC	703,396	89	83,061	11	786,457
RTFC	349,166	96	13,952	4	363,118
Total loans outstanding	$ 23,286,154	93	$ 1,881,340	7	$ 25,167,494

[1] Represents the unpaid principal amount of loans as of the end of each period presented and excludes deferred loan origination costs of $11 million as of both May 31, 2019 and 2018.

As part of our strategy in managing our credit risk exposure, we entered into a long-term standby purchase commitment agreement with Farmer Mac in fiscal year 2016. Under this agreement, we may designate certain loans to be covered under the commitment, as approved by Farmer Mac, and in the event any such loan later goes into payment default for at least 90 days, upon request by us, Farmer Mac must purchase such loan at par value. The outstanding principal balance of loans covered under this agreement totaled $619 million as of May 31, 2019, compared with $660 million as of May 31, 2018. No loans have been put to Farmer Mac for purchase pursuant to this agreement. Our credit exposure is also mitigated by long-term loans guaranteed by RUS. Guaranteed RUS loans totaled $154 million and $161 million as of May 31, 2019 and 2018, respectively.

Credit Concentration

Concentrations may exist when there are amounts loaned to borrowers engaged in similar activities or in geographic areas that would cause them to be similarly impacted by economic or other conditions or when there are large exposures to single borrowers. As a tax-exempt, member-owned finance cooperative, CFC's principal focus is to provide funding to its rural electric utility cooperative members to assist them in acquiring, constructing and operating electric distribution, power supply systems and related facilities. Because we lend primarily to our rural electric utility cooperative members, we have a loan portfolio subject to single-industry and single-obligor concentration risks. Outstanding loans to electric utility organizations represented approximately 99% of our total outstanding loan portfolio as of May 31, 2019, unchanged from May 31, 2018. Although our organizational structure and mission results in single-industry concentration, we serve a geographically diverse group of electric and telecommunications members throughout the United States and its territories, including all 50 states, the District of Columbia, American Samoa and Guam. Our consolidated membership totaled 1,447 members and 222 associates as of May 31, 2019.

Geographic Concentration

We currently have loans outstanding to borrowers in 49 states. Texas had the largest concentration of outstanding loans to borrowers in any one state, with approximately 15% of total loans outstanding as of both May 31, 2019 and 2018, and also the largest concentration of borrowers, with 70 borrowers as of both May 31, 2019 and 2018. In addition to having the largest number of borrowers, Texas also had the largest concentration of electric power supply borrowers. Electric power supply borrowers generally require significantly more capital than electric distribution and telecommunications borrowers. Of our 67 electric power supply borrowers, eight were located in Texas as of May 31, 2019.

Table 22 presents the number of CFC, NCSC and RTFC borrowers and the percentage of total loans outstanding by state or U.S. territory as of May 31, 2019 and 2018.

Table 22: Loan Geographic Concentration

	May 31,			
	2019		2018	
U.S. State/Territory	Number of Borrowers	% of Total Loans Outstanding	Number of Borrowers	% of Total Loans Outstanding
Texas	**70**	**15.31%**	70	15.11%
Missouri	**47**	**5.57**	48	5.43
Georgia	**47**	**5.53**	48	5.83
Colorado	**24**	**5.46**	26	5.41
Kansas	**31**	**4.55**	30	4.77
Florida	**17**	**4.31**	17	3.70
Alaska	**17**	**3.70**	17	3.79
Illinois	**28**	**3.53**	29	3.65
North Dakota	**17**	**3.26**	18	3.42
North Carolina	**28**	**3.16**	28	3.01
South Carolina	**24**	**3.11**	23	3.05
Indiana	**39**	**2.88**	37	2.89
Oklahoma	**27**	**2.85**	26	2.86
Kentucky	**24**	**2.85**	25	2.86
Minnesota	**53**	**2.67**	53	2.84
Arkansas	**20**	**2.40**	20	2.26
Ohio	**28**	**2.29**	28	2.10
Iowa	**38**	**2.24**	39	2.00
Alabama	**27**	**2.22**	27	2.28
Pennsylvania	**17**	**1.96**	17	2.04
Wisconsin	**23**	**1.88**	24	1.91
Maryland	**2**	**1.72**	2	1.67
Mississippi	**19**	**1.64**	19	1.58
Oregon	**20**	**1.38**	22	1.42
Washington	**10**	**1.30**	11	1.34
Virginia	**18**	**1.19**	19	1.25
Utah	**6**	**1.17**	6	1.39
Wyoming	**11**	**1.16**	13	0.99
Nevada	**8**	**0.97**	6	1.00
Louisiana	**10**	**0.96**	10	1.25
Michigan	**12**	**0.88**	13	0.92
Montana	**25**	**0.80**	25	0.78
Arizona	**11**	**0.80**	11	0.73
South Dakota	**32**	**0.78**	31	0.86
Tennessee	**19**	**0.57**	18	0.51
Idaho	**12**	**0.49**	12	0.51
Hawaii	**2**	**0.46**	2	0.52
Delaware	**3**	**0.44**	3	0.44
New Hampshire	**1**	**0.33**	1	0.36
New Mexico	**16**	**0.24**	16	0.27
Massachusetts	**1**	**0.23**	1	0.24
Vermont	**6**	**0.20**	5	0.21
California	**4**	**0.14**	4	0.13
New York	**7**	**0.13**	7	0.12
Nebraska	**13**	**0.12**	13	0.12
New Jersey	**1**	**0.07**	2	0.07
West Virginia	**2**	**0.05**	2	0.06
Maine	**3**	**0.03**	3	0.04
Rhode Island	**1**	**0.02**	—	—
District of Columbia	**—**	**—**	1	0.01
Total	**921**	**100.00%**	928	100.00%

Single-Obligor Concentration

Table 23 displays the outstanding loan exposure for the 20 largest borrowers, by company, as of May 31, 2019 and 2018. The 20 borrowers with the largest exposure consisted of 10 distribution systems, nine power supply systems and one NCSC associate as of both May 31, 2019 and 2018. The largest total exposure to a single borrower or controlled group represented approximately 2% of total loans outstanding as of both May 31, 2019 and 2018.

Table 23: Loan Exposure to 20 Largest Borrowers

	May 31,				
	2019		2018		
(Dollars in thousands)	Amount	% of Total	Amount	% of Total	Change
By company:					
CFC	**$5,369,879**	**21%**	$5,551,562	22%	$ (181,683)
NCSC	**245,559**	**1**	257,334	1	(11,775)
Total loan exposure to 20 largest borrowers	**5,615,438**	**22**	5,808,896	23	(193,458)
Less: Loans covered under Farmer Mac standby purchase commitment	**(360,012)**	**(1)**	(382,132)	(2)	22,120
Net loan exposure to 20 largest borrowers	**$5,255,426**	**21%**	$5,426,764	21%	$ (171,338)

Although CFC has been exposed to single-industry and single-obligor concentrations since inception in 1969, we historically have experienced limited defaults and very low credit losses in our electric loan portfolio. The likelihood of default and loss for our electric cooperative borrowers, which account for 99% of our outstanding loans as of May 31, 2019, has been low due to several factors. First, as discussed above, we generally lend to our members on a senior secured basis. Second, electric cooperatives typically are consumer-owned, not-for-profit entities that provide an essential service to end-users, the majority of which are residential customers. Third, electric cooperatives face limited competition, as they tend to operate in exclusive territories not serviced by public investor-owned utilities. Fourth, the majority operate in states where electric cooperatives are not subject to rate regulation. Thus, they are able to make rate adjustments to pass along increased costs to the end customer without first obtaining state regulatory approval, allowing them to cover operating costs and generate sufficient earnings and cash flows to service their debt obligations. Finally, they tend to adhere to a conservative business strategy model that has historically resulted in a relatively stable, resilient operating environment and overall strong financial performance and credit strength for the electric cooperative network.

Credit Quality

Assessing the overall credit quality of our loan portfolio and measuring our credit risk is an ongoing process that involves tracking payment status, the internal risk ratings of our borrowers, troubled debt restructurings, nonperforming and impaired loans, charge-offs and other indicators of credit risk. We monitor and subject each borrower and loan facility in our loan portfolio to an individual risk assessment based on quantitative and qualitative factors. Internal risk ratings and payment status trends are indicators, among others, of the probability of borrower default and level of credit risk in our loan portfolio.

The overall credit quality of our loan portfolio remained high, as evidenced by our strong asset performance metrics, including low levels of criticized exposure. As displayed in Table 21 above, 92% and 93% of our total outstanding loans were secured as of May 31, 2019 and 2018, respectively. We had no delinquent or nonperforming loans as of May 31, 2019 and 2018. In addition, we had no loan defaults or charge-offs during the year ended May 31, 2019.

Borrower Risk Ratings

Our borrower risk ratings are intended to align with banking regulatory agency credit risk rating definitions of pass and criticized classifications, with loans classified as criticized further classified as special mention, substandard or doubtful. Pass ratings reflect relatively low probability of default, while criticized ratings have a higher probability of default. Loans with borrowers classified as criticized totaled $202 million, or 0.78%, of total loans outstanding as of May 31, 2019. Of this amount, $176 million was classified as substandard. In comparison, loans with borrowers classified as criticized totaled $178 million, or 0.71%, of total loans outstanding as of May 31, 2018. Of this amount, $171 million was classified as substandard. We did not have any loans classified as doubtful as of May 31, 2019 or 2018. See “Note 4—Loans” for a description of each of the risk rating classifications.

Troubled Debt Restructurings

We actively monitor problem loans and, from time to time, attempt to work with borrowers to manage such exposures through loan workouts or modifications that better align with the borrower’s current ability to pay. A loan restructuring or modification of terms is accounted for as a TDR if, for economic or legal reasons related to the borrower’s financial difficulties, a concession is granted to the borrower that we would not otherwise consider. TDR loans generally are initially placed on nonaccrual status, although in many cases such loans were already on nonaccrual status prior to modification. Interest accrued but not collected at the date a loan is placed on nonaccrual status is reversed against earnings. These loans may be returned to performing status and the accrual of interest resumed if the borrower performs under the modified terms for an extended period of time, and we expect the borrower to continue to perform in accordance with the modified terms. In certain limited circumstances in which a TDR loan is current at the modification date, the loan may remain on accrual status at the time of modification.

Table 24 presents the carrying value of loans modified as TDRs and the performance status of these loans as of the end of each of the last five fiscal years. Our last modification of a loan that met the definition of a TDR occurred in fiscal year 2017. Although TDR loans may be returned to performing status if the borrower performs under the modified terms of the loan for an extended period of time, TDR loans are considered individually impaired.

Table 24: Troubled Debt Restructured Loans

	May 31,									
	2019		2018		2017		2016		2015	
(Dollars in thousands)	Carrying Amount	% of Total Loans	Carrying Amount	% of Total Loans	Carrying Amount	% of Total Loans	Carrying Amount	% of Total Loans	Carrying Amount	% of Total Loans
TDR loans:										
CFC	**$ 6,261**	**0.03%**	$ 6,507	0.03%	$ 6,581	0.02%	$ 6,716	0.03%	$ 7,221	0.03%
NCSC	**—**	**—**	—	—	—	—	—	—	294	—
RTFC	**5,592**	**0.02**	6,092	0.02	6,592	0.03	10,598	0.04	4,221	0.02
Total TDR loans	**$11,853**	**0.05%**	$12,599	0.05%	$13,173	0.05%	$17,314	0.07%	$ 11,736	0.05%
Performance status of TDR loans:										
Performing TDR loans	**$11,853**	**0.05%**	$12,599	0.05%	$13,173	0.05%	$13,808	0.06%	$ 11,736	0.05%
Nonperforming TDR loans	**—**	**—**	—	—	—	—	3,506	0.01	—	—
Total TDR loans	**$11,853**	**0.05%**	$12,599	0.05%	$13,173	0.05%	$17,314	0.07%	$ 11,736	0.05%

As indicated in Table 24 above, we did not have any TDR loans classified as nonperforming as of May 31, 2019 or 2018.

Nonperforming Loans

In addition to TDR loans that may be classified as nonperforming, we also may have nonperforming loans that have not been modified as a TDR loan. We classify such loans as nonperforming at the earlier of the date when we determine: (i) interest or principal payments on the loan is past due 90 days or more; (ii) as a result of court proceedings, the collection of interest or principal payments based on the original contractual terms is not expected; or (iii) the full and timely collection of interest or principal is otherwise uncertain. Once a loan is classified as nonperforming, we generally place the loan on nonaccrual status. Interest accrued but not collected at the date a loan is placed on nonaccrual status is reversed against earnings. We have not had any loans classified as nonperforming, other than TDR loans, since the fiscal year ended May 31, 2014.

Net Charge-Offs

Charge-offs represent the amount of a loan that has been removed from our consolidated balance sheet when the loan is deemed uncollectible. Generally the amount of a charge-off is the recorded investment in excess of the fair value of the expected cash flows from the loan, or, if the loan is collateral dependent, the fair value of the underlying collateral securing the loan. We report charge-offs net of amounts recovered on previously charged off loans. Table 25 presents charge-offs, net of recoveries, and the net charge-off rate for each of the last five fiscal years.

Table 25: Net Charge-Offs (Recoveries)

	Year Ended May 31,				
(Dollars in thousands)	**2019**	**2018**	**2017**	**2016**	**2015**
Charge-offs:					
RTFC	**$ —**	$ —	$ 2,119	$ —	$ 999
Recoveries:					
CFC	**—**	—	(159)	(214)	(214)
RTFC	**—**	—	(100)	—	—
Total recoveries	**—**	—	(259)	(214)	(214)
Net charge-offs (recoveries)	**$ —**	$ —	$ 1,860	$ (214)	$ 785
Average total loans outstanding	**$ 25,527,172**	$ 24,911,559	$ 23,834,432	$ 22,490,847	$20,821,944
Net charge-off rate[1]	**0.00%**	0.00%	0.01%	0.00 %	0.00%

[1]Calculated based on annualized net charge-offs (recoveries) for the period divided by average total outstanding loans for the period.

We had no loan defaults or charge-offs during fiscal years 2019 or 2018. The gross charge-offs of $3 million over the last five fiscal years were all attributable to our RTFC telecommunications loan portfolio. We now have experienced an extended period of six consecutive fiscal years for which we have had no charge-offs in our electric utility loan portfolio.

Historical Loan Losses

In its 50-year history, CFC has experienced only 16 defaults, of which 10 resulted in no loss and six resulted in cumulative historical net charge-offs of $86 million for our electric utility loan portfolio. Of this amount, $67 million was attributable to electric utility power supply cooperatives and $19 million was attributable to electric distribution cooperatives. We discuss the reasons loans to electric utility cooperatives, our principal lending market, typically have a relatively low risk of default above under "Credit Concentration."

In comparison, since RTFC's inception in 1987, we have had 15 defaults and cumulative net charge-offs attributable to telecommunication borrowers totaling $427 million, the most significant of which was a charge-off of $354 million in fiscal year 2011. This charge-off related to outstanding loans to Innovative Communications Corporation ("ICC"), a former RTFC member, and the transfer of ICC's assets in foreclosure to Caribbean Asset Holdings, LLC.

Outstanding loans to electric utility organizations totaled $25,561 million and accounted for 99% of our total outstanding loan portfolio as of May 31, 2019, while outstanding RTFC telecommunications loans totaled $345 million and accounted for 1%, of our total outstanding loan portfolio as of May 31, 2019.

Allowance for Loan Losses

The allowance for loan losses represents management's estimate of probable losses inherent in our loan portfolio as of each balance sheet date. We determine the allowance based on borrower risk ratings, historical loss experience, specific problem loans, economic conditions and other pertinent factors that, in management's judgment, may affect the risk of loss in our loan portfolio.

Table 26 summarizes changes in the allowance for loan losses for the past five fiscal years and a comparison of the allowance by company as of the end of each of those years.

Table 26: Allowance for Loan Losses

	Year Ended May 31,				
(Dollars in thousands)	**2019**	**2018**	**2017**	**2016**	**2015**
Beginning balance	**$ 18,801**	$ 37,376	$ 33,258	$ 33,690	$ 56,429
Provision (benefit) for loan losses	**(1,266)**	(18,575)	5,978	(646)	(21,954)
Net (charge-offs) recoveries	**—**	—	(1,860)	214	(785)
Ending balance	**$ 17,535**	$ 18,801	$ 37,376	$ 33,258	$ 33,690
Allowance for loan losses by company:					
CFC	**$ 13,120**	$ 12,300	$ 29,499	$ 24,559	$ 23,716
NCSC	**2,007**	2,082	2,910	3,134	5,441
RTFC	**2,408**	4,419	4,967	5,565	4,533
Total	**$ 17,535**	$ 18,801	$ 37,376	$ 33,258	$ 33,690
Allowance coverage ratios:					
Total loans outstanding[(1)]	**$25,905,664**	$25,167,494	$24,356,330	$23,152,517	$21,459,220
Percentage of total loans outstanding	**0.07%**	0.07%	0.15%	0.14%	0.16%
Percentage of total performing TDR loans outstanding	**147.94**	149.23	283.73	240.86	287.07
Percentage of total nonperforming TDR loans outstanding	**—**	—	—	948.60	—
Percentage of loans on nonaccrual status	**—**	—	—	948.60	287.07

(1) Represents the unpaid principal amount of loans as of the end of each period presented and excludes unamortized deferred loan origination costs of $11 million as of May 31, 2019, 2018 and 2017, and $10 million as of May 31, 2016 and 2015.

Our allowance for loan losses decreased by $1 million to $18 million as of May 31, 2019, from $19 million as of May 31, 2018. The allowance coverage ratio was 0.07% as of both May 31, 2019 and 2018. Loans designated as individually impaired totaled $12 million and $13 million as of May 31, 2019 and 2018, respectively, and the specific allowance related to those loans totaled $1 million as of both May 31, 2019 and 2018.

See "Critical Accounting Policies and Estimates—Allowance for Loan Losses" above and "Note 1—Summary of Significant Accounting Policies" for information on the methodology for determining our allowance for loan losses and the key assumptions. See "Note 4—Loans" of this Report for additional information on the credit quality of our loan portfolio.

Counterparty Credit Risk

We are exposed to counterparty credit risk related to the performance of the parties with which we enter into financial transactions, primarily for derivative instruments, cash and time deposit accounts and our investment security holdings. To mitigate this risk, we only enter into these transactions with financial institutions with investment-grade ratings. Our cash and time deposits with financial institutions generally have an original maturity of less than one year.

We manage our derivative counterparty credit risk by monitoring the overall credit worthiness of each counterparty based on our internal counterparty credit risk scoring model; using counterparty-specific credit risk limits; executing master netting arrangements; and diversifying our derivative transactions among multiple counterparties. We also require that our derivative counterparties be a participant in one of our committed bank revolving line of credit agreements. Our active derivative counterparties had credit ratings ranging from Aa2 to Baa2 by Moody's Investors Service ("Moody's") and from AA- to BBB+ by S&P Global Inc. ("S&P") as of May 31, 2019. Our largest counterparty exposure, based on the outstanding notional amount, represented approximately 23% and 24% of the total outstanding notional amount of derivatives as of May 31, 2019 and 2018, respectively.

Credit Risk-Related Contingent Features

Our derivative contracts typically contain mutual early-termination provisions, generally in the form of a credit rating trigger. Under the mutual credit rating trigger provisions, either counterparty may, but is not obligated to, terminate and settle the agreement if the credit rating of the other counterparty falls below a level specified in the agreement. If a derivative contract is terminated, the amount to be received or paid by us would be equal to the prevailing fair value, as defined in the agreement, as of the termination date.

Our senior unsecured credit ratings from Moody's and S&P were A2 and A, respectively, as of May 31, 2019. Both Moody's and S&P had our ratings on stable outlook as of May 31, 2019. Table 27 displays the notional amounts of our derivative contracts with rating triggers as of May 31, 2019, and the payments that would be required if the contracts were terminated as of that date because of a downgrade of our unsecured credit ratings or the counterparty's unsecured credit ratings below A3/A-, below Baa1/BBB+, to or below Baa2/BBB, below Baa3/BBB- or to or below Ba2/BB+ by Moody's or S&P, respectively. In calculating the payment amounts that would be required upon termination of the derivative contracts, we assumed that the amounts for each counterparty would be netted in accordance with the provisions of the counterparty's master netting agreements. The net payment amounts are based on the fair value of the underlying derivative instrument, excluding the credit risk valuation adjustment, plus any unpaid accrued interest amounts.

Table 27: Rating Triggers for Derivatives

(Dollars in thousands)	Notional Amount	Payable Due From CFC	Receivable Due to CFC	Net (Payable)/ Receivable
Impact of rating downgrade trigger:				
Falls below A3/A-[1]	$ 50,460	$ (9,379)	$ —	$ (9,379)
Falls below Baa1/BBB+	7,024,759	(224,501)	5	(224,496)
Falls to or below Baa2/BBB [2]	562,062	(7,132)	—	(7,132)
Falls below Baa3/BBB-	221,865	(12,292)	—	(12,292)
Total	$ 7,859,146	$ (253,304)	$ 5	$ (253,299)

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(1) Rating trigger for CFC falls below A3/A-, while rating trigger for counterparty falls below Baa1/BBB+ by Moody's or S&P, respectively.
(2) Rating trigger for CFC falls to or below Baa2/BBB, while rating trigger for counterparty falls to or below Ba2/BB+ by Moody's or S&P, respectively.

We have outstanding notional amount of derivatives with one counterparty subject to a ratings trigger and early termination provision in the event of a downgrade of CFC's senior unsecured credit ratings below Baa3, BBB- or BBB- by Moody's, S&P or Fitch Ratings Inc. ("Fitch"), respectively, which is not included in the above table, totaling $165 million as of May 31, 2019. These contracts were in an unrealized loss position of $20 million as of May 31, 2019.

The aggregate fair value amount, including the credit valuation adjustment, of all interest rate swaps with rating triggers that were in a net liability position was $266 million as of May 31, 2019. There were no counterparties that fell below the rating trigger levels in our interest swap contracts as of May 31, 2019. If a counterparty has a credit rating that falls below the rating trigger level specified in the interest swap contract, we have the option to terminate all derivatives with the counterparty. However, we generally do not terminate such agreements prematurely because our interest rate swaps are critical to our matched funding strategy to mitigate interest rate risk.

See "Item 1A. Risk Factors" for additional information about credit risk related to our business.

LIQUIDITY RISK

We define liquidity as the ability to convert assets into cash quickly and efficiently, maintain access to readily available funding and rollover or issue new debt, under both normal operating conditions and periods of CFC-specific and/or market stress, to ensure that we can meet borrower loan requests, pay current and future obligations and fund our operations on a cost-effective basis. Our primary sources of liquidity include cash flows from operations, member loan repayments, committed bank revolving lines of credit, committed loan facilities under the Guaranteed Underwriter Program, revolving note purchase agreements with Farmer Mac and our ability to issue debt in the capital markets, to our members and in private placements.

Liquidity Risk Management

Our liquidity risk-management framework is designed to meet our liquidity objectives of providing a reliable source of funding to members, meet maturing debt and other financial obligations, issue new debt and fund our operations on a cost-effective basis under normal operating conditions as well as under CFC-specific and/or market stress conditions. We engage in various activities to manage liquidity risk and achieve our liquidity objectives. Our Asset Liability Committee establishes guidelines that are intended to ensure that we maintain sufficient, diversified sources of liquidity to cover potential funding requirements as well as unanticipated contingencies. Our Treasury group develops strategies to manage our targeted liquidity position, projects our funding needs under various scenarios, including adverse circumstances, and monitors our liquidity position on an ongoing basis.

Available Liquidity

As part of our strategy in managing liquidity risk and meeting our liquidity objectives, we seek to maintain a substantial level of on-balance sheet and off-balance sheet sources of liquidity that are readily available for access to meet our near-term liquidity needs. Table 28 presents the sources of our available liquidity as of May 31, 2019 and 2018.

Table 28: Available Liquidity

	May 31,					
	2019			2018		
(Dollars in millions)	Total	Accessed	Available	Total	Accessed	Available
Cash and cash equivalents	**$ 178**	**$ —**	**$ 178**	$ 231	$ —	$ 231
Committed bank revolving line of credit agreements—unsecured[1]	**2,975**	**3**	**2,972**	3,085	3	3,082
Guaranteed Underwriter Program committed facilities—secured[2]	**7,298**	**5,948**	**1,350**	6,548	5,323	1,225
Farmer Mac revolving note purchase agreement, dated March 24, 2011, as amended—secured[3]	**5,200**	**3,055**	**2,145**	5,200	2,791	2,409
Farmer Mac revolving note purchase agreement, dated July 31, 2015, as amended—secured	**300**	**—**	**300**	300	100	200
Total	**$15,951**	**$ 9,006**	**$ 6,945**	$ 15,364	$ 8,217	$ 7,147

[1]The committed bank revolving line of credit agreements consist of a three-year and a five-year line of credit agreement. The accessed amount of $3 million as of both May 31, 2019 and May 31, 2018 relates to letters of credit issued pursuant to the five-year line of credit agreement.

[2]The committed facilities under the Guaranteed Underwriter Program are not revolving.

[3]Availability subject to market conditions.

We believe we have sufficient liquidity from the available on- and off-balance sheet liquidity sources presented above in Table 28 and our ability to issue debt to meet demand for member loan advances and satisfy our obligations to repay long-term debt maturing over the next 12 months.

Borrowing Capacity Under Current Facilities

Following is a discussion of our borrowing capacity and key terms and conditions under our revolving line of credit agreements with banks and committed loan facilities under the Guaranteed Underwriter Program and revolving note purchase agreements with Farmer Mac.

Committed Bank Revolving Line of Credit Agreements—Unsecured

Our committed bank revolving lines of credit may be used for general corporate purposes; however, we generally rely on them as a backup source of liquidity for our member and dealer commercial paper. We had $2,975 million of commitments under committed bank revolving line of credit agreements as of May 31, 2019. Under our current committed bank revolving line of credit agreements, we have the ability to request up to $300 million of letters of credit, which would result in a reduction in the remaining available amount under the facilities.

On November 28, 2018, we amended the three-year and five-year committed bank revolving line of credit agreements to extend the maturity dates to November 28, 2021 and November 28, 2023, respectively, and to terminate certain third-party bank commitments totaling $53 million under the three-year agreement and $57 million under the five- year agreement. As a result, the total commitment amount from third-parties under the three-year facility and the five-year facility is $1,440 million and $1,535 million, respectively, resulting in a combined total commitment amount under the two facilities of $2,975 million.

Table 29 presents the total commitment, the net amount available for use and the outstanding letters of credit under our committed bank revolving line of credit agreements as of May 31, 2019. We did not have any outstanding borrowings under our bank revolving line of credit agreements as of May 31, 2019.

Table 29: Committed Bank Revolving Line of Credit Agreements

	May 31, 2019				
(Dollars in millions)	**Total Commitment**	**Letters of Credit Outstanding**	**Net Available for Advance**	**Maturity**	**Annual Facility Fee (1)**
3-year agreement	$ **1,440**	$ —	$ **1,440**	November 28, 2021	7.5 bps
5-year agreement	**1,535**	**3**	**1,532**	November 28, 2023	10 bps
Total	$ **2,975**	$ **3**	$ **2,972**		

(1)Facility fee based on CFC's senior unsecured credit ratings in accordance with the established pricing schedules at the inception of the related agreement.

Our committed bank revolving line of credit agreements do not contain a material adverse change clause or rating triggers that would limit the banks' obligations to provide funding under the terms of the agreements; however, we must be in compliance with the covenants to draw on the facilities. We have been and expect to continue to be in compliance with the covenants under our committed bank revolving line of credit agreements. As such, we could draw on these facilities to repay dealer or member commercial paper that cannot be rolled over. See "Financial Ratios" and "Debt Covenants" below for additional information, including the specific financial ratio requirements under our committed bank revolving line of credit agreements.

Guaranteed Underwriter Program Committed Facilities—Secured

Under the Guaranteed Underwriter Program, we can borrow from the Federal Financing Bank and use the proceeds to make new loans and refinance existing indebtedness. As part of the program, we pay fees, based on outstanding borrowings, supporting the USDA Rural Economic Development Loan and Grant program. The borrowings under this program are guaranteed by RUS.

On November 15, 2018, we closed on a $750 million committed loan facility ("Series N") from the Federal Financing Bank under the Guaranteed Underwriter Program. Pursuant to this facility, we may borrow any time before July 15, 2023. Each advance is subject to quarterly amortization and a final maturity not longer than 20 years from the advance date.

During fiscal year 2019, we borrowed $625 million under our committed loan facilities with the Federal Financing Bank. We had up to $1,350 million available for access under the Guaranteed Underwriter Program as of May 31, 2019. Of this amount, $600 million is available for advance through July 15, 2022 and $750 million is available for advance through July 15, 2023.

We are required to pledge eligible distribution system loans or power supply system loans as collateral in an amount at least equal to the total outstanding borrowings under the Guaranteed Underwriter Program. See "Consolidated Balance Sheet Analysis—Debt—Collateral Pledged" and "Note 4—Loans" for additional information on pledged collateral.

Farmer Mac Revolving Note Purchase Agreements—Secured

As indicated in Table 28, we have two revolving note purchase agreements with Farmer Mac, which together allow us to borrow up to $5,500 million from Farmer Mac. Under our first revolving note purchase agreement with Farmer Mac dated March 24, 2011, as amended, we can borrow, subject to market conditions, up to $5,200 million at any time through January 11, 2022, and such date shall automatically extend on each anniversary date of the closing for an additional year, unless prior to any such anniversary date, Farmer Mac provides us with a notice that the draw period will not be extended beyond the remaining term. This revolving note purchase agreement allows us to borrow, repay and re-borrow funds at any time through maturity, as market conditions permit, provided that the outstanding principal amount at any time does not exceed the total available under the agreement. Each borrowing under the note purchase agreement is evidenced by a pricing agreement setting forth the interest rate, maturity date and other related terms as we may negotiate with Farmer Mac at the time of each such borrowing. We may select a fixed rate or variable rate at the time of each advance with a maturity as determined in the applicable pricing agreement. We had outstanding secured notes payable totaling $3,055 million and $2,791 million as of May 31, 2019 and 2018, respectively, under the Farmer Mac revolving note purchase agreement of $5,200 million. We borrowed $575 million under this note purchase agreement with Farmer Mac during the year ended May 31, 2019. The available borrowing amount totaled $2,145 million as of May 31, 2019.

Under our second revolving note purchase agreement with Farmer Mac, dated July 31, 2015, as amended, we can borrow up to $300 million at any time through December 20, 2023 at a fixed spread over LIBOR. This agreement also allows us to borrow, repay and re-borrow funds at any time through maturity, provided that the outstanding principal amount at any time does not exceed the total available under the agreement. Prior to the maturity date, Farmer Mac may terminate the agreement upon 30 days written notice to us on periodic facility renewal dates, the first of which was January 31, 2019. Subsequent facility renewal dates are on each June 20 or December 20 thereafter until the maturity date. We may terminate the agreement upon 30 days written notice at any time. We did not have any outstanding notes payable under this revolving note purchase agreement with Farmer Mac as of May 31, 2019. Under the terms of the first revolving note purchase agreement with Farmer Mac described above, the $5,200 million commitment will increase to $5,500 million in the event the second revolving note purchase agreement is terminated.

Pursuant to both Farmer Mac revolving note purchase agreements, we are required to pledge eligible distribution system or power supply system loans as collateral in an amount at least equal to the total principal amount of notes outstanding. See "Consolidated Balance Sheet Analysis—Debt—Collateral Pledged" and "Note 4—Loans" for additional information on pledged collateral.

Short-Term Borrowings and Long-Term and Subordinated Debt

Additional funding is provided by short-term borrowings and issuances of long-term and subordinated debt. We rely on short-term borrowings as a source to meet our daily, near-term funding needs. Long-term and subordinated debt represents the most significant component of our funding. The issuance of long-term debt allows us to reduce our reliance on short-term borrowings and effectively manage our refinancing and interest rate risk.

Short-Term Borrowings

Our short-term borrowings consist of commercial paper, which we offer to members and dealers, select notes and daily liquidity fund notes offered to members, and bank-bid notes and medium-term notes offered to members and dealers.

Table 30 displays the composition, by funding source, of our short-term borrowings as of May 31, 2019 and 2018. Member borrowings accounted for 74% of total short-term borrowings as of May 31, 2019, compared with 69% of total short-term borrowings as of May 31, 2018.

Table 30: Short-Term Borrowings—Funding Sources

	May 31,			
	2019		2018	
(Dollars in thousands)	Outstanding Amount	% of Total Short-Term Borrowings	Outstanding Amount	% of Total Short-Term Borrowings
Funding source:				
Members	**$ 2,663,110**	**74%**	$ 2,631,644	69 %
Private placement—Farmer Mac notes payable	**—**	**—**	100,000	3
Capital markets	**944,616**	**26**	1,064,266	28
Total	**$ 3,607,726**	**100%**	$ 3,795,910	100 %

Table 31 displays additional information on our short-term borrowings, including the maximum month-end and average outstanding amounts, the weighted average interest rate and the weighted average maturity, for each respective category of our short-term borrowings for fiscal years 2019, 2018 and 2017.

Table 31: Short-Term Borrowings

	May 31, 2019				
(Dollars in thousands)	Amount Outstanding	Weighted-Average Interest Rate	Weighted-Average Maturity	Maximum Month-End Outstanding Amount	Average Outstanding Amount
Short-term borrowings:					
Commercial paper:					
Commercial paper to dealers, net of discounts	**$ 944,616**	**2.46%**	**7 days**	**$ 2,277,820**	**$ 1,322,039**
Commercial paper to members, at par	**1,111,795**	**2.52**	**34 days**	**1,380,324**	**1,091,745**
Total commercial paper	**2,056,411**	**2.49**	**22 days**	**3,209,498**	**2,413,784**
Select notes to members	**1,023,952**	**2.70**	**48 days**	**1,049,349**	**907,490**
Daily liquidity fund notes to members	**298,817**	**2.25**	**1 day**	**572,898**	**407,964**
Medium-term notes sold to members	**228,546**	**2.87**	**143 days**	**246,676**	**237,331**
Farmer Mac revolving facility	**—**	**—**	**—**	**100,000**	**3,288**
Total short-term borrowings	**$ 3,607,726**	**2.56**	**35 days**		**$ 3,969,857**

(Dollars in thousands)	May 31, 2018 Amount Outstanding	Weighted-Average Interest Rate	Weighted-Average Maturity	Maximum Month-End Outstanding Amount	Average Outstanding Amount
Short-term borrowings:					
Commercial paper:					
Commercial paper to dealers, net of discounts	$ 1,064,266	1.87%	14 days	$ 2,548,147	$ 942,931
Commercial paper to members, at par	1,202,105	1.89	34 days	1,268,515	1,005,624
Total commercial paper	2,266,371	1.88	25 days	3,447,274	1,948,555
Select notes to members	780,472	2.04	44 days	780,472	727,313
Daily liquidity fund notes to members	400,635	1.50	1 day	866,065	618,705
Medium-term notes sold to members	248,432	1.90	150 days	248,432	217,122
Farmer Mac revolving facility	100,000	2.23	61 days	100,000	548
Total short-term borrowings	$ 3,795,910	1.88	35 days		$ 3,512,243

(Dollars in thousands)	May 31, 2017 Amount Outstanding	Weighted-Average Interest Rate	Weighted-Average Maturity	Maximum Month-End Outstanding Amount	Average Outstanding Amount
Short-term borrowings:					
Commercial paper:					
Commercial paper to dealers, net of discounts	$ 999,691	0.93%	13 days	$ 2,048,954	$ 988,538
Commercial paper to members, at par	928,158	0.95	24 days	1,080,737	928,082
Total commercial paper	1,927,849	0.94	18 days	3,006,148	1,916,620
Select notes to members	696,889	1.12	43 days	840,990	726,276
Daily liquidity fund notes to members	527,990	0.80	1 day	687,807	542,188
Medium-term notes sold to members	190,172	1.50	144 days	203,246	194,045
Total short-term borrowings	$ 3,342,900	0.99	28 days		$ 3,379,129

Our short-term borrowings totaled $3,608 million and accounted for 14% of total debt outstanding as of May 31, 2019, compared with $3,796 million, or 15%, of total debt outstanding as of May 31, 2018. The weighted-average maturity and weighted-average cost of our short-term borrowings was 35 days and 2.56%, respectively, as of May 31, 2019, compared with 35 days and 1.88%, respectively, as of May 31, 2018. Of the total outstanding commercial paper, $945 million, or 4% of total debt outstanding, was issued to dealers as of May 31, 2019, compared with the $1,064 million, or 4% of total debt outstanding, that was issued to dealers as of May 31, 2018. Our intent is to manage our short-term wholesale funding risk by maintaining outstanding dealer commercial paper at an amount below $1,250 million for the foreseeable future. Member borrowings accounted for 74% of our total short-term borrowings as of May 31, 2019, compared with 69% of total short-term borrowings as of May 31, 2018.

Long-Term and Subordinated Debt

Long-term and subordinated debt represents the most significant component of our funding. The issuance of long-term debt allows us to reduce our reliance on short-term borrowings and effectively manage our refinancing and interest rate risk, due in part to the multi-year contractual maturity structure of long-term debt. In addition to access to private debt facilities, we also issue debt in the public capital markets. Pursuant to Rule 405 of the Securities Act, we are classified as a "well-known seasoned issuer." Pursuant to our effective shelf registration statements filed with the SEC, we may offer and issue the following debt securities:

- an unlimited amount of collateral trust bonds until September 2019;
- an unlimited amount of senior and subordinated debt securities, including medium-term notes, member capital securities and subordinated deferrable debt, until November 2020; and

- daily liquidity fund notes up to $20,000 million in the aggregate—with a $3,000 million limit on the aggregate principal amount outstanding at any time—until March 2022.

We intend to file a new registration statement registering an unlimited amount of collateral trust bonds prior to the expiration of the existing shelf registration statement in September 2019. Although we register member capital securities and the daily liquidity fund notes with the SEC, these securities are not available for sale to the general public. Medium-term notes are available for sale to both the general public and members. Notwithstanding the foregoing, we have contractual limitations with respect to the amount of senior indebtedness we may incur.

As discussed in "Consolidated Balance Sheet Analysis—Debt," long-term and subordinated debt totaled $21,554 million and accounted for 86% of total debt outstanding as of May 31, 2019, compared with $20,837 million, or 85%, of total debt outstanding as of May 31, 2018. The increase in total debt outstanding, including long-term and subordinated debt, was primarily due to the issuance of debt to fund loan portfolio growth. Table 32 summarizes long-term and subordinated debt issuances and repayments during fiscal year 2019.

Table 32: Issuances and Repayments of Long-Term and Subordinated Debt[1]

	Year Ended May 31, 2019		
(Dollars in thousands)	**Issuances**	**Repayments [1]**	**Change**
Long-term and subordinated debt activity:[2]			
Collateral trust bonds	**$ 1,575,000**	**$ 1,830,000**	**$ (255,000)**
Guaranteed Underwriter Program notes payable	**625,000**	**70,867**	**554,133**
Farmer Mac notes payable	**575,000**	**311,583**	**263,417**
Medium-term notes sold to members	**194,355**	**192,664**	**1,691**
Medium-term notes sold to dealers	**329,907**	**394,004**	**(64,097)**
Other notes payable	**—**	**7,522**	**(7,522)**
Subordinated debt	**250,000**	**—**	**250,000**
Members' subordinated certificates	**1,986**	**24,861**	**(22,875)**
Total	**$ 3,551,248**	**$ 2,831,501**	**$ 719,747**

(1) Amounts exclude unamortized debt issuance costs and discounts

(2) Repayments include principal maturities, scheduled amortization payments, repurchases and redemptions.

We provide additional information on our financing activities above under "Consolidated Balance Sheet Analysis—Debt" and on the weighted-average interest rates on our long-term debt and subordinated certificates in "Note 7—Long-Term Debt," "Note 8—Subordinated Deferrable Debt" and "Note 9—Members' Subordinated Certificates."

Investment Portfolio

In addition to our primary sources of liquidity discussed above, we have an investment portfolio, composed of equity securities and held-to-maturity debt securities. We intend for our investment portfolio, which totaled $653 million and $710 million as of May 31, 2019 and 2018, respectively, to remain adequately liquid to serve as a contingent supplemental source of liquidity for unanticipated liquidity needs.

On June 12, 2019, Farmer Mac redeemed its Series B non-cumulative preferred stock at a redemption price of $25.00 per share, plus any declared and unpaid dividends through and including the redemption date. The amortized cost of our investment in the Farmer Mac Series B non-cumulative preferred stock was $25 million as of May 31, 2019, which equals the per share redemption price.

Pursuant to our investment policy and guidelines, all fixed-income debt securities, at the time of purchase, must be rated at least investment grade and on stable outlook based on external credit ratings from at least two of the leading global credit rating agencies, when available, or the corresponding equivalent, when not available. Securities rated investment grade, that is those rated Baa3 or higher by Moody's or BBB- or higher by S&P or BBB- or higher by Fitch, are generally considered by the rating agencies to be of lower credit risk than non-investment grade securities. We have the positive intent and ability to hold these securities to maturity. As such, we have classified them as held to maturity on our consolidated balance sheet. Our investment portfolio is unencumbered and structured so that securities have active secondary or resale markets under normal market conditions. The objective of the portfolio is to achieve returns commensurate with the level of risk assumed subject to CFC's investment policy and guidelines and liquidity requirements.

We provide additional information on our investment securities in "Note 3—Investment Securities."

Projected Near-Term Sources and Uses of Liquidity

As discussed above, our primary sources of liquidity include cash flows from operations, member loan repayments, committed bank revolving lines of credit, committed loan facilities, short-term borrowings and funds from the issuance of long-term and subordinated debt. Our primary uses of liquidity include loan advances to members, principal and interest payments on borrowings, periodic settlement payments related to derivative contracts, and operating expenses.

Table 33 below displays our projected sources and uses of cash from debt and investment activity, by quarter, over the next six quarters through the quarter ended November 30, 2020. Our projected liquidity position reflects our current plan to expand our investment portfolio. Our assumptions also include the following: (i) the estimated issuance of long-term debt, including collateral trust bonds and private placement of term debt, is based on maintaining a matched funding position within our loan portfolio with our bank revolving lines of credit serving as a backup liquidity facility for commercial paper and on maintaining outstanding dealer commercial paper at an amount below $1,250 million; (ii) long-term loan scheduled amortization payments represent the scheduled long-term loan payments for loans outstanding as of May 31, 2019, and our current estimate of long-term loan prepayments, which the amount and timing of are subject to change; (iii) other loan repayments and other loan advances primarily relate to line of credit repayments and advances; (iv) long-term debt maturities reflect scheduled maturities of outstanding term debt for the periods presented; and (v) long-term loan advances reflect our current estimate of member demand for loans, the amount and timing of which are subject to change.

Table 33: Projected Sources and Uses of Liquidity from Debt and Investment Activity[(1)]

	Projected Sources of Liquidity				Projected Uses of Liquidity				
(Dollars in millions)	Long-Term Debt Issuance	Anticipated Long-Term Loan Repayments[(2)]	Other Loan Repayments[(3)]	Total Projected Sources of Liquidity	Long-Term Debt Maturities[(4)]	Long-Term Loan Advances	Other Loan Advances[(5)]	Total Projected Uses of Liquidity	Other Sources/ (Uses) of Liquidity[(6)]
1Q FY 2020....	$ 230	$ 384	$ 194	$ 808	$ 301	$ 548	$ 140	$ 989	$ 108
2Q FY 2020....	690	299	99	1,088	773	393	5	1,171	29
3Q FY 2020....	890	307	76	1,273	650	468	—	1,118	(183)
4Q FY 2020....	90	311	9	410	161	210	—	371	(129)
1Q FY 2021....	490	312	—	802	499	316	—	815	5
2Q FY 2021....	740	309	—	1,049	491	302	—	793	(275)
Total	$ 3,130	$ 1,922	$ 378	$ 5,430	$ 2,875	$ 2,237	$ 145	$ 5,257	$ (445)

(1) The dates presented represent the end of each quarterly period through the quarter ended November 30, 2020.
(2) Anticipated long-term loan repayments include scheduled long-term loan amortizations, anticipated cash repayments at repricing date and sales.
(3) Other loan repayments include anticipated short-term loan repayments.
(4) Long-term debt maturities also include medium-term notes with an original maturity of one year or less and expected early redemptions of debt.
(5) Other loan advances include anticipated short-term loan advances.
(6) Includes net increase or decrease to dealer commercial paper, and purchases and maturity of investments.

As displayed in Table 33, we currently project long-term advances of $1,619 million over the next 12 months, which we anticipate will exceed anticipated loan repayments over the same period of $1,301 million by approximately $318 million. The estimates presented above are developed at a particular point in time based on our expected future business growth and funding. Our actual results and future estimates may vary, perhaps significantly, from the current projections, as a result of changes in market conditions, management actions or other factors.

Contractual Obligations

Our contractual obligations affect our short- and long-term liquidity needs. Table 34 displays aggregated information about the listed categories of our contractual obligations as of May 31, 2019. The table provides information on the contractual maturity profile of our debt securities based on undiscounted future cash payment amounts due pursuant to these obligations, aggregated by type of contractual obligation. The table excludes certain obligations where the obligation is short-term, such as trade payables, or where the amount is not fixed and determinable, such as derivatives subject to valuation based on market factors. The timing of actual future payments may differ from those presented due to a number of factors, such as discretionary debt redemptions or changes in interest rates that may impact our expected future cash interest payments.

Table 34: Contractual Obligations[1]

(Dollars in millions)	2020	2021	2022	2023	2024	Thereafter	Total
Short-term borrowings	$ 3,608	$ —	$ —	$ —	$ —	$ —	$ 3,608
Long-term debt	1,638	1,827	1,925	1,171	1,076	11,574	19,211
Subordinated deferrable debt	—	—	—	—	—	986	986
Members' subordinated certificates[2]	9	42	15	24	16	1,251	1,357
Total long-term and subordinated debt	1,647	1,869	1,940	1,195	1,092	13,811	21,554
Contractual interest on long-term debt[3]	703	657	606	558	530	6,415	9,469
Total specified contractual obligations	$ 5,958	$ 2,526	$ 2,546	$ 1,753	$ 1,622	$ 20,226	$ 34,631

(1) Callable debt is included in this table at its contractual maturity.

(2) Excludes $0.05 million in subscribed and unissued member subordinated certificates for which a payment has been received, but no certificate has been issued. Amortizing member loan subordinated certificates totaling $254 million are amortizing annually based on the unpaid principal balance of the related loan. Amortization payments on these certificates totaled $17 million in fiscal year 2019 and represented 7% of amortizing loan subordinated certificates outstanding.

(3) Represents the amounts of future interest payments on long-term and subordinated debt outstanding as of May 31, 2019, based on the contractual terms of the securities. These amounts were determined based on certain assumptions, including that variable-rate debt continues to accrue interest at the contractual rates in effect as of May 31, 2019 until maturity and redeemable debt continues to accrue interest until its contractual maturity.

Credit Ratings

Our funding and liquidity, borrowing capacity, ability to access capital markets and other sources of funds and the cost of these funds are partially dependent on our credit ratings. Rating agencies base their ratings on numerous factors, including liquidity, capital adequacy, industry position, member support, management, asset quality, quality of earnings and the probability of systemic support. Significant changes in these factors could result in different ratings. Table 35 displays our credit ratings as of May 31, 2019. Moody's, S&P and Fitch affirmed our ratings and outlook during the third quarter of fiscal year 2019. Our credit ratings as of May 31, 2019 are unchanged from May 31, 2018, and as of the date of the filing of this Report.

Table 35: Credit Ratings

	May 31, 2019		
	Moody's	S&P	Fitch
Long-term issuer credit rating[1]	A2	A	A
Senior secured debt[2]	A1	A	A+
Senior unsecured debt[3]	A2	A	A
Subordinated debt	A3	BBB+	BBB+
Commercial paper	P-1	A-1	F1
Outlook	Stable	Stable	Stable

(1) Based on our senior unsecured debt rating.

[2] Applies to our collateral trust bonds.
[3] Applies to our medium-term notes.

In order to access the commercial paper markets at attractive rates, we believe we need to maintain our current commercial paper credit ratings of P-1 by Moody's, A-1 by S&P and F1 by Fitch. In addition, the notes payable to the Federal Financing Bank and guaranteed by RUS under the Guaranteed Underwriter Program contain a provision that if during any portion of the fiscal year, our senior secured credit ratings do not have at least two of the following ratings: (i) A3 or higher from Moody's, (ii) A- or higher from S&P, (iii) A- or higher from Fitch, or (iv) an equivalent rating from a successor rating agency to any of the above rating agencies, we may not make cash patronage capital distributions in excess of 5% of total patronage capital. See "Credit Risk—Counterparty Credit Risk—Credit Risk-Related Contingent Features" above for information on credit rating provisions related to our derivative contracts.

Financial Ratios

Our debt-to-equity ratio increased to 19.80-to-1 as of May 31, 2019, from 16.72-to-1 as of May 31, 2018, primarily due to increased borrowings to fund the loan growth in our loan portfolio and a decrease in equity resulting from our reported net loss of $151 million for fiscal year 2019 and the patronage capital retirement of $48 million in August 2018.

Our adjusted debt-to-equity ratio decreased to 5.73-to-1 as of May 31, 2019, from 6.18-to-1 as of May 31, 2018, primarily attributable to an increase in adjusted equity resulting from the issuance of $250 million of subordinated deferrable debt in the forth quarter of fiscal year 2019.

We provide a reconciliation of our adjusted debt-to-equity ratio to the most comparable GAAP measure and an explanation of the adjustments below in "Non-GAAP Financial Measures."

Debt Covenants

As part of our short-term and long-term borrowing arrangements, we are subject to various financial and operational covenants. If we fail to maintain specified financial ratios, such failure could constitute a default by CFC of certain debt covenants under our committed bank revolving line of credit agreements and senior debt indentures. We were in compliance with all covenants and conditions under our committed bank revolving line of credit agreements and senior debt indentures as of May 31, 2019.

As discussed above in "Introduction" and "Item 6—Selected Financial Data," the financial covenants set forth in our committed bank revolving line of credit agreements and senior debt indentures are based on adjusted financial measures, including adjusted TIER. We provide a reconciliation of adjusted TIER and other non-GAAP measures disclosed in this Report to the most comparable GAAP measures and an explanation of the adjustments below in "Non-GAAP Financial Measures."

Covenants—Committed Bank Revolving Line of Credit Agreements

Table 36 presents the required and actual financial ratios under our committed bank revolving line of credit agreements as of or for the years ended May 31, 2019 and 2018. We were required to meet the minimum adjusted TIER ratio of 1.05 in fiscal year 2019 in order to retire patronage capital to our members.

Table 36: Financial Covenant Ratios Under Committed Bank Revolving Lines of Credit Agreements[1]

		Actual	
		May 31,	
	Requirement	2019	2018
Financial covenant ratios:			
Minimum average adjusted TIER over the six most recent fiscal quarters[1]	**1.025**	**1.19**	1.17
Minimum adjusted TIER for the most recent fiscal year	**1.05**	**1.19**	1.17
Maximum ratio of adjusted senior debt to total equity	**10.00**	**5.52**	5.92

[(1)] Adjusted TIER is calculated based on adjusted net income (loss) plus adjusted interest expense for the period, divided by adjusted interest expense for the period. In addition to the adjustments made to the leverage ratio set forth under "Non-GAAP Financial Measures," adjusted senior debt excludes guarantees to member systems that have certain investment-grade credit ratings from Moody's and S&P.

In addition to the financial covenants, our committed bank revolving line of credit agreements generally prohibit liens on loans to members except for liens pursuant to the following:

- under terms of our indentures;
- related to taxes that are being contested or are not delinquent;
- stemming from certain legal proceedings that are being contested in good faith;
- created by CFC to secure guarantees by CFC of indebtedness, the interest on which is excludable from the gross income of the recipient for federal income tax purposes;
- granted by any subsidiary to CFC; and
- to secure other indebtedness of CFC of up to $10,000 million plus an amount equal to the incremental increase in CFC's allocated Guaranteed Underwriter Program obligations, provided that the aggregate amount of such indebtedness may not exceed $12,500 million. The amount of our secured indebtedness under this provision for all of our committed bank revolving line of credit agreements was $8,475 million as of May 31, 2019.

Covenants—Debt Indentures

Table 37 presents the required and actual financial ratios as defined under our 1994 collateral trust bonds indenture and our medium-term notes indentures in the U.S. markets as of May 31, 2019 and 2018.

Table 37: Financial Ratios Under Debt Indentures

		Actual	
		May 31,	
	Requirement	2019	2018
Maximum ratio of adjusted senior debt to total equity [(1)]	**20.00**	**6.62**	6.53

[(1)] The ratio calculation includes the adjustments made to the leverage ratio under "Non-GAAP Financial Measures," with the exception of the adjustments to exclude the noncash impact of derivative financial instruments and adjustments from total liabilities and total equity.

In addition to the above financial covenant requirement, we are required to pledge collateral pursuant to the provisions of certain of our borrowing agreements. We provide information on collateral pledged or on deposit above under "Consolidated Balance Sheet Analysis—Debt—Collateral Pledged."

MARKET RISK

Interest rate risk represents our primary source of market risk. Interest rate risk is the risk to current or anticipated earnings or equity arising primarily from movements in interest rates. This risk results from differences between the timing of cash flows on our assets and the liabilities funding those assets. The timing of cash flows of our assets is impacted by re-pricing characteristics, prepayments and contractual maturities. We discuss the risks related to the uncertainty as to the nature of potential changes or other reforms associated with the transition away from and expected replacement of LIBOR as a benchmark interest rate in "Item 1A. Risk Factors."

Interest Rate Risk Management

Our interest rate risk exposure is primarily related to the funding of the fixed-rate loan portfolio. Our Asset Liability Committee provides oversight for maintaining our interest rate position within a prescribed policy range using approved strategies. The Asset Liability Committee reviews a complete interest rate risk analysis, reviews proposed modifications, if any, to our interest rate risk management strategy and considers adopting strategy changes. Our Asset Liability Committee monitors interest rate risk and meets quarterly to review and discuss information such as national economic forecasts, federal funds and interest rate forecasts, interest rate gap analysis, our liquidity position, loan and debt maturities, short-term and long-term funding needs, anticipated loan demands, credit concentration risk, derivative counterparty exposure and financial forecasts. The Asset Liability Committee also discusses the composition of fixed-rate versus variable-rate loans, new funding opportunities, changes to the nature and mix of assets and liabilities for structural mismatches, and interest rate swap transactions.

Matched Funding Objective

Our funding objective is to manage the matched funding of asset and liability repricing terms within a range of adjusted total assets (calculated by excluding derivative assets from total assets) deemed appropriate by the Asset Liability Committee based on the current environment and extended outlook for interest rates. We refer to the difference between fixed-rate loans scheduled for amortization or repricing and the fixed-rate liabilities and equity funding those loans as our interest rate gap. Our primary strategies for managing our interest rate risk include the use of derivatives and limiting the amount of fixed-rate assets that can be funded by variable-rate debt to a specified percentage of adjusted total assets based on market conditions. We provide our members with many options on loans with regard to interest rates, the term for which the selected interest rate is in effect and the ability to convert or prepay the loan. Long-term loans generally have maturities of up to 35 years. Borrowers may select fixed interest rates for periods of one year through the life of the loan. We do not match fund the majority of our fixed-rate loans with a specific debt issuance at the time the loans are advanced. We fund the amount of fixed-rate assets that exceed fixed-rate debt and members' equity with short-term debt, primarily commercial paper.

Interest Rate Gap Analysis

As part of our asset-liability management, we perform a monthly interest rate gap analysis that provides a comparison between the timing of cash flows, by year, for fixed-rate assets scheduled for amortization and repricing and for fixed-rate liabilities and members' equity maturing. This gap analysis is a useful tool in measuring, monitoring and mitigating the interest rate risk inherent in the funding of fixed-rate assets with variable-rate debt and also helpful in assessing liquidity risk.

Table 38 displays the scheduled amortization and repricing of fixed-rate assets and outstanding fixed-rate liabilities and equity as of May 31, 2019. We exclude variable-rate loans from our interest rate gap analysis as we do not consider the interest rate risk on these loans to be significant because they are subject to repricing at least monthly. Loans with variable interest rates accounted for 11% and 10% of our total loan portfolio as of May 31, 2019 and 2018, respectively. Fixed-rate liabilities include debt issued at a fixed rate, as well as variable-rate debt swapped to a fixed rate using interest rate swaps. Fixed-rate debt swapped to a variable rate using interest rate swaps is excluded from the analysis because it is used to match fund our variable-rate loans. With the exception of members' subordinated certificates, which are generally issued with extended maturities, and commercial paper, our liabilities have average maturities that closely match the repricing terms (but not the maturities) of our fixed-rate loans.

Table 38: Interest Rate Gap Analysis

(Dollars in millions)	Prior to 5/31/20	Two Years 6/1/20 to 5/31/22	Two Years 6/1/22 to 5/31/24	Five Years 6/1/24 to 5/31/29	10 Years 6/1/29 to 5/31/39	6/1/39 and Thereafter	Total
Asset amortization and repricing	**$ 1,767**	**$ 3,243**	**$ 2,770**	**$ 5,627**	**$ 7,051**	**$ 3,059**	**$ 23,517**
Liabilities and members' equity:							
Long-term debt [1][2]	**$ 1,825**	**$ 3,584**	**$ 2,448**	**$ 6,184**	**$ 4,911**	**$ 1,994**	**$ 20,946**
Subordinated deferrable debt and subordinated certificates[2][3]	**14**	**39**	**408**	**604**	**153**	**773**	**1,991**
Members' equity [4]	**—**	**22**	**23**	**102**	**283**	**948**	**1,378**
Total liabilities and members' equity	**$ 1,839**	**$ 3,645**	**$ 2,879**	**$ 6,890**	**$ 5,347**	**$ 3,715**	**$ 24,315**
Gap [5]	**$ (72)**	**$ (402)**	**$ (109)**	**$ (1,263)**	**$ 1,704**	**$ (656)**	**$ (798)**
Cumulative gap	**(72)**	**(474)**	**(583)**	**(1,846)**	**(142)**	**(798)**	
Cumulative gap as a % of total assets	**(0.27)%**	**(1.75)%**	**(2.15)%**	**(6.81)%**	**(0.52)%**	**(2.94)%**	
Cumulative gap as a % of adjusted total assets[6]	**(0.27)**	**(1.75)**	**(2.15)**	**(6.82)**	**(0.52)**	**(2.95)**	

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[(1)]Includes long-term fixed-rate debt and the net impact of our interest rate swaps.

[(2)] The maturity presented for debt is based on the call date.

[(3)]Represents the amount of subordinated deferrable debt and subordinated certificates allocated to fund fixed-rate assets.

[(4)]Represents the portion of members' equity and loan loss allowance allocated to fund fixed-rate assets. See Table 45: Members' Equity below under "Non-GAAP Financial Measures" for a reconciliation of total CFC equity to members' equity.

[(5)]Calculated based on the amount of assets scheduled for amortization and repricing less total liabilities and members' equity funding those assets.

[(6)]Adjusted total assets represents total assets reported in our consolidated balance sheets less derivative assets.

When the amount of the cash flows related to fixed-rate assets scheduled for amortization and repricing exceeds the amount of cash flows related to the fixed-rate debt and equity funding those assets, we refer to the difference, or gap, as "warehousing." When the amount of the cash flows related to fixed-rate assets scheduled for amortization and repricing is less than the amount of the cash flows related to the fixed-rate debt and equity funding those assets, we refer to the gap as "prefunding." The amount of the gap is an indication of our interest rate and liquidity risk exposure. Our goal is to maintain an unmatched position related to the cash flows for fixed-rate financial assets within a targeted range of adjusted total assets.

Because the substantial majority of our financial assets are fixed-rate, amortizing loans and these loans are primarily funded with bullet debt and equity, our interest rate gap analysis typically reflects a warehouse position. When we are in a warehouse position, we utilize some short-term borrowings to fund the scheduled amortization and repricing of our financial assets. However, we limit the extent to which we fund our long-term, fixed-rate loans with short-term, variable-rate debt because it exposes us to higher interest rate and liquidity risk.

As indicated above in Table 38, we were in a prefunded position of $798 million as of May 31, 2019, rather than our typical warehouse position. The primary factors that resulted in this prefunded position included a reduced level of member investments and our expectation that the yield curve will remain inverted or flat in the near term, which provided an opportunity for us to issue longer-term debt at an attractive coupon rate. We do not expect to maintain a prefunded position as we expect to continue to fund long-term fixed rate loans in the future.

Financial Instruments

Table 39 provides information about our financial instruments, other than derivatives, that are sensitive to changes in interest rates. We provide additional information on our use of derivatives and exposure in "Note 1—Summary of Significant Accounting Policies—Derivative Instruments" and "Note 10—Derivative Instruments and Hedging Activities." All of our financial instruments as of May 31, 2019 were entered into or contracted for purposes other than trading. For debt obligations, the table presents principal cash flows and related average interest rates by expected maturity dates as of May 31, 2019.

Table 39: Financial Instruments

(Dollars in millions)	Outstanding Balance	Fair Value	Principal Amortization and Maturities 2020	2021	2022	2023	2024	Remaining Years
Assets:								
Equity securities	$ 88	$ 88	$ —	$ —	$ —	$ —	$ —	$ 88
Investment securities, held to maturity	$ 565	$ 571	$ 65	$ 103	$ 126	$ 153	$ 93	$ 25
Average rate	2.98%		2.08%	2.87%	3.00%	3.01%	3.61%	3.10%
Long-term fixed-rate loans [(1)]	$ 23,094	$ 22,949	$ 1,182	$ 1,179	$ 1,180	$ 1,177	$ 1,136	$ 17,240
Average rate	4.62%		4.42%	4.46%	4.50%	4.52%	4.59%	4.67%
Long-term variable-rate loans	$ 1,067	$ 1,067	$ 72	$ 50	$ 51	$ 43	$ 48	$ 803
Average rate	4.01%		—	—	—	—	—	—
Line of credit loans	$ 1,745	$ 1,745	$ 1,745	$ —	$ —	$ —	$ —	$ —
Average rate	3.78%		3.78%	—	—	—	—	—
Liabilities and equity:								
Short-term borrowings [(2)]	$ 3,608	$ 3,608	$ 3,608	$ —	$ —	$ —	$ —	$ —
Average rate	2.56%		2.56%	—	—	—	—	—
Long-term debt	$ 19,211	$ 20,147	$ 1,638	$ 1,827	$ 1,925	$ 1,171	$ 1,076	$ 11,574
Average rate	3.20%		2.36%	2.73%	2.93%	2.75%	3.18%	3.49%
Subordinated deferrable debt	$ 986	$ 1,005	$ —	$ —	$ —	$ —	$ —	$ 986
Average rate	5.11%		—	—	—	—	—	5.11%
Members' subordinated certificates [(3)]	$ 1,357	$ 1,357	$ 9	$ 42	$ 15	$ 24	$ 16	$ 1,251
Average rate	4.21%		2.61%	3.73%	2.91%	3.53%	2.32%	4.29%

(1) The principal amount of fixed-rate loans is the total of scheduled principal amortizations without consideration for loans that reprice. Includes $12 million in TDR loans that were on accrual status as of May 31, 2019.

(2) Short-term borrowings consists of commercial paper, select notes, daily liquidity fund notes, bank bid notes and medium-term notes issued with an original maturity of one year or less.

(3) Excludes $0.05 million in subscribed and unissued member subordinated certificates for which a payment has been received, but no certificate has been issued. Amortizing member loan subordinated certificates totaling $254 million are amortizing annually based on the unpaid principal balance of the related loan. The amortization payments on these certificates totaled $17 million in fiscal year 2019, which represented 7% of amortizing loan subordinated certificates outstanding.

Loan Repricing

Table 40 shows long-term fixed-rate loans outstanding as of May 31, 2019, which will be subject to interest rate repricing during the next five fiscal years and thereafter (due to principal repayments, amounts subject to interest rate repricing may be lower at the actual time of interest rate repricing).

Table 40: Loan Repricing

(Dollars in thousands)	Repricing Amount	Weighted-Average Interest Rate
2020	$ 486,294	4.48%
2021	422,839	4.40
2022	393,571	4.63
2023	271,478	4.83
2024	218,968	4.83
Thereafter	1,284,828	5.06
Total	$ 3,077,978	4.79

OPERATIONAL RISK

Operational risk represents the risk of loss resulting from conducting our operations, including, but not limited to, the execution of unauthorized transactions by employees; errors relating to loan documentation, transaction processing and technology; the inability to perfect liens on collateral; breaches of internal control and information systems; and the risk of fraud by employees or persons outside the company. This risk of loss also includes potential legal actions that could arise as a result of operational deficiencies, noncompliance with covenants in our revolving credit agreements and indentures, employee misconduct or adverse business decisions. In the event of a breakdown in internal controls, improper access to or operation of systems or improper employee actions, we could incur financial loss. Operational/business risk may also include breaches of our technology and information systems resulting from unauthorized access to confidential information or from internal or external threats, such as cyberattacks.

Operational risk is inherent in all business activities. The management of such risk is important to the achievement of our objectives. We maintain business policies and procedures, employee training, an internal control framework, and a comprehensive business continuity and disaster recovery plan that are intended to provide a sound operational environment. Our business policies and controls have been designed to manage operational risk at appropriate levels given our financial strength, the business environment and markets in which we operate, the nature of our businesses, and considering factors such as competition and regulation. Corporate Compliance monitors compliance with established procedures and applicable law that are designed to ensure adherence to generally accepted conduct, ethics and business practices defined in our corporate policies. We provide employee compliance training programs, including information protection, suspicious activity reporting and operational risk. Internal Audit examines the design and operating effectiveness of our operational, compliance and financial reporting internal controls on an ongoing basis.

Our business continuity and disaster recovery plan establishes the basic principles and framework necessary to ensure emergency response, resumption, restoration and permanent recovery of CFC's operations and business activities during a business interruption event. This plan includes a duplication of our operating systems at an offsite facility coupled with an extensive business continuity and recovery process to leverage those remote systems. Each of our departments is required to develop, exercise, test and maintain business resumption plans for the recovery of business functions and processing resources to minimize disruption for our members and other parties with whom we do business. We conduct disaster recovery exercises periodically that include both the information technology group and business areas. The business resumption plans are based on a risk assessment that considers potential losses due to unavailability of service versus the cost of resumption. These plans anticipate a variety of probable scenarios ranging from local to regional crises.

As cyber-related attacks could materially affect our operations, our board of directors places particular emphasis on the oversight of cybersecurity risks. Each quarter, or more frequently as requested by the board of directors, management provides reports on CFC's security operations, including any cybersecurity incidents, management's efforts to manage any incidents, and any other information requested from management. On at least an annual basis, the board of directors reviews management reports concerning the disclosure controls and procedures in place to enable CFC to make accurate and timely disclosures about any material cybersecurity events. Additionally, upon the occurrence of a material cybersecurity incident, the board of directors will be notified of the event so it may properly evaluate such incident, including management's remediation plan.

NON-GAAP FINANCIAL MEASURES

In addition to financial measures determined in accordance with GAAP, management evaluates performance based on certain non-GAAP measures, which we refer to as "adjusted" measures. Below we provide a discussion of each of these non-GAAP measures and provide a reconciliation of our adjusted measures to the most comparable GAAP measures in this section. We believe our non-GAAP adjusted metrics, which are not a substitute for GAAP and may not be consistent with similarly titled non-GAAP measures used by other companies, provide meaningful information and are useful to investors because management uses these metrics to compare operating results across financial reporting periods, for internal budgeting and forecasting purposes, for compensation decisions and for short- and long-term strategic planning decisions. In addition, certain of the financial covenants in our committed bank revolving line of credit agreements and debt indentures are based on our adjusted measures.

Statements of Operations Non-GAAP Adjustments

Our primary performance measure is TIER. TIER is calculated by adding the interest expense to net income prior to the cumulative effect of change in accounting principle and dividing that total by the interest expense. TIER is a measure of our ability to cover interest expense requirements on our debt. We adjust the TIER calculation to add the derivative cash settlements expense to the interest expense and to remove the derivative forward value gains (losses) and foreign currency adjustments from total net income. Adding the cash settlements expense back to interest expense also has a corresponding effect on our adjusted net interest income.

We use derivatives to manage interest rate risk on our funding of the loan portfolio. The derivative cash settlements expense represents the amount that we receive from or pay to our counterparties based on the interest rate indexes in our derivatives that do not qualify for hedge accounting. We adjust the reported interest expense to include the derivative cash settlements expense. We use the adjusted cost of funding to set interest rates on loans to our members and believe that the interest expense adjusted to include derivative cash settlements expense represents our total cost of funding for the period. TIER calculated by adding the derivative cash settlements expense to the interest expense reflects management's perspective on our operations and, therefore, we believe that it represents a useful financial measure for investors.

The derivative forward value gains (losses) and foreign currency adjustments do not represent our cash inflows or outflows during the current period and, therefore, do not affect our current ability to cover our debt service obligations. The derivative forward value gains (losses) included in the derivative gains (losses) line of the statement of operations represents a present value estimate of the future cash inflows or outflows that will be recognized as net cash settlements expense for all periods through the maturity of our derivatives that do not qualify for hedge accounting. We have not issued foreign-denominated debt since 2007, and as of May 31, 2019 and 2018, there were no foreign currency derivative instruments outstanding.

For operational management and decision-making purposes, we subtract derivative forward value gains (losses) and foreign currency adjustments from our net income when calculating TIER and for other net income presentation purposes. In addition, since the derivative forward value gains (losses) and foreign currency adjustments do not represent current period cash flows, we do not allocate such funds to our members and, therefore, exclude the derivative forward value gains (losses) and foreign currency adjustments from net income in calculating the amount of net income to be allocated to our members. TIER calculated by excluding the derivative forward value gains (losses) and foreign currency adjustments from net income reflects management's perspective on our operations and, therefore, we believe that it represents a useful financial measure for investors.

Total equity includes the noncash impact of derivative forward value gains (losses) and foreign currency adjustments recorded in net income. It also includes as a component of accumulated other comprehensive income the impact of changes in the fair value of derivatives designated as cash flow hedges as well as the remaining transition adjustment recorded when we adopted the accounting guidance that required all derivatives be recorded on the balance sheet at fair value. In evaluating our debt-to-equity ratio discussed further below, we make adjustments to equity similar to the adjustments made in calculating TIER. We exclude from total equity the cumulative impact of changes in derivative forward value gains (losses) and foreign currency adjustments and amounts included in accumulated other comprehensive income related to derivatives designated for cash flow hedge accounting and the remaining derivative transition adjustment to derive non-GAAP adjusted equity.

Table 41 provides a reconciliation of adjusted interest expense, adjusted net interest income and adjusted net income to the comparable GAAP measures. The adjusted amounts are used in the calculation of our adjusted net interest yield and adjusted TIER for each fiscal year in the five-year period ended May 31, 2019.

Table 41: Adjusted Financial Measures — Income Statement

	Year Ended May 31,				
(Dollars in thousands)	2019	2018	2017	2016	2015
Interest expense	**$ (836,209)**	$ (792,735)	$ (741,738)	$ (681,850)	$ (635,684)
Include: Derivative cash settlements expense	**(43,611)**	(74,281)	(84,478)	(88,758)	(82,906)
Adjusted interest expense	**$ (879,820)**	$ (867,016)	$ (826,216)	$ (770,608)	$ (718,590)
Net interest income	**$ 299,461**	$ 284,622	$ 294,896	$ 330,786	$ 317,292
Include: Derivative cash settlements expense	**(43,611)**	(74,281)	(84,478)	(88,758)	(82,906)
Adjusted net interest income	**$ 255,850**	$ 210,341	$ 210,418	$ 242,028	$ 234,386
Net income (loss)	**$ (151,210)**	$ 457,364	$ 312,099	$ (51,516)	$ (18,927)
Exclude: Derivative forward value gains (losses)	**(319,730)**	306,002	179,381	(221,083)	(114,093)
Adjusted net income	**$ 168,520**	$ 151,362	$ 132,718	$ 169,567	$ 95,166

We consider the cost of derivatives to be an inherent cost of funding and hedging our loan portfolio and, therefore, economically similar to the interest expense that we recognize on debt issued for funding. We therefore include derivative cash settlements expense in our adjusted interest expense and exclude the unrealized forward value of derivatives from our adjusted net income.

TIER and Adjusted TIER

Table 42 presents our TIER and adjusted TIER for each fiscal year in the five-year period ended May 31, 2019.

Table 42: TIER and Adjusted TIER

	Year Ended May 31,				
	2019	2018	2017	2016	2015
TIER [(1)]	**0.82**	1.58	1.42	0.92	0.97
Adjusted TIER [(2)]	**1.19**	1.17	1.16	1.22	1.13

[(1)] TIER is calculated based on our net income (loss) plus interest expense for the period divided by interest expense for the period.

[(2)] Adjusted TIER is calculated based on adjusted net income (loss) plus adjusted interest expense for the period divided by adjusted interest expense for the period.

Debt-to-Equity and Adjusted Debt-to-Equity

Management relies on the adjusted debt-to-equity ratio as a key measure in managing our business. We therefore believe that this adjusted measure, in combination with the comparable GAAP measure, is useful to investors in evaluating performance. We adjust the comparable GAAP measure to:

- exclude debt used to fund loans that are guaranteed by RUS from total liabilities;
- exclude from total liabilities, and add to total equity, debt with equity characteristics issued to our members and in the capital markets; and
- exclude the noncash impact of derivative financial instruments and foreign currency adjustments from total liabilities and total equity.

We are an eligible lender under a RUS loan guarantee program. Loans issued under this program carry the U.S. government's guarantee of all interest and principal payments. We have little or no risk associated with the collection of principal and interest payments on these loans. Therefore, we believe there is little or no risk related to the repayment of the liabilities used to fund RUS-guaranteed loans and we subtract such liabilities from total liabilities to calculate our adjusted debt-to-equity ratio.

Members may be required to purchase subordinated certificates as a condition of membership and as a condition to obtaining a loan or guarantee. The subordinated certificates are accounted for as debt under GAAP. The subordinated certificates have long-dated maturities and pay no interest or pay interest that is below market, and under certain conditions we are prohibited from making interest payments to members on the subordinated certificates. For computing our adjusted debt-to-equity ratio we subtract members' subordinated certificates from total liabilities and add members' subordinated certificates to total equity.

We also sell subordinated deferrable debt in the capital markets with maturities of up to 30 years and the option to defer interest payments. The characteristics of subordination, deferrable interest and long-dated maturity are all equity characteristics. In calculating our adjusted debt-to-equity ratio, we subtract subordinated deferrable debt from total liabilities and add it to total equity.

We record derivative instruments at fair value on our consolidated balance sheets. For computing our adjusted debt-to-equity ratio we exclude the noncash impact of our derivative accounting from liabilities and equity. Also, for computing our adjusted debt-to-equity ratio we exclude the impact of foreign currency valuation adjustments from liabilities and equity. The debt-to-equity ratio adjusted to exclude the effect of foreign currency translation reflect management's perspective on our operations and, therefore, we believe is a useful financial measure for investors.

Table 43 provides a reconciliation between the liabilities and equity used to calculate the debt-to-equity ratio and the adjusted debt-to-equity ratio as of the end of each fiscal year in the five-year period ended May 31, 2019. As indicated in the following table, subordinated debt is treated in the same manner as equity in calculating our adjusted-debt-to-equity ratio.

Table 43: Adjusted Financial Measures — Balance Sheet

	May 31,				
(Dollars in thousands)	**2019**	**2018**	**2017**	**2016**	**2015**
Total liabilities	**$ 25,820,490**	$ 25,184,351	$ 24,106,887	$ 23,452,822	$ 21,934,273
Exclude:					
Derivative liabilities	**391,724**	275,932	385,337	594,820	408,382
Debt used to fund loans guaranteed by RUS	**153,991**	160,865	167,395	173,514	179,241
Subordinated deferrable debt	**986,020**	742,410	742,274	742,212	395,699
Subordinated certificates	**1,357,129**	1,379,982	1,419,025	1,443,810	1,505,420
Adjusted total liabilities	**$ 22,931,626**	$ 22,625,162	$ 21,392,856	$ 20,498,466	$ 19,445,531
Total equity	**$ 1,303,882**	$ 1,505,853	$ 1,098,805	$ 817,378	$ 911,786
Exclude:					
Prior-year cumulative derivative forward value losses	**(34,974)**	(340,976)	(520,357)	(299,274)	(185,181)
Current-year derivative forward value gains (losses)	**(319,730)**	306,002	179,381	(221,083)	(114,093)
Accumulated other comprehensive income [(1)]	**2,571**	1,980	3,702	4,487	5,371
Include:					
Subordinated certificates	**1,357,129**	1,379,982	1,419,025	1,443,810	1,505,420
Subordinated deferrable debt	**986,020**	742,410	742,274	742,212	395,699
Adjusted total equity	**$ 3,999,164**	$ 3,661,239	$ 3,597,378	$ 3,519,270	$ 3,106,808

[(1)] Represents AOCI related to derivatives. See "Note 11—Equity" for the components of AOCI.

Table 44 displays the calculations of our debt-to-equity and adjusted debt-to-equity ratios as of the end of each fiscal year during the five-year period ended May 31, 2019.

Table 44: Debt-to-Equity Ratio

	May 31,				
	2019	2018	2017	2016	2015
Debt-to-equity ratio [(1)]	**19.80**	16.72	21.94	28.69	24.06
Adjusted debt-to-equity ratio [(2)]	**5.73**	6.18	5.95	5.82	6.26

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(1) Calculated based on total liabilities as of the end of the period divided by total equity as of the end of the period.

(2) Calculated based on adjusted total liabilities at period end divided by adjusted total equity as of the end of the period.

Members' Equity

Total CFC equity includes the noncash impact of derivative forward value gains (losses) and foreign currency adjustments recorded in net income. It also includes amounts recorded in accumulated other comprehensive income. We provide the components of accumulated other comprehensive income in "Note 11—Equity." Because these amounts generally have not been realized, they are not available to members and are excluded by CFC's Board of Directors in determining the annual allocation of adjusted net income to patronage capital, members' capital reserve and other member funds.

Table 45 provides a reconciliation of members' equity to total CFC equity as of May 31, 2019 and 2018.

Table 45: Members' Equity

	May 31,	
(Dollars in thousands)	**2019**	**2018**
Total CFC equity	**$ 1,276,735**	$ 1,474,333
Excludes:		
Accumulated other comprehensive income (loss)	**(147)**	8,544
Current period-end cumulative derivative forward value losses	**(348,965)**	(30,831)
Subtotal	**(349,112)**	(22,287)
Members' equity	**$ 1,625,847**	$ 1,496,620

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

For quantitative and qualitative disclosures about market risk, see "Item 7. MD&A—Market Risk" and "Note 10—Derivative Instruments and Hedging Activities."

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Members
National Rural Utilities Cooperative Finance Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of National Rural Utilities Cooperative Finance Corporation and subsidiaries (the Company) as of May 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended May 31, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of May 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended May 31, 2019, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements 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 audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits 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. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2013.

McLean, Virginia
July 31, 2019

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended May 31,		
(Dollars in thousands)	**2019**	**2018**	**2017**
Interest income	**$ 1,135,670**	$ 1,077,357	$ 1,036,634
Interest expense	**(836,209)**	(792,735)	(741,738)
Net interest income	**299,461**	284,622	294,896
Benefit (provision) for loan losses	**1,266**	18,575	(5,978)
Net interest income after benefit (provision) for loan losses	**300,727**	303,197	288,918
Non-interest income (loss):			
Fee and other income	**15,355**	17,578	19,713
Derivative gains (losses)	**(363,341)**	231,721	94,903
Results of operations of foreclosed assets	**—**	—	(1,749)
Unrealized losses on equity securities	**(1,799)**	—	—
Total non-interest income (loss)	**(349,785)**	249,299	112,867
Non-interest expense:			
Salaries and employee benefits	**(49,824)**	(51,422)	(47,769)
Other general and administrative expenses	**(43,342)**	(39,462)	(38,457)
Gains (losses) on early extinguishment of debt	**(7,100)**	—	192
Other non-interest expense	**(1,675)**	(1,943)	(1,948)
Total non-interest expense	**(101,941)**	(92,827)	(87,982)
Income (loss) before income taxes	**(150,999)**	459,669	313,803
Income tax expense	**(211)**	(2,305)	(1,704)
Net income (loss)	**(151,210)**	457,364	312,099
Less: Net (income) loss attributable to noncontrolling interests	**1,979**	(2,178)	(2,193)
Net income (loss) attributable to CFC	**$ (149,231)**	$ 455,186	$ 309,906

See accompanying notes to consolidated financial statements.

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended May 31,		
(Dollars in thousands)	**2019**	**2018**	**2017**
Net income (loss)	**$ (151,210)**	$ 457,364	$ 312,099
Other comprehensive income (loss):			
Unrealized gains (losses) on equity securities	**—**	(3,222)	4,614
Unrealized gains (losses) on cash flow hedges	**1,059**	(1,059)	—
Reclassification of losses on foreclosed assets to net income	**—**	—	9,823
Reclassification of derivative gains to net income	**(468)**	(663)	(785)
Defined benefit plan adjustments	**(488)**	313	(1,535)
Other comprehensive income (loss)	**103**	(4,631)	12,117
Total comprehensive income (loss)	**(151,107)**	452,733	324,216
Less: Total comprehensive (income) loss attributable to noncontrolling interests	**1,979**	(2,178)	(2,193)
Total comprehensive income (loss) attributable to CFC	**$ (149,128)**	$ 450,555	$ 322,023

See accompanying notes to consolidated financial statements.

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED BALANCE SHEETS

(Dollars in thousands)	May 31, 2019	2018
Assets:		
Cash and cash equivalents	**$ 177,922**	$ 230,999
Restricted cash	**8,282**	7,825
Total cash, cash equivalents and restricted cash	**186,204**	238,824
Time deposits	**—**	100,000
Investment securities:		
Equity securities	**87,533**	89,332
Debt securities held to maturity, at amortized cost	**565,444**	520,519
Total investment securities	**652,977**	609,851
Loans to members	**25,916,904**	25,178,608
Less: Allowance for loan losses	**(17,535)**	(18,801)
Loans to members, net	**25,899,369**	25,159,807
Accrued interest receivable	**133,605**	127,442
Other receivables	**36,712**	39,220
Fixed assets, net	**120,627**	116,031
Derivative assets	**41,179**	244,526
Other assets	**53,699**	54,503
Total assets	**$ 27,124,372**	$ 26,690,204
Liabilities:		
Accrued interest payable	**$ 158,997**	$ 149,284
Debt outstanding:		
Short-term borrowings	**3,607,726**	3,795,910
Long-term debt	**19,210,793**	18,714,960
Subordinated deferrable debt	**986,020**	742,410
Members' subordinated certificates:		
Membership subordinated certificates	**630,474**	630,448
Loan and guarantee subordinated certificates	**505,485**	528,386
Member capital securities	**221,170**	221,148
Total members' subordinated certificates	**1,357,129**	1,379,982
Total debt outstanding	**25,161,668**	24,633,262
Deferred income	**57,989**	65,922
Derivative liabilities	**391,724**	275,932
Other liabilities	**50,112**	59,951
Total liabilities	**25,820,490**	25,184,351
Equity:		
CFC equity:		
Retained equity	**1,276,882**	1,465,789
Accumulated other comprehensive income	**(147)**	8,544
Total CFC equity	**1,276,735**	1,474,333
Noncontrolling interests	**27,147**	31,520
Total equity	**1,303,882**	1,505,853
Total liabilities and equity	**$ 27,124,372**	$ 26,690,204

See accompanying notes to consolidated financial statements.

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(Dollars in thousands)	Membership Fees and Educational Fund	Patronage Capital Allocated	Members' Capital Reserve	Unallocated Net Income (Loss)	CFC Retained Equity	Accumulated Other Comprehensive Income	Total CFC Equity	Non-controlling Interests	Total Equity
Balance as of May 31, 2016.	$ 2,772	$ 713,853	$ 587,219	$ (513,610)	$ 790,234	$ 1,058	$ 791,292	$ 26,086	$ 817,378
Net income	1,000	90,441	43,086	175,379	309,906	—	309,906	2,193	312,099
Other comprehensive income	—	—	—	—	—	12,117	12,117	—	12,117
Patronage capital retirement	—	(42,593)	—	103	(42,490)	—	(42,490)	—	(42,490)
Other	(872)	—	—	—	(872)	—	(872)	573	(299)
Balance as of May 31, 2017.	$ 2,900	$ 761,701	$ 630,305	$ (338,128)	$1,056,778	$ 13,175	$1,069,953	$ 28,852	$1,098,805
Net income	1,000	95,012	57,480	301,694	455,186	—	455,186	2,178	457,364
Other comprehensive loss	—	—	—	—	—	(4,631)	(4,631)	—	(4,631)
Patronage capital retirement	—	(45,220)	—	—	(45,220)	—	(45,220)	—	(45,220)
Other	(955)	—	—	—	(955)	—	(955)	490	(465)
Balance as of May 31, 2018.	**$ 2,945**	**$ 811,493**	**$ 687,785**	**$ (36,434)**	**$1,465,789**	**$ 8,544**	**$1,474,333**	**$ 31,520**	**$1,505,853**
Cumulative effect from adoption of new accounting standard	—	—	—	**8,794**	**8,794**	**(8,794)**	—	—	—
Balance as of June 1, 2018	**2,945**	**811,493**	**687,785**	**(27,640)**	**1,474,583**	**(250)**	**1,474,333**	**31,520**	**1,505,853**
Net income (loss)	**1,000**	**96,592**	**71,312**	**(318,135)**	**(149,231)**	—	**(149,231)**	**(1,979)**	**(151,210)**
Other comprehensive income	—	—	—	—	—	**103**	**103**	—	**103**
Patronage capital retirement	—	**(47,507)**	—	—	**(47,507)**	—	**(47,507)**	**(2,908)**	**(50,415)**
Other	**(963)**	—	—	—	**(963)**	—	**(963)**	**514**	**(449)**
Balance as of May 31, 2019.	**$ 2,982**	**$ 860,578**	**$ 759,097**	**$ (345,775)**	**$1,276,882**	**$ (147)**	**$1,276,735**	**$ 27,147**	**$1,303,882**

See accompanying notes to consolidated financial statements.

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

(Dollars in thousands)	Year Ended May 31, 2019	2018	2017
Cash flows from operating activities:			
Net income (loss)	**$ (151,210)**	$ 457,364	$ 312,099
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of deferred loan fees	**(10,009)**	(11,296)	(14,072)
Amortization of debt issuance costs and deferred charges	**10,439**	10,456	9,484
Amortization of discount on long-term debt	**10,605**	10,164	9,501
Amortization of issuance costs for bank revolving lines of credit	**5,324**	5,346	5,531
Depreciation and amortization	**9,305**	7,931	7,173
Provision (benefit) for loan losses	**(1,266)**	(18,575)	5,978
Results of operations of foreclosed assets	**—**	—	1,749
Loss on early extinguishment of debt	**7,100**	—	—
Unrealized losses on equity securities	**1,799**	—	—
Derivative forward value (gains) losses	**319,730**	(306,002)	(179,381)
Changes in operating assets and liabilities:			
Accrued interest receivable	**(6,163)**	(15,949)	1,778
Accrued interest payable	**9,713**	11,808	4,480
Deferred income	**2,077**	3,246	9,393
Other	**(10,401)**	741	5,855
Net cash provided by operating activities	**197,043**	155,234	179,568
Cash flows from investing activities:			
Advances on loans, net	**(738,171)**	(811,164)	(1,145,673)
Investment in fixed assets	**(14,725)**	(15,194)	(17,793)
Net cash proceeds from sale of foreclosed assets	**—**	—	51,042
Net proceeds from time deposits	**100,000**	125,000	114,000
Purchases of held-to-maturity investments	**(80,123)**	(510,598)	—
Proceeds from maturities of held-to-maturity investments	**35,340**	1,394	—
Net cash used in investing activities	**(697,679)**	(1,210,562)	(998,424)
Cash flows from financing activities:			
Proceeds from (repayments of) short-term borrowings, net	**(452,618)**	126,211	409,871
Proceeds from short-term borrowings with original maturity greater than 90 days	**1,652,005**	1,331,910	1,003,185
Repayments of short term-debt with original maturity greater than 90 days	**(1,387,571)**	(1,005,111)	(1,009,004)
Payments for issuance costs for revolving bank lines of credit	**(2,382)**	(2,441)	(2,548)
Proceeds from issuance of long-term debt, net of discount and issuance	**3,281,595**	2,349,885	2,923,868
Payments for retirement of long-term debt	**(2,806,639)**	(1,611,002)	(2,460,730)
Payments made for early extinguishment of debt	**(7,100)**	—	—
Payments for issuance costs for subordinated deferrable debt	**(6,535)**	—	(68)
Proceeds from issuance of subordinated debt	**250,000**	—	—
Proceeds from issuance of members' subordinated certificates	**1,986**	6,136	3,626
Payments for retirement of members' subordinated certificates	**(24,861)**	(45,180)	(28,220)
Payments for retirement of patronage capital	**(49,860)**	(44,667)	(41,871)
Repayments for membership fees, net	**(4)**	(10)	—
Net cash provided by financing activities	**448,016**	1,105,731	798,109
Net increase (decrease) in cash, cash equivalents and restricted cash	**(52,620)**	50,403	(20,747)
Beginning cash, cash equivalents and restricted cash	**238,824**	188,421	209,168
Ending cash, cash equivalents and restricted cash	**$ 186,204**	$ 238,824	$ 188,421

See accompanying notes to consolidated financial statements.

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended May 31,		
(Dollars in thousands)	2019	2018	2017
Supplemental disclosure of cash flow information:			
Cash paid for interest	**$ 801,966**	$ 766,059	$ 712,742
Cash paid for income taxes	**112**	321	407
Noncash financing and investing activities:			
Loan provided in connection with the sale of foreclosed assets	**$ —**	$ —	$ 60,000

See accompanying notes to consolidated financial statements.

NOTE 1—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Company

National Rural Utilities Cooperative Finance Corporation ("CFC") is a member-owned cooperative association incorporated under the laws of the District of Columbia in April 1969. CFC's principal purpose is to provide its members with financing to supplement the loan programs of the Rural Utilities Service ("RUS") of the United States Department of Agriculture ("USDA"). CFC makes loans to its rural electric members so they can acquire, construct and operate electric distribution systems, generation and transmission ("power supply") systems and related facilities. CFC also provides its members with credit enhancements in the form of letters of credit and guarantees of debt obligations. As a cooperative, CFC is owned by and exclusively serves its membership, which consists of not-for-profit entities or subsidiaries or affiliates of not-for-profit entities. CFC is exempt from federal income taxes.

National Cooperative Services Corporation ("NCSC") is a taxable cooperative incorporated in 1981 in the District of Columbia as a member-owned cooperative association. NCSC's principal purpose is to provide financing to members of CFC, entities eligible to be members of CFC and the for-profit and nonprofit entities that are owned, operated or controlled by or provide significant benefit to certain members of CFC. NCSC's membership consists of distribution systems, power supply systems and statewide and regional associations that are members of CFC. CFC is the primary source of funding for NCSC and manages NCSC's business operations under a management agreement that is automatically renewable on an annual basis unless terminated by either party. NCSC pays CFC a fee and, in exchange, CFC reimburses NCSC for loan losses under a guarantee agreement. As a taxable cooperative, NCSC pays income tax based on its reported taxable income and deductions. NCSC is headquartered with CFC in Dulles, Virginia.

Rural Telephone Finance Cooperative ("RTFC") is a taxable Subchapter T cooperative association originally incorporated in South Dakota in 1987 and reincorporated as a member-owned cooperative association in the District of Columbia in 2005. RTFC's principal purpose is to provide financing for its rural telecommunications members and their affiliates. RTFC's membership consists of a combination of not-for-profit and for-profit entities. CFC is the sole lender to and manages the business operations of RTFC through a management agreement that is automatically renewable on an annual basis unless terminated by either party. RTFC pays CFC a fee and, in exchange, CFC reimburses RTFC for loan losses under a guarantee agreement. As permitted under Subchapter T of the Internal Revenue Code, RTFC pays income tax based on its net income, excluding patronage-sourced earnings allocated to its patrons. RTFC is headquartered with CFC in Dulles, Virginia.

Basis of Presentation and Use of Estimates

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts and related disclosures during the period. Management's most significant estimates and assumptions involve determining the allowance for loan losses and the fair value of financial assets and liabilities. Actual results could differ from these estimates. Certain reclassifications have been made to prior periods to conform to the current presentation.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of CFC, variable interest entities ("VIEs") where CFC is the primary beneficiary and subsidiary entities created and controlled by CFC to hold foreclosed assets. CFC did not have any entities that held foreclosed assets as of May 31, 2019 or May 31, 2018. All intercompany balances and transactions have been eliminated. NCSC and RTFC are VIEs that are required to be consolidated by CFC. Unless stated otherwise, references to "we, "our" or "us" relate to CFC and its consolidated entities.

Variable Interest Entities

A VIE is an entity that has a total equity investment at risk that is not sufficient to finance its activities without additional subordinated financial support provided by another party, or where the group of equity holders does not have: (i) the ability to make decisions about the entity's activities that most significantly impact its economic performance; (ii) the obligation to absorb the entity's expected losses; or (iii) the right to receive the entity's expected residual returns.

NCSC and RTFC meet the definition of variable interest entities because they do not have sufficient equity investment at risk to finance their activities without additional financial support. When evaluating an entity for possible consolidation, we must determine whether or not we have a variable interest in the entity. If it is determined that we do not have a variable interest in the entity, no further analysis is required and we do not consolidate the entity. If we have a variable interest in the entity, we must evaluate whether we are the primary beneficiary based on an assessment of quantitative and qualitative factors. We are considered the primary beneficiary holder if we have a controlling financial interest in the VIE that provides (i) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (ii) the obligation to absorb losses of the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE. We consolidate the results of NCSC and RTFC with CFC because CFC is the primary beneficiary holder.

Cash and Cash Equivalents

Cash, certificates of deposit, due from banks and other investments with original maturities of less than 90 days are classified as cash and cash equivalents.

Restricted Cash

Restricted cash, which consists primarily of member funds held in escrow for certain specifically designed cooperative programs, totaled $8 million as of both May 31, 2019 and 2018.

Time Deposits

Time deposits are deposits that we make with financial institutions in interest-bearing accounts. These deposits have a maturity of less than one year as of the reporting date and are valued at carrying value, which approximates fair value.

Investment Securities

We currently hold investments in equity and debt securities. We record purchases and sales of securities on a trade-date basis. The accounting and measurement framework for investment securities differs depending on the security type and the classification.

Our equity securities consist of investments in Federal Agricultural Mortgage Corporation ("Farmer Mac") Series A common stock and Farmer Mac Series A, Series B and Series C non-cumulative preferred stock. We previously had investments in equity securities that were classified as available for sale as of May 31, 2018. The unrealized gains and losses on these securities were recorded in other comprehensive income. Effective with our June 1, 2018 adoption of the financial instrument accounting standard on the recognition and measurement of financial assets and financial liabilities, unrealized gains and losses on equity securities are required to be recorded in earnings. Equity securities are carried at fair value on our consolidated balance sheets with unrealized gains and losses recorded as a component of other non-interest income.

Our investment securities classified as HTM consist of investments in certificates of deposit with maturities greater than 90 days, commercial paper, corporate debt securities, commercial mortgage-backed securities ("MBS") and other asset-backed securities ("ABS"). We currently classify and account for our investments in debt securities as held to maturity ("HTM") because we have the positive intent and ability to hold these securities to maturity. If we acquire debt securities that we may sell prior to maturity in response to changes in our investment strategy, liquidity needs, credit risk mitigating considerations, market risk profile or for other reasons, we would classify such securities as available for sale. We report debt securities classified as HTM on our consolidated balance sheets at amortized cost. Interest income, including amortization of premiums and accretion of discounts, is generally recognized over the contractual life of the securities based on the effective yield method.

We regularly evaluate our investment securities whose fair value has declined below the amortized cost to assess whether the decline in fair value is other than temporary. We recognize any other-than-temporary impairment amounts in earnings.

Loans to Members

Loans that management has the intent and ability to hold for the foreseeable future or until maturity or payoff are considered as held for investment. Loans held for investment are carried at the outstanding unpaid principal balance, net of unamortized loan origination costs. We classify and account for loans to members as held for investment. Deferred loan origination costs are amortized using the straight-line method, which approximates the effective interest method, into interest income over the life of the loan.

Nonperforming Loans

A loan is considered past due if a full payment of interest and principal is not received within 30 days of its due date. Loans are classified as nonperforming when the collection of interest and principal has become 90 days past due; court proceedings indicate that collection of interest and principal in accordance with the contractual terms is unlikely; or the full and timely collection of interest or principal becomes otherwise due.

Once a loan is classified as nonperforming, we typically place the loan on nonaccrual status and reverse any accrued and unpaid interest recorded during the period in which the loan is classified as nonperforming. We generally apply all cash received during the nonaccrual period to the reduction of principal, thereby foregoing interest income recognition. The decision to return a loan to accrual status is determined on a case-by-case basis.

We fully charge off or write down loans to the estimated net realizable value in the period that it becomes evident that collectability of the full contractual amount is highly unlikely; however, our efforts to recover all charged-off amounts may continue. The determination to write off all or a portion of a loan balance is made based on various factors on a case-by-case basis including, but not limited to, cash flow analysis and the fair value of collateral securing the borrower's loans.

Impaired Loans

A loan is considered impaired when, based on current information and events, we determine that it is probable that we will be unable to collect all interest and principal amounts due as scheduled in accordance with the contractual terms of the loan agreement, other than an insignificant delay in payment or insignificant shortfall in payment amount. Factors considered in determining impairment may include, but are not limited to:

- the review of the borrower's audited financial statements and interim financial statements if available,
- the borrower's payment history,
- communication with the borrower,
- economic conditions in the borrower's service territory,
- pending legal action involving the borrower,
- restructure agreements between us and the borrower, and
- estimates of the value of the borrower's assets that have been pledged as collateral to secure our loans.

We recognize interest income on impaired loans on a case-by-case basis. An impaired loan to a borrower that is nonperforming will typically be placed on nonaccrual status and we will reverse all accrued and unpaid interest. We generally apply all cash received during the nonaccrual period to the reduction of principal, thereby foregoing interest income recognition. Interest income may be recognized on an accrual basis for restructured impaired loans where the borrower is performing and is expected to continue to perform based on agreed-upon terms.

We may modify the terms of a loan to maximize the collection of amounts due when a borrower is experiencing financial difficulties. Concessionary modifications are classified as troubled debt restructurings ("TDRs") unless the modification results in only an insignificant delay in payments to be received. All of our restructured loans are considered TDRs.

Allowance for Loan Losses

The allowance for loan losses represents management's estimate of probable credit losses inherent in our loan portfolio, which consists of CFC, NCSC and RTFC loan portfolio segments. Our allowance for loan losses for our portfolio segments consists of a collective allowance for loans that are not individually impaired and a specific allowance for loans identified as individually impaired. We increase or decrease the allowance for loan losses by recording a provision or benefit for loan losses in the statement of operations. We record charge-offs against the allowance for loan losses when management determines that any portion of a loan is uncollectible. We add subsequent recoveries, if any, to the allowance for loan losses.

Collective Allowance

The collective allowance is established, by loan portfolio segment, using an internal model to estimate probable incurred losses as of each balance sheet date. We further stratify our loan portfolio segments and group loans into pools based on member borrower type—distribution, power supply, telecommunications, and statewide and associates—as we consider our members with the same operations to share similar risk characteristics. We delineate each of our loan pools by borrower risk rating and apply loss factors to the outstanding principal balance at the end of each reporting period to determine the collective allowance for loan losses. The loss factors consist of a probability of default, or default rate, and the loss given default, or loss severity or recovery, for each loan pool. We derive the total collective loss estimate by applying the default rate, based on a five-year loss emergence period, and recovery rate, based on our historical experience, to each loan pool. Following is additional information on the key inputs and assumptions used in determining our collective allowance for loan losses.

- *Internal Risk Ratings:* As part of our credit risk-management process, we regularly evaluate each borrower and loan facility in our loan portfolio and assign an internal risk rating. Our borrower risk rating is intended to reflect probability of default. We engage an independent third party to perform an annual review of a sample of borrowers and loan facilities to corroborate our internally assigned risk ratings. The risk ratings are based on quantitative and qualitative factors, including the general financial condition of the borrower; our judgment of the quality of the borrower's management; our judgment of the borrower's competitive position within its service territory and industry; our estimate of the potential impact of proposed regulation and litigation; and other factors specific to individual borrowers or classes of borrowers.
- *Loss Emergence Period*: The loss emergence period represents the average time between when a loss-triggering event, such as a successful new investment or expansion of services, a severe weather event or deterioration in operations, occurs and the problem loan is charged-off, restructured or otherwise resolved. Our loss emergence period of five years is based on CFC's historical average loss emergence period.
- *Default Rates:* Because we have a limited history of defaults to develop reasonable and supportable estimated probability of default rates for our existing loan portfolio, we utilize third-party default data for the utility sector as a proxy to estimate probability of default rates for our loan portfolio segments. The third-party default data provides historical expected default rates, based on credit ratings and remaining maturities of outstanding bonds, for the utility sector. We align our internal borrower risk ratings to the credit ratings provided in the utility default rate table and apply the cumulative default rates for our estimated average loss emergence period of five years to each of our loan pools.
- *Recovery Rates:* We utilize our internal historical loss experience to estimate loss given default, or the recovery rate, for each of our loan portfolio segments, as we believe it provides a more reliable estimate than third-party loss severity data due to the organizational structure and operating environment of rural utility cooperatives, our lending practice of

generally requiring a senior security position on the assets and revenues of borrowers for long-term loans, and the approach we take in working with borrowers that may be experiencing operational or financial issues. The historical recovery rates for each portfolio segment may be adjusted based on management's consideration and assessment of current conditions and relevant factors, such as recent trends in credit performance, historical variability of recovery rates and additional analysis of long-term loss severity experience, changes in risk management practices, current and past underwriting standards, specific industry issues and trends and general economic conditions.

Specific Allowance

The specific allowance for individually impaired loans that are not collateral dependent is calculated based on the difference between the recorded investment in the loan and the present value of the expected future cash flows, discounted at the loan's effective interest rate. If the loan is collateral dependent, we measure the impairment based on the current fair value of the collateral less estimated selling costs. Loans are considered to be collateral dependent if repayment of the loan is expected to be provided solely by the underlying collateral and there are no other available and reliable sources of repayment.

Unadvanced Loan Commitments

Unadvanced commitments represent amounts for which we have approved and executed loan contracts, but the funds have not been advanced. The majority of the unadvanced commitments reported represent amounts that are subject to material adverse change clauses at the time of the loan advance. Prior to making an advance on these facilities, we would confirm that there has been no material adverse change in the business or condition, financial or otherwise, of the borrower since the time the loan was approved and confirm that the borrower is currently in compliance with loan terms and conditions. The remaining unadvanced commitments relate to line of credit loans that are not subject to a material adverse change clause at the time of each loan advance. As such, we would be required to advance amounts on these committed facilities as long as the borrower is in compliance with the terms and conditions of the loan commitment.

Unadvanced loan commitments related to line of credit loans are typically for periods not to exceed five years and are generally revolving facilities used for working capital and backup liquidity purposes. Historically, we have experienced a very low utilization rate on line of credit loan facilities, whether or not there is a material adverse change clause. Since we generally do not charge a fee on the unadvanced portion of the majority of our loan facilities, our borrowers will typically request long-term facilities to fund construction work plans and other capital expenditures for periods of up to five years and draw down on the facility over that time. In addition, borrowers will typically request an amount in excess of their immediate estimated loan requirements to avoid the expense related to seeking additional loan funding for unexpected items. These factors contribute to our expectation that the majority of the unadvanced loan commitments will expire without being fully drawn upon and that the total unadvanced amount does not necessarily represent future cash funding requirements.

Reserve for Unadvanced Loan Commitments

We maintain a reserve for unadvanced loan commitments and committed lines of credit. This reserve is included as a component of other liabilities on our consolidated balance sheets, and changes in the reserve are included in other non-interest expense on our consolidated statements of operations. Our estimate of the reserve for potential losses on these commitments takes into consideration various factors, including the existence of a material adverse change clause, the historical utilization of the committed lines of credit, the probability of funding, historical loss experience on unadvanced loan commitments and other inputs along with management judgment consistent with the methodology used to determine our allowance for loan losses.

Fixed Assets

Fixed assets are recorded at cost less accumulated depreciation. We recognize depreciation expense for each category of our depreciable fixed assets on a straight-line basis over the estimated useful life, which ranges from three to 40 years. We recognized depreciation expense of $9 million, $8 million and $7 million in fiscal year 2019, 2018 and 2017, respectively. The following table displays the components of our fixed assets. Our headquarters facility in Loudoun County, Virginia, which is owned by CFC, is included as a component of building and building equipment.

	May 31,	
(Dollars in thousands)	2019	2018
Building and building equipment	**$ 50,167**	$ 50,210
Furniture and fixtures	**6,012**	6,080
Computer software and hardware	**71,915**	45,389
Other	**1,069**	1,006
Depreciable fixed assets	**129,163**	102,685
Less: Accumulated depreciation	**(53,695)**	(47,705)
Net depreciable fixed assets	**75,468**	54,980
Land	**23,796**	23,796
Software development in progress	**21,363**	37,255
Fixed assets, net	**$ 120,627**	$ 116,031

Assets Held for Sale

An asset is classified as held for sale when (i) management commits to a plan to sell the asset or business; (ii) the asset or business is available for sale in its present condition; (iii) the asset or business is actively marketed for sale at a reasonable price; (iv) the sale is expected to be completed within one year; and (v) it is unlikely significant changes to the plan will be made or that the plan will be withdrawn. Long-lived assets classified as held for sale are initially measured at the lower of their carrying amount or fair value less cost to sell. If the carrying value exceeds the estimated fair value less cost to sell in the period the held for sale criteria are met, an impairment charge is recorded equal to the amount by which the carrying amount exceeds the fair value less cost to sell. Subsequent changes in the long-lived asset's fair value less cost to sell is reported as an adjustment to the carrying amount to the extent that the adjusted carrying amount does not exceed the carrying amount of the long-lived asset at the time it was initially classified as held for sale.

On March 14, 2018, CFC entered into a purchase and sale agreement ("the agreement"), which was subsequently amended, for the sale of a parcel of land, consisting of approximately 28 acres, located in Loudoun County, Virginia. We designated the property, which has a carrying value of $14 million, as held for sale and reclassified it from fixed assets, net to other assets on our consolidated balance sheet. On July 22, 2019, we closed on the sale of the land and received net proceeds of $22 million, resulting in a gain of $8 million on the sale of this property.

Foreclosed Assets

Foreclosed assets acquired through our lending activities in satisfaction of indebtedness may be held in operating entities created and controlled by CFC and presented separately in our consolidated balance sheets under foreclosed assets, net. These assets are initially recorded at estimated fair value as of the date of acquisition. Subsequent to acquisition, foreclosed assets not classified as held for sale are evaluated for impairment, and the results of operations and any impairment are reported on our consolidated statements of operations under results of operations of foreclosed assets. When foreclosed assets meet the accounting criteria to be classified as held for sale, they are recorded at the lower of cost or fair value less estimated cost to sell at the date of transfer, with the amount at the date of transfer representing the new cost basis. Subsequent changes are recognized in our consolidated statements of operations under results of operations of foreclosed assets. We also review foreclosed assets classified as held for sale each reporting period to determine whether the existing carrying amounts are fully recoverable in comparison to estimated fair values. We did not carry any foreclosed assets on our consolidated balance sheet as of May 31, 2019 or May 31, 2018.

Debt

We report debt at cost net of unamortized issuance costs and discounts or premiums. Issuance costs, discounts and premiums are deferred and amortized into interest expense using the effective interest method or a method approximating the effective interest method over the legal maturity of each bond issue. Short-term borrowings consist of borrowings with an original contractual maturity of one year or less and do not include the current portion of long-term debt. Borrowings with an original contractual maturity of greater than one year are classified as long-term debt.

Derivative Instruments

We are an end user of derivative financial instruments and do not engage in derivative trading. We use derivatives, primarily interest rate swaps and treasury rate locks, to manage interest rate risk. Derivatives may be privately negotiated contracts, which are often referred to as over-the-counter ("OTC") derivatives, or they may be listed and traded on an exchange. We generally engage in OTC derivative transactions.

In accordance with the accounting standards for derivatives and hedging activities, we record derivative instruments at fair value as either a derivative asset or derivative liability on our consolidated balance sheets. We report derivative asset and liability amounts on a gross basis based on individual contracts, which does not take into consideration the effects of master netting agreements or collateral netting. Derivatives in a gain position are reported as derivative assets on our consolidated balance sheets, while derivatives in a loss position are reported as derivative liabilities. Accrued interest related to derivatives is reported on our consolidated balance sheets as a component of either accrued interest receivable or accrued interest payable.

If we do not elect hedge accounting treatment, changes in the fair value of derivative instruments, which consist of net accrued periodic derivative cash settlements expense and derivative forward value amounts, are recognized in our consolidated statements of operations under derivative gains (losses). If we elect hedge accounting treatment for derivatives, we formally document, designate and assess the effectiveness of the hedge relationship. Changes in the fair value of derivatives designated as qualifying fair value hedges are recorded in earnings together with offsetting changes in the fair value of the hedged item and any related ineffectiveness. Changes in the fair value of derivatives designated as qualifying cash flow hedges are recorded as a component of other comprehensive income ("OCI"), to the extent that the hedge relationships are effective, and reclassified from accumulated other comprehensive income ("AOCI") to earnings using the effective interest method over the term of the forecasted transaction. Any ineffectiveness in the hedging relationship is recognized as a component of derivative gains (losses) in our consolidated statement of operations.

We generally do not designate interest rate swaps, which represent the substantial majority of our derivatives, for hedge accounting. Accordingly, changes in the fair value of interest rate swaps are reported in our consolidated statements of operations under derivative gains (losses). Net periodic cash settlements expense related to interest rate swaps are classified as an operating activity in our consolidated statements of cash flows.

We typically designate treasury rate locks as cash flow hedges of forecasted debt issuances or repricings. Changes in the fair value of treasury locks designated as cash flow hedges are recorded as a component of OCI and reclassified from AOCI into interest expense when the forecasted transaction occurs using the effective interest method. Any ineffectiveness is recognized as a component of derivative gains (losses) in our consolidated statements of operations.

Guarantee Liability

We maintain a guarantee liability that represents our contingent and noncontingent exposure related to guarantees and standby liquidity obligations associated with our members' debt. The guarantee liability is included in the other liabilities line item on the consolidated balance sheet, and the provision for guarantee liability is reported in non-interest expense as a separate line item on the consolidated statement of operations.

The contingent portion of the guarantee liability represents management's estimate of our exposure to losses within the guarantee portfolio. The methodology used to estimate the contingent guarantee liability is consistent with the methodology used to determine the allowance for loan losses.

We have recorded a noncontingent guarantee liability for all new or modified guarantees since January 1, 2003. Our noncontingent guarantee liability represents our obligation to stand ready to perform over the term of our guarantees and liquidity obligations that we have entered into or modified since January 1, 2003. Our noncontingent obligation is estimated based on guarantee and liquidity fees charged for guarantees issued, which represents management's estimate of the fair value of our obligation to stand ready to perform. The fees are deferred and amortized using the straight-line method into interest income over the term of the guarantee.

Fair Value Valuation Processes

We present certain financial instruments at fair value, including equity securities and derivatives. Fair value is defined as the price that would be received for an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date (also referred to as an exit price). We have various processes and controls in place to ensure that fair value is reasonably estimated. We consider observable prices in the principal market in our valuations where possible. Fair value estimates were developed at the reporting date and may not necessarily be indicative of amounts that could ultimately be realized in a market transaction at a future date. With the exception of redeeming debt under early redemption provisions, terminating derivative instruments under early-termination provisions and allowing borrowers to prepay their loans, we held and intend to hold all financial instruments to maturity excluding common stock and preferred stock investments that have no stated maturity.

Fair Value Hierarchy

The fair value accounting guidance provides a three-level fair value hierarchy for classifying financial instruments. This hierarchy is based on the markets in which the assets or liabilities trade and whether the inputs to the valuation techniques used to measure fair value are observable or unobservable. Fair value measurement of a financial asset or liability is assigned a level based on the lowest level of any input that is significant to the fair value measurement in its entirety. The three levels of the fair value hierarchy are summarized below:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: Observable market-based inputs, other than quoted prices in active markets for identical assets or liabilities
- Level 3: Unobservable inputs

The degree of management judgment involved in determining the fair value of a financial instrument is dependent upon the availability of quoted prices in active markets or observable market parameters. When quoted prices and observable data in active markets are not fully available, management's judgment is necessary to estimate fair value. Changes in market conditions, such as reduced liquidity in the capital markets or changes in secondary market activities, may reduce the availability and reliability of quoted prices or observable data used to determine fair value.

Membership Fees

Members are charged a one-time membership fee based on member class. CFC distribution system members, power supply system members and national associations of cooperatives pay a $1,000 membership fee. CFC service organization members pay a $200 membership fee and CFC associates pay a $1,000 fee. RTFC voting members pay a $1,000 membership fee and RTFC associates pay a $100 fee. NCSC members pay a $100 membership fee. Membership fees are accounted for as members' equity.

Financial Instruments with Off-Balance Sheet Risk

In the normal course of business, we are a party to financial instruments with off-balance sheet risk to meet the financing needs of our member borrowers. These financial instruments include committed lines of credit, standby letters of credit and guarantees of members' obligations.

Interest Income

Interest income on loans and investments is recognized using the effective interest method. The following table presents interest income, by interest-earning asset category, for fiscal years 2019, 2018 and 2017.

	Year Ended May 31,		
(Dollars in thousands)	**2019**	**2018**	**2017**
Interest income by interest-earning asset type:			
Long-term fixed-rate loans[1]	**$ 1,012,277**	$ 1,000,492	$ 980,173
Long-term variable-rate loans	**41,219**	27,152	19,902
Line of credit loans	**57,847**	38,195	25,389
TDR loans[2]	**846**	889	905
Other income, net[3]	**(1,128)**	(1,185)	(1,082)
Total loans	**1,111,061**	1,065,543	1,025,287
Cash, time deposits and investment securities	**24,609**	11,814	11,347
Total interest income	**$ 1,135,670**	$ 1,077,357	$ 1,036,634

(1) Includes loan conversion fees, which are generally deferred and recognized as interest income using the effective interest method.
(2) Troubled debt restructured ("TDR") loans.
(3) Consists of late payment fees, commitment fees and net amortization of deferred loan fees and loan origination costs.

Deferred income of $58 million and $66 million as of May 31, 2019 and 2018, respectively, consists primarily of deferred loan conversion fees totaling $52 million and $60 million, respectively. Deferred loan conversion fees are recognized in interest income using the effective interest method.

Interest Expense

The following table presents interest expense, by debt product type, for fiscal years 2019, 2018 and 2017.

	Year Ended May 31,		
(Dollars in thousands)	2019	2018	2017
Interest expense by debt product type:[1][2]			
Short-term borrowings	**$ 92,854**	$ 50,616	$ 26,684
Medium-term notes	**133,797**	111,814	99,022
Collateral trust bonds	**273,413**	336,079	340,854
Guaranteed Underwriter Program notes payable	**147,895**	140,551	142,661
Farmer Mac notes payable	**90,942**	56,004	33,488
Other notes payable	**1,237**	1,509	1,780
Subordinated deferrable debt	**38,628**	37,661	37,657
Subordinated certificates	**57,443**	58,501	59,592
Total interest expense	**$ 836,209**	$ 792,735	$ 741,738

(1) Includes amortization of debt discounts and debt issuance costs, which are generally deferred and recognized as interest expense using the effective interest method. Issuance costs related to dealer commercial paper, however, are recognized as interest expense immediately as incurred.
(2) Includes fees related to funding arrangements, such as up-front fees paid to banks participating in our committed bank revolving line of credit agreements. Depending on the nature of the fee, amounts may be deferred and recognized as interest expense ratably over the term of the arrangement or recognized immediately as incurred.

Early Extinguishment of Debt

We redeem outstanding debt early from time to time to manage liquidity and interest rate risk. When we redeem outstanding debt early, we recognize a gain or loss related to the difference between the amount paid to redeem the debt and the net book value of the extinguished debt as a component of non-interest expense in the gain (loss) on early extinguishment of debt line item.

Income Taxes

While CFC is exempt under Section 501(c)(4) of the Internal Revenue Code, it is subject to tax on unrelated business taxable income. NCSC is a taxable cooperative that pays income tax on the full amount of its reportable taxable income and allowable deductions. RTFC is a taxable cooperative under Subchapter T of the Internal Revenue Code and is not subject to income taxes on income from patronage sources that is allocated to its borrowers, as long as the allocation is properly noticed and at least 20% of the amount allocated is retired in cash prior to filing the applicable tax return.

The income tax benefit (expense) recorded in the consolidated statement of operations represents the income tax benefit (expense) at the applicable combined federal and state income tax rates resulting in a statutory tax rate. The federal statutory tax rate for both NCSC and RTFC was 21% for fiscal year 2019. The federal statutory tax rate for NCSC and RTFC was 29% and 12%, respectively, for fiscal year 2018 and the federal statutory tax rate for NCSC and RTFC was 34% and 20%, respectively, for fiscal year 2017. Substantially all of the income tax expense recorded in our consolidated statements of operations relates to NCSC. NCSC had a deferred tax asset of $2 million as of both May 31, 2019 and 2018, primarily arising from differences in the accounting and tax treatment for derivatives. We believe that it is more likely than not that the deferred tax assets will be realized through taxable earnings.

Recent Accounting Changes and Other Developments

Accounting Standards Adopted in Fiscal Year 2019

Statement of Cash Flows—Restricted Cash

In November 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-18, Statement of Cash Flows—Restricted Cash, which addresses the presentation of restricted cash in the statement of cash flows. The guidance requires that the statement of cash flows explain the change in the beginning-of-period and end-of period total of cash, cash equivalents and restricted cash. Under previous guidance, we were required to explain the total change in cash and cash equivalents during the period. We adopted this guidance on June 1, 2018, on a retrospective basis. We made corresponding changes on our consolidated balance sheet to present a total for cash and cash equivalents and restricted cash.

Financial Instruments—Overall: Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB issued ASU 2016-01, Financial Instruments-Overall: Recognition and Measurement of *Financial Assets and Financial Liabilities,* which amends certain aspects of the recognition, measurement, presentation and disclosure of certain financial instruments, including equity investments and liabilities measured at fair value under the fair value option. Under this guidance, investments in equity securities must be measured at fair value through earnings, with certain exceptions, and entities can no longer classify investments in equity securities as available for sale or trading. We adopted this guidance on June 1, 2018 on a modified retrospective basis and recorded a cumulative-effect adjustment that increased retained earnings by $9 million as a result of the transition adjustment to reclassify unrealized gains related to our equity securities from AOCI to retained earnings. As a result of adopting this guidance, our investments in equity securities are no longer classified as available for sale and unrealized holding gains and losses are recorded in earnings. Previously, our equity securities were classified as available for sale and unrealized holding gains and losses were recorded in other comprehensive income.

Revenue from Contracts with Customers

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers,* which modifies the guidance used to recognize revenue from contracts with customers for transfers of goods or services and transfers of nonfinancial assets. This guidance applies to all contracts with customers to provide goods or services in the ordinary course of business, except for certain contracts specifically excluded from the scope, including financial instruments, guarantees, insurance contracts and leases. As a financial institution, substantially all of our revenue is in the form of interest income derived from financial instruments, primarily our investments in loans and securities. We adopted this guidance on June 1, 2018. Given the scope exception for financial instruments, the adoption of the guidance did not have an impact on our consolidated financial statements or cash flows.

Accounting Standards Issued But Not Yet Adopted

Fair Value Measurement—Changes to the Disclosure Requirements for Fair Value Measurement

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement—Changes to the Disclosure Requirements for Fair Value Measurement,* which eliminates, adds and modifies certain disclosure requirements for fair value measurements as part of its disclosure framework project. The guidance is effective for public entities for fiscal years beginning after December 15, 2019, including interim periods within those years. Early adoption is permitted in any interim period or fiscal year before the effective date. The guidance is effective for us beginning June 1, 2020. We do not expect that the adoption of this guidance will have a material impact on our consolidated financial statements or cash flows.

Derivatives and Hedging—Targeted Improvements to Accounting for Hedging Activities

In August 2017, the FASB issued ASU 2017-12, *Derivatives and Hedging—Targeted Improvements to Accounting for Hedging Act*ivities, which expands the types of risk management strategies that qualify for hedge accounting treatment to more closely align the results of hedge accounting with the economics of certain risk management activities and simplifies certain hedge documentation and assessment requirement. It also eliminates the concept of separately recording hedge ineffectiveness and expands disclosure requirements. The guidance is effective for public entities for fiscal years beginning after December 15, 2018, including interim periods within those years. Early adoption is permitted in any interim period or fiscal year before the effective date. The guidance is effective for us beginning June 1, 2019. Hedge accounting is elective, and we currently apply hedge accounting on a limited basis, specifically when we enter into treasury rate lock agreements. The adoption of this guidance did not have an impact on our consolidated financial statements or cash flows. If we continue to elect not to apply hedge accounting to our interest rate swaps, the guidance will not have an impact on our consolidated financial statements or cash flows.

Receivables—Nonrefundable Fees and Other Cost

In March 2017, the FASB issued ASU 2017-08, *Receivables—Nonrefundable Fees and Other* Costs, which shortens the amortization period for the premium on certain callable debt securities to the earliest call date rather the maturity date. The guidance is applicable to any individual debt security, purchased at a premium, with an explicit and noncontingent call feature with a fixed price on a preset date. The guidance does not impact the accounting for purchased callable debt securities held at a discount; the discount will continue to amortize to the maturity date. The guidance is effective for public entities in fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. This update is effective for us on June 1, 2019. Adoption of the guidance requires modified retrospection transition as of the beginning of the period of adoption through a cumulative-effect adjustment to retained earnings. The adoption of this guidance did not have a material impact on our consolidated financial statements or cash flows.

Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments,* which replaces the existing incurred credit loss model and establishes a single credit loss framework based on a current expected credit loss model for financial assets carried at amortized cost, including loans and held-to maturity debt securities. The current expected loss model requires an entity to estimate credit losses expected over the life of the credit exposure upon initial recognition of that exposure when the financial asset is originated or acquired, which will generally result in earlier recognition of credit losses. The guidance also amends the other-than-temporary model for available-for-sale debt securities by requiring the use of an allowance, rather than directly reducing the carrying value of the security. The new guidance also requires expanded credit quality disclosures. The new guidance is effective for fiscal years and interim periods within those fiscal years, beginning after December 15, 2019. This guidance is effective for us on June 1, 2020. While early adoption is permitted, we do not expect to elect that option. We are continuing to evaluate the impact of the guidance on our consolidated financial statements, including assessing and evaluating assumptions and models to estimate losses. Upon adoption of the guidance on June 1, 2020, we will be required to record a cumulative effect adjustment to retained earnings for the impact as of the date of adoption. The impact will depend on our portfolio composition and credit quality at the date of adoption, as well as forecasts at that time.

Leases

In February 2016, the FASB issued ASU 2016-02, *Leases*, which provides new guidance that is intended to improve financial reporting about leasing transactions. The new guidance requires the recognition of a right-of use asset and lease liability on the consolidated balance sheet by lessees for those leases classified as operating leases under previous guidance. It also requires new disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. The guidance is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2018. This guidance is effective for us on June 1, 2019. The adoption of this guidance did not have a material impact on our consolidated financial statements or cash flows.

NOTE 2—VARIABLE INTEREST ENTITIES

NCSC and RTFC meet the definition of a VIE because they do not have sufficient equity investment at risk to finance their activities without financial support. CFC is the primary source of funding for NCSC and the sole source of funding for RTFC. Under the terms of management agreements with each company, CFC manages the business operations of NCSC and RTFC. CFC also unconditionally guarantees full indemnification for any loan losses of NCSC and RTFC pursuant to guarantee agreements with each company. CFC earns management and guarantee fees from its agreements with NCSC and RTFC.

All loans that require NCSC board approval also require CFC board approval. CFC is not a member of NCSC and does not elect directors to the NCSC board. If CFC becomes a member of NCSC, it would control the nomination process for one NCSC director. NCSC members elect directors to the NCSC board based on one vote for each member. NCSC is a Class C member of CFC. All loans that require RTFC board approval also require approval by CFC for funding under RTFC's credit facilities with CFC. CFC is not a member of RTFC and does not elect directors to the RTFC board. RTFC is a non-voting associate of CFC. RTFC members elect directors to the RTFC board based on one vote for each member.

NCSC and RTFC creditors have no recourse against CFC in the event of a default by NCSC and RTFC, unless there is a guarantee agreement under which CFC has guaranteed NCSC or RTFC debt obligations to a third party. The following table provides information on incremental consolidated assets and liabilities of VIEs included in CFC's consolidated financial statements, after intercompany eliminations, as of May 31, 2019 and 2018.

	May 31,	
(Dollars in thousands)	**2019**	**2018**
Total loans outstanding	**$ 1,087,988**	$ 1,149,574
Other assets	**10,963**	10,280
Total assets	**$ 1,098,951**	$ 1,159,854
Long-term debt	**$ 6,000**	$ 8,000
Other liabilities	**33,385**	33,923
Total liabilities	**$ 39,385**	$ 41,923

The following table provides information on CFC's credit commitments to NCSC and RTFC, and its potential exposure to loss as of May 31, 2019 and 2018.

	May 31,	
(Dollars in thousands)	2019	2018
CFC credit commitments	**$ 5,500,000**	$ 5,500,000
Outstanding commitments:		
Borrowings payable to CFC[1]	**1,059,629**	1,116,465
Credit enhancements:		
CFC third-party guarantees	**11,318**	12,005
Other credit enhancements	**14,251**	14,655
Total credit enhancements[2]	**25,569**	26,660
Total outstanding commitments	**1,085,198**	1,143,125
CFC available credit commitments	**$ 4,414,802**	$ 4,356,875

[1] Borrowings payable to CFC are eliminated in consolidation.
[2] Excludes interest due on these instruments.

CFC loans to NCSC and RTFC are secured by all assets and revenue of NCSC and RTFC. CFC's maximum potential exposure, including interest due, for the credit enhancements totaled $27 million. The maturities for obligations guaranteed by CFC extend through 2031.

NOTE 3—INVESTMENT SECURITIES

We currently hold investments in equity and debt securities. We record purchases and sales of our investment securities on a trade-date basis. Investments are denominated in US dollars exclusively. The accounting and measurement framework for investment securities differs depending on the security type and the classification. See "Note 1—Summary of Significant Accounting Policies" for additional information on our investment securities

Equity Securities

The following table presents the fair value of our equity securities, all of which had readily determinable fair values, as of May 31, 2019 and 2018.

	May 31,	
(Dollars in thousands)	2019	2018
Equity securities at fair value:		
Farmer Mac—Series A, B and C non-cumulative preferred stock	**$ 82,445**	$ 82,352
Farmer Mac—class A common stock	**5,088**	6,980
Total equity securities at fair value	**$ 87,533**	$ 89,332

We recognized net unrealized losses on our investments in equity securities of $2 million for the year ended May 31, 2019. These unrealized amounts are reported as a component of non-interest income on our consolidated statements of operations.

We recorded unrealized losses on our investments in equity securities of $3 million in other comprehensive income during the year ended May 31, 2018. For additional information on our investments in equity securities, see "Note 1—Summary of Significant Accounting Policies" and "Note 11—Equity—Accumulated Other Comprehensive Income."

On June 12, 2019, Farmer Mac redeemed its Series B non-cumulative preferred stock at a redemption price of $25.00 per share, plus any declared and unpaid dividends through and including the redemption date. The amortized cost of our investment in the Farmer Mac Series B non-cumulative preferred stock was $25 million as of May 31, 2019, which equals the per share redemption price.

Debt Securities

Pursuant to our investment policy guidelines, all fixed-income debt securities, at the time of purchase, must be rated at least investment grade and on stable outlook based on external credit ratings from at least two of the leading global credit rating agencies, when available, or the corresponding equivalent, when not available. Securities rated investment grade, that is those rated Baa3 or higher by Moody's Investors Service ("Moody's") or BBB- or higher by S&P or BBB- or higher by Fitch Ratings Inc. ("Fitch"), are generally considered by the rating agencies to be of lower credit risk than non-investment grade securities.

Amortized Cost and Fair Value of Debt Securities

The following tables present the amortized cost and fair value of our debt securities and the corresponding gross unrealized gains and losses, by classification category and major security type, as of May 31, 2019 and 2018.

	May 31, 2019			
(Dollars in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Debt securities held to maturity:				
Certificates of deposit	$ 1,000	$ —	$ —	$ 1,000
Commercial paper	12,395	—	—	12,395
U.S. agency debt securities	3,207	108	—	3,315
Corporate debt securities	478,578	4,989	(912)	482,655
Commercial MBS:				
Agency	7,255	291	—	7,546
Non-agency	3,453	—	(7)	3,446
Total commercial MBS	10,708	291	(7)	10,992
U.S. state and municipality debt securities	9,608	352	—	9,960
Foreign government debt securities	1,254	42	—	1,296
Other ABS[(1)]	48,694	290	(48)	48,936
Total debt securities, held to maturity	$ 565,444	$ 6,072	$ (967)	$ 570,549

	May 31, 2018			
(Dollars in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Debt securities held to maturity:				
Certificates of deposit	$ 5,148	$ —	$ —	$ 5,148
Commercial paper	9,134	—	—	9,134
U.S. agency debt securities	2,000	16	—	2,016
Corporate debt securities	455,721	714	(4,595)	451,840
Commercial MBS:				
Agency	7,024	63	—	7,087
Non-agency	3,453	3	(3)	3,453
Total commercial MBS	10,477	66	(3)	10,540
U.S. state and municipality debt securities	2,147	24	—	2,171
Foreign government debt securities	1,241	9	—	1,250
Other ABS[(1)]	34,651	11	(215)	34,447
Total debt securities, held to maturity	$ 520,519	$ 840	$ (4,813)	$ 516,546

[(1)]Consists primarily of securities backed by auto lease loans, equipment-backed loans, auto loans and credit card loans.

Debt Securities in Gross Unrealized Loss Position

An unrealized loss exists when the fair value of an individual security is less than its amortized cost basis. The following table presents the fair value and gross unrealized losses for debt securities in a gross loss position, aggregated by security type, and the length of time the securities have been in a continuous unrealized loss position as of May 31, 2019 and 2018. The securities are segregated between investments that have been in a continuous unrealized loss position for less than 12 months and 12 months or more based on the point in time that the fair value declined below the amortized cost basis.

	May 31, 2019					
	Unrealized Loss Position Less than 12 Months		Unrealized Loss Position 12 Months or Longer		Total	
(Dollars in thousands)	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Debt securities held to maturity:						
Commercial paper[(1)]	**$ 2,688**	**$ —**	**$ —**	**$ —**	**$ 2,688**	**$ —**
Corporate debt securities	**45,999**	**(198)**	**164,086**	**(714)**	**210,085**	**(912)**
Commercial MBS, non-agency	**1,996**	**(4)**	**1,448**	**(3)**	**3,444**	**(7)**
Other ABS[(2)]	**1,982**	**(4)**	**13,840**	**(44)**	**15,822**	**(48)**
Total debt securities held to maturity	**$ 52,665**	**$ (206)**	**$ 179,374**	**$ (761)**	**$ 232,039**	**$ (967)**

	May 31, 2018					
	Unrealized Loss Position Less than 12 Months		Unrealized Loss Position 12 Months or Longer		Total	
(Dollars in thousands)	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Debt securities held to maturity:						
Corporate debt securities	$ 280,139	$ (4,595)	$ —	$ —	$ 280,139	$ (4,595)
Commercial MBS, non-agency	1,451	(3)	—	—	1,451	(3)
Other ABS[(2)]	27,012	(215)	—	—	27,012	(215)
Total debt securities held to maturity	$ 308,602	$ (4,813)	$ —	$ —	$ 308,602	$ (4,813)

[(1)] Unrealized losses on the commercial paper investments are less than $1,000.

[(2)] Consists primarily of securities backed by auto lease loans, equipment-backed loans, auto loans and credit card loans.

Other-Than-Temporary Impairment

We conduct periodic reviews of all securities with unrealized losses to evaluate whether the impairment is other than temporary. The number of individual securities in an unrealized loss position was 187 as of May 31, 2019. We have assessed each security with gross unrealized losses included in the above table for credit impairment. As part of that assessment, we concluded that the unrealized losses are driven by changes in market interest rates rather than by adverse changes in the credit quality of these securities. Based on our assessment, we expect to recover the entire amortized cost basis of these securities, as we do not intend to sell any of the securities and have concluded that it is more likely than not that we will not be required to sell prior to recovery of the amortized cost basis. Accordingly, we currently consider the impairment of these securities to be temporary.

Contractual Maturity and Yield

The following table presents, by major security type, the remaining contractual maturity based on amortized cost and fair value of our HTM investment securities as of May 31, 2019 and 2018. Because borrowers may have the right to call or prepay certain obligations, the expected maturities of our investments may differ from the scheduled contractual maturities presented below.

	May 31, 2019				
(Dollars in thousands)	**Due in 1 Year or Less**	**Due >1 Year through 5 Years**	**Due >5 Years through 10 Years**	**Due >10 Years**	**Total**
Amortized cost:					
Certificates of deposit	$ —	$ 1,000	$ —	$ —	$ 1,000
Commercial paper	12,395	—	—	—	12,395
U.S. agency debt securities	—	2,678	529	—	3,207
Corporate debt securities	51,923	414,788	11,867	—	478,578
Commercial MBS:					
Agency	—	310	6,945	—	7,255
Non-agency	—	—	—	3,453	3,453
Total commercial MBS	—	310	6,945	3,453	10,708
U.S. state and municipality debt securities	—	9,608	—	—	9,608
Foreign government debt securities	—	1,254	—	—	1,254
Other ABS(1)	510	45,730	2,454	—	48,694
Total	$ 64,828	$ 475,368	$ 21,795	$ 3,453	$ 565,444
Fair value:					
Certificates of deposit	$ —	$ 1,000	$ —	$ —	$ 1,000
Commercial paper	12,395	—	—	—	12,395
U.S. agency debt securities	—	2,769	546	—	3,315
Corporate debt securities	51,818	418,606	12,231	—	482,655
Commercial MBS:					
Agency	—	317	7,229	—	7,546
Non-agency	—	—	—	3,446	3,446
Total Commercial MBS	—	317	7,229	3,446	10,992
U.S. State and Municipality Debt Securities	—	9,960	—	—	9,960
Foreign Government Debt Securities	—	1,296	—	—	1,296
Other ABS(1)	509	45,916	2,511	—	48,936
Total	$ 64,722	$ 479,864	$ 22,517	$ 3,446	$ 570,549
Weighted-average coupon(2)	2.08%	3.10%	3.07%	3.26%	2.98%

	May 31, 2018				
(Dollars in thousands)	Due in 1 Year or Less	Due > 1 Year through 5 Years	Due > 5 Years through 10 Years	Due >10 Years	Total
Amortized cost:					
Certificates of deposit	$ 5,148	$ —	$ —	$ —	$ 5,148
Commercial paper	9,134	—	—	—	9,134
U.S. agency debt securities	—	2,000	—	—	2,000
Corporate debt securities	9,111	377,384	69,226	—	455,721
Commercial MBS:					
Agency	—	—	7,024	—	7,024
Non-Agency	—	—	—	3,453	3,453
Total Commercial MBS	—	—	7,024	3,453	10,477
U.S. State and Municipality Debt Securities	—	—	2,147	—	2,147
Foreign Government Debt Securities	—	1,241	—	—	1,241
Other ABS[1]	—	33,357	1,294	—	34,651
Total	$ 23,393	$ 413,982	$ 79,691	$ 3,453	$520,519
Fair value:					
Certificates of deposit	$ 5,148	$ —	$ —	$ —	$ 5,148
Commercial paper	9,134	—	—	—	9,134
U.S. agency debt securities	—	2,016	—	—	2,016
Corporate debt securities	9,056	373,284	69,500	—	451,840
Commercial MBS:					
Agency	—	—	7,087	—	7,087
Non-Agency	—	—	—	3,453	3,453
Total Commercial MBS	—	—	7,087	3,453	10,540
U.S. State and Municipality Debt Securities	—	—	2,171	—	2,171
Foreign Government Debt Securities	—	1,250	—	—	1,250
Other ABS[1]	—	33,157	1,290	—	34,447
Total	$ 23,338	$ 409,707	$ 80,048	$ 3,453	$516,546
Weighted average coupon[2]	1.81%	2.84%	3.60%	2.74%	2.91%

[1] Consists primarily of securities backed by auto lease loans, equipment-backed loans, auto loans and credit card loans.
[2] Calculated based on the weighted-average coupon rate, which excludes the impact of amortization of premium and accretion of discount.

The average contractual maturity and weighted-average coupon of our HTM investment securities was three years and 2.98%, respectively, as of May 31, 2019. The average credit rating of these securities, based on the equivalent lowest credit rating by Moody's, S&P and Fitch was A2, A and A, respectively, as of May 31, 2019.

Realized Gains and Losses

We did not sell any of our investment securities during either of the years ended May 31, 2019 and May 31, 2018, and therefore have not recorded any realized gains or losses.

NOTE 4—LOANS

We offer loans under secured long-term facilities with terms up to 35 years and line of credit loans. Under secured long-term facilities, borrowers have the option of selecting a fixed- or variable-rate for a period of one to 35 years for each long-term loan advance. When a selected fixed interest rate term expires, the borrower may select another fixed-rate term or a variable rate. Line of credit loans are typically variable-rate revolving facilities and are generally unsecured. Collateral and security requirements for advances on loan commitments are identical to those required at the time of the initial loan approval.

The following table presents the outstanding principal balance of loans to members, including deferred loan origination costs, and unadvanced loan commitments by loan type and member class, as of May 31, 2019 and 2018.

	May 31,			
	2019		2018	
(Dollars in thousands)	Loans Outstanding	Unadvanced Commitments [1]	Loans Outstanding	Unadvanced Commitments [1]
Loan type:				
Long-term loans:				
Fixed rate	**$ 23,094,253**	**$ —**	$ 22,696,185	$ —
Variable rate	**1,066,880**	**5,448,636**	1,039,491	4,952,834
Total long-term loans	**24,161,133**	**5,448,636**	23,735,676	4,952,834
Lines of credit	**1,744,531**	**7,788,922**	1,431,818	7,692,784
Total loans outstanding	**25,905,664**	**13,237,558**	25,167,494	12,645,618
Deferred loan origination costs	**11,240**	**—**	11,114	—
Loans to members	**$ 25,916,904**	**$ 13,237,558**	$ 25,178,608	$ 12,645,618
Member class:				
CFC:				
Distribution	**$ 20,155,266**	**$ 8,773,018**	$ 19,551,511	$ 8,188,376
Power supply	**4,578,841**	**3,466,680**	4,397,353	3,407,095
Statewide and associate	**83,569**	**165,687**	69,055	128,025
Total CFC	**24,817,676**	**12,405,385**	24,017,919	11,723,496
NCSC	**742,888**	**552,840**	786,457	624,663
RTFC	**345,100**	**279,333**	363,118	297,459
Total loans outstanding	**25,905,664**	**13,237,558**	25,167,494	12,645,618
Deferred loan origination costs	**11,240**	**—**	11,114	—
Loans to members	**$ 25,916,904**	**$ 13,237,558**	$ 25,178,608	$ 12,645,618

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[1] The interest rate on unadvanced loan commitments is not set until an advance is made; therefore, all long-term unadvanced loan commitments are reported as variable-rate. However, the borrower may select either a fixed or a variable rate when an advance on a commitment is made.

Unadvanced Loan Commitments

Unadvanced loan commitments represent approved and executed loan contracts for which funds have not been advanced to borrowers. The following table summarizes the available balance under unadvanced loan commitments as of May 31, 2019 and the related maturities, by fiscal year and thereafter, by loan type:

		Notional Maturities of Unadvanced Loan Commitments					
(Dollars in thousands)	Available Balance	2020	2021	2022	2023	2024	Thereafter
Line of credit loans	$ 7,788,922	$3,998,036	$ 908,628	$ 488,017	$1,391,887	$ 872,813	$ 129,541
Long-term loans	5,448,636	389,799	736,621	1,404,204	1,210,164	1,694,441	13,407
Total	$13,237,558	$4,387,835	$1,645,249	$1,892,221	$2,602,051	$2,567,254	$ 142,948

Unadvanced line of credit commitments accounted for 59% of total unadvanced loan commitments as of May 31, 2019, while unadvanced long-term loan commitments accounted for 41% of total unadvanced loan commitments. Unadvanced line of credit commitments are typically revolving facilities for periods not to exceed five years. Unadvanced line of credit commitments generally serve as supplemental back-up liquidity to our borrowers. Historically, borrowers have not drawn the full commitment amount for line of credit facilities, and we have experienced a very low utilization rate on line of credit loan facilities regardless of whether or not we are obligated to fund the facility where a material adverse change exists.

Our unadvanced long-term loan commitments have a five-year draw period under which a borrower may advance funds prior to the expiration of the commitment. We expect that the majority of the long-term unadvanced loan commitments of $5,449 million will be advanced prior to the expiration of the commitment.

Because we historically have experienced a very low utilization rate on line of credit loan facilities, which account for the majority of our total unadvanced loan commitments, we believe the unadvanced loan commitment total of $13,238 million as of May 31, 2019 is not necessarily representative of our future funding cash requirements.

Unadvanced Loan Commitments—Conditional

The substantial majority of our line of credit commitments and all of our unadvanced long-term loan commitments include material adverse change clauses. Unadvanced loan commitments subject to material adverse change clauses totaled $10,294 million and $9,789 million as of May 31, 2019 and 2018, respectively. Prior to making an advance on these facilities, we confirm that there has been no material adverse change in the business or condition, financial or otherwise, of the borrower since the time the loan was approved and confirm that the borrower is currently in compliance with loan terms and conditions. In some cases, the borrower's access to the full amount of the facility is further constrained by the designated purpose, imposition of borrower-specific restrictions or by additional conditions that must be met prior to advancing funds.

Unadvanced Loan Commitments—Unconditional

Unadvanced loan commitments not subject to material adverse change clauses at the time of each advance consisted of unadvanced committed lines of credit totaling $2,944 million and $2,857 million as of May 31, 2019 and 2018, respectively. As such, we are required to advance amounts on these committed facilities as long as the borrower is in compliance with the terms and conditions of the facility.

The following table summarizes the available balance under unconditional committed lines of credit and the related maturities by fiscal year and thereafter, as of May 31, 2019.

		Notional Maturities of Unconditional Committed Lines of Credit				
(Dollars in thousands)	Available Balance	2020	2021	2022	2023	2024
Committed lines of credit	$2,943,616	$340,361	$451,865	$191,634	$1,239,917	$719,839

Loan Sales

We transfer, from time to time, loans to third parties under our direct loan sale program. Our transfer of loans, which is at par value and sold concurrently with loan closing, meets the applicable accounting criteria for sale accounting. Accordingly, we remove the loans from our consolidated balance sheets when control has been surrendered and recognize a gain or loss. We retain the servicing performance obligations on these loans and recognize related servicing fees on an accrual basis over the period for which servicing activity is provided, as we believe the servicing fee represents adequate compensation. We do not hold any continuing interest in the loans sold to date other than servicing performance obligations. We have no obligation to repurchase loans from the purchaser, except in the case of breaches of representations and warranties.

We sold CFC loans with outstanding balances totaling $35 million, $119 million and $58 million at par for cash in fiscal year 2019, 2018 and 2017, respectively. We recorded immaterial losses upon the sale of these loans, attributable to the unamortized deferred loan origination costs associated with the transferred loans.

Pledging of Loans

We are required to pledge eligible mortgage notes in an amount at least equal to the outstanding balance of our secured debt. The following table summarizes our loans outstanding as collateral pledged to secure our collateral trust bonds, Clean Renewable Energy Bonds, notes payable to Farmer Mac and notes payable under the Guaranteed Underwriter Program of the USDA ("Guaranteed Underwriter Program") and the amount of the corresponding debt outstanding as of May 31, 2019 and 2018. See "Note 6—Short-Term Borrowings" and "Note 7—Long-Term Debt" for information on our borrowings.

	May 31,	
(Dollars in thousands)	**2019**	**2018**
Collateral trust bonds:		
2007 indenture:		
Distribution system mortgage notes	**$ 8,775,231**	$ 8,643,344
RUS-guaranteed loans qualifying as permitted investments	**134,678**	140,680
Total pledged collateral	**$ 8,909,909**	$ 8,784,024
Collateral trust bonds outstanding	**7,622,711**	7,697,711
1994 indenture:		
Distribution system mortgage notes	**$ 47,331**	$ 243,418
Collateral trust bonds outstanding	**40,000**	220,000
Farmer Mac:		
Distribution and power supply system mortgage notes	**$ 3,751,798**	$ 3,331,775
Notes payable outstanding	**3,054,914**	2,891,496
Clean Renewable Energy Bonds Series 2009A:		
Distribution and power supply system mortgage notes	**$ 10,349**	$ 12,615
Cash	**415**	415
Total pledged collateral	**$ 10,764**	$ 13,030
Notes payable outstanding	**9,225**	11,556
Federal Financing Bank:		
Distribution and power supply system mortgage notes	**$ 6,157,218**	$ 5,772,750
Notes payable outstanding	**5,410,507**	4,856,375

Credit Concentration

As a tax-exempt, member-owned finance cooperative, CFC's principal focus is to provide funding to its rural electric utility cooperative members to assist them in acquiring, constructing and operating electric distribution systems, power supply systems and related facilities. We serve electric and telecommunications members throughout the United States and its territories, including 50 states, the District of Columbia, American Samoa and Guam. Our consolidated membership totaled 1,447 members and 222 associates as of May 31, 2019. Texas has the largest number of member cooperatives and the largest concentration of outstanding loans to borrowers in any one state, with approximately 15% of total loans outstanding as of both May 31, 2019 and 2018. Because we lend primarily to our rural electric utility cooperative members we have a loan portfolio subject to single-industry and single-obligor concentration risks.

Loans outstanding to electric utility organizations represented approximately 99% of total loans outstanding as of May 31, 2019, unchanged from May 31, 2018. The remaining loans outstanding in our portfolio were to RTFC members, affiliates and associates in the telecommunications industry. The outstanding loan exposure for our 20 largest borrowers was 22% and 23% as of May 31, 2019 and 2018, respectively. The 20 largest borrowers consisted of 10 distribution systems, nine power supply systems and one NCSC associate as of both May 31, 2019 and 2018. The largest total outstanding exposure to a single borrower or controlled group represented approximately 2% of total loans outstanding as of both May 31, 2019 and 2018.

As part of our strategy in managing our credit exposure, we entered into a long-term standby purchase commitment agreement with Farmer Mac during fiscal year 2016. Under this agreement, we may designate certain long-term loans to be covered under the commitment, subject to approval by Farmer Mac, and in the event any such loan later goes into payment default for at least 90 days, upon request by us, Farmer Mac must purchase such loan at par value. The aggregate unpaid principal balance of designated and Farmer Mac approved loans was $619 million and $660 million as of May 31, 2019 and 2018, respectively. Under the agreement, we are required to pay Farmer Mac a monthly fee based on the unpaid principal balance of loans covered under the purchase commitment. No loans had been put to Farmer Mac for purchase, pursuant to this agreement, as of May 31, 2019. Also, we had long-term loans totaling $154 million and $161 million as of May 31, 2019 and 2018, respectively, guaranteed by RUS.

Credit Quality

Assessing the overall credit quality of our loan portfolio and measuring our credit risk is an ongoing process that involves tracking payment status, charge-offs, troubled debt restructurings, nonperforming and impaired loans, the internal risk ratings of our borrowers and other indicators of credit risk. We monitor and subject each borrower and loan facility in our loan portfolio to an individual risk assessment based on quantitative and qualitative factors. Internal risk ratings and payment status trends are indicators, among others, of the probability of borrower default and level of credit risk in our loan portfolio.

Borrower Risk Ratings

As part of our credit risk management process, we monitor and evaluate each borrower and loan in our loan portfolio and assign internal borrower and loan facility risk ratings based on quantitative and qualitative assessments. Our borrower risk ratings are intended to assess probability of default. Each risk rating is reassessed annually following the receipt of the borrower's audited financial statements; however, interim risk-rating downgrades or upgrades may occur as a result of significant developments or trends. Our borrower risk ratings are intended to align with banking regulatory agency credit risk rating definitions of pass and criticized classifications, with criticized divided between special mention, substandard and doubtful. Pass ratings reflect relatively low probability of default, while criticized ratings have a higher probability of default. Following is a description of each rating category.

- *Pass*: Borrowers that are not experiencing difficulty and/or not showing a potential or well-defined credit weakness.
- *Special Mention*: Borrowers that may be characterized by a potential credit weakness or deteriorating financial condition that is not sufficiently serious to warrant a classification of substandard or doubtful.
- *Substandard*: Borrowers that display a well-defined credit weakness that may jeopardize the full collection of principal and interest.
- *Doubtful*: Borrowers that have a well-defined credit weakness or weaknesses that make full collection of principal and interest, on the basis of currently known facts, conditions and collateral values, highly questionable and improbable.

Loans to borrowers in the pass, special mention and substandard categories are generally considered not to be individually impaired and are included in the loan pools for determining the collective reserve component of the allowance for loan losses. Loans to borrowers in the doubtful category are considered to be impaired and are therefore individually assessed for impairment in determining the specific reserve component of the allowance for loan losses.

The following tables present total loans outstanding, by member class and borrower risk-rating category, based on the risk ratings used in the estimation of our allowance for loan losses as of May 31, 2019 and 2018. For purposes of these tables and for determining the allowance for loan losses, loans to borrowers that are supported by a full guarantee of repayment by the parent company are grouped in the same risk rating category of the guarantor parent company, rather than the risk rating category of the subsidiary borrower.

	May 31, 2019				
(Dollars in thousands)	**Pass**	**Special Mention**	**Substandard**	**Doubtful**	**Total**
CFC:					
Distribution	**$ 20,022,193**	**$ 10,375**	**$ 122,698**	**$ —**	**$ 20,155,266**
Power supply	**4,530,708**	**—**	**48,133**	**—**	**4,578,841**
Statewide and associate	**68,569**	**15,000**	**—**	**—**	**83,569**
CFC total	**24,621,470**	**25,375**	**170,831**	**—**	**24,817,676**
NCSC	**742,888**	**—**	**—**	**—**	**742,888**
RTFC	**339,508**	**—**	**5,592**	**—**	**345,100**
Total loans outstanding	**$ 25,703,866**	**$ 25,375**	**$ 176,423**	**$ —**	**$ 25,905,664**

	May 31, 2018				
(Dollars in thousands)	**Pass**	**Special Mention**	**Substandard**	**Doubtful**	**Total**
CFC:					
Distribution	$ 19,429,121	$ 6,853	$ 115,537	$ —	$ 19,551,511
Power supply	4,348,328	—	49,025	—	4,397,353
Statewide and associate	69,055	—	—	—	69,055
CFC total	23,846,504	6,853	164,562	—	24,017,919
NCSC	786,457	—	—	—	786,457
RTFC	356,503	523	6,092	—	363,118
Total loans outstanding	$ 24,989,464	$ 7,376	$ 170,654	$ —	$ 25,167,494

The substantial majority of the loans in the substandard category are attributable to loans to one electric distribution cooperative borrower and its subsidiary totaling $171 million and $165 million as of May 31, 2019 and 2018, respectively.

The electric distribution cooperative owns and operates a distribution and transmission system. Several years ago, it established a subsidiary to deploy retail broadband service in underserved rural communities. Although the borrower has experienced financial difficulties due to recent net losses and liquidity constraints, the borrower and its subsidiary are current with regard to all principal and interest payments and have never been delinquent. The borrower, which operates in a territory that is not rate-regulated, increased its electric rates during fiscal year 2019. All of the loans outstanding to this borrower were secured under our typical collateral requirements for long-term loan advances as of May 31, 2019. Based on the recent rate increase, as well as other actions taken by management, we anticipate an improvement in the borrower's financial performance and liquidity and currently expect to collect all principal and interest amounts due from the borrower and its subsidiary. Accordingly, the loans outstanding to this borrower and its subsidiary were not deemed to be impaired as of May 31, 2019.

Payment Status of Loans

The following tables present the payment status of loans outstanding by member class as of May 31, 2019 and 2018. As indicated in the table, we did not have any past due loans as of either May 31, 2019 or May 31, 2018.

	May 31, 2019					
(Dollars in thousands)	**Current**	**30-89 Days Past Due**	**90 Days or More Past Due (1)**	**Total Past Due**	**Total Loans Outstanding**	**Nonaccrual Loans**
CFC:						
Distribution	**$20,155,266**	**$ —**	**$ —**	**$ —**	**$20,155,266**	**$ —**
Power supply	**4,578,841**	**—**	**—**	**—**	**4,578,841**	**—**
Statewide and associate	**83,569**	**—**	**—**	**—**	**83,569**	**—**
CFC total	**24,817,676**	**—**	**—**	**—**	**24,817,676**	**—**
NCSC	**742,888**	**—**	**—**	**—**	**742,888**	**—**
RTFC	**345,100**	**—**	**—**	**—**	**345,100**	**—**
Total loans outstanding	**$25,905,664**	**$ —**	**$ —**	**$ —**	**$25,905,664**	**$ —**
Percentage of total loans	**100.00%**	**—%**	**—%**	**—%**	**100.00%**	**—%**

	May 31, 2018					
(Dollars in thousands)	**Current**	**30-89 Days Past Due**	**90 Days or More Past Due (1)**	**Total Past Due**	**Total Loans Outstanding**	**Nonaccrual Loans**
CFC:						
Distribution	$ 19,551,511	$ —	$ —	$ —	$ 19,551,511	$ —
Power supply	4,397,353	—	—	—	4,397,353	—
Statewide and associate	69,055	—	—	—	69,055	—
CFC total	24,017,919	—	—	—	24,017,919	—
NCSC	786,457	—	—	—	786,457	—
RTFC	363,118	—	—	—	363,118	—
Total loans outstanding	$ 25,167,494	$ —	$ —	$ —	$ 25,167,494	$ —
Percentage of total loans	100.00%	—%	—%	—%	100.00%	—%

(1) All loans 90 days or more past due are on nonaccrual status.

Troubled Debt Restructurings

We did not have any loans modified as TDRs during the year ended May 31, 2019. The following table provides a summary of loans modified as TDRs in prior periods, the performance status of these loans and the unadvanced loan commitments related to the TDR loans, by member class, as of May 31, 2019 and 2018.

	May 31,					
	2019			2018		
(Dollars in thousands)	Loans Outstanding	% of Total Loans	Unadvanced Commitments	Loans Outstanding	% of Total Loans	Unadvanced Commitments
TDR loans:						
Performing TDR loans:						
CFC/Distribution	**$ 6,261**	**0.03%**	**$ —**	$ 6,507	0.03%	$ —
RTFC	**5,592**	**0.02**	**—**	6,092	0.02	—
Total performing TDR loans	**11,853**	**0.05**	**—**	12,599	0.05	—
Total TDR loans	**$ 11,853**	**0.05%**	**$ —**	$ 12,599	0.05%	$ —

We did not have any TDR loans classified as nonperforming as of May 31, 2019 or May 31, 2018. TDR loans classified as performing as of May 31, 2019 and 2018 were performing in accordance with the terms of their respective restructured loan agreement and on accrual status as of the respective reported dates. One borrower with a TDR loan also had two line of credit facilities as of May 31, 2019. One line of credit facility for $6 million as of both May 31, 2019 and 2018, is restricted for fuel purchases only. Outstanding loans under this facility totaled $3 million as of May 31, 2019 and less than $1 million as of May 31, 2018, and were classified as performing as of each respective date. The other line of credit facility for $2 million as of May 31, 2019, was put in place during fiscal year 2019 to provide bridge funding for electric work plan expenditures in anticipation of receiving RUS funding. Outstanding loans under this facility totaled $1 million as of May 31, 2019, and were classified as performing.

Nonperforming Loans

In addition to TDR loans that may be classified as nonperforming, we also may have nonperforming loans that have not been modified as a TDR. We did not have any loans classified as nonperforming as of either May 31, 2019 or May 31, 2018.

We had no foregone interest income for loans on nonaccrual status during the years ended May 31, 2019 and 2018. We had less than $1 million foregone interest income for loans on nonaccrual status during the year ended May 31, 2017.

Impaired Loans

The following table provides information on loans classified as individually impaired as of May 31, 2019 and 2018.

	May 31,			
	2019		2018	
(Dollars in thousands)	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
With no specific allowance recorded:				
CFC	**$ 6,261**	**$ —**	$ 6,507	$ —
With a specific allowance recorded:				
RTFC	**5,592**	**1,021**	6,092	1,198
Total impaired loans	**$ 11,853**	**$ 1,021**	$ 12,599	$ 1,198

The following table presents, by company, the average recorded investment for individually impaired loans and the interest income recognized on these loans for fiscal years ended May 31, 2019, 2018 and 2017.

	Average Recorded Investment			Interest Income Recognized		
(Dollars in thousands)	2019	2018	2017	2019	2018	2017
CFC	**$ 6,322**	$ 6,524	$ 6,613	**$ 553**	$ 571	$ 562
RTFC	**5,861**	6,361	7,736	**293**	318	343
Total impaired loans	**$ 12,183**	$ 12,885	$ 14,349	**$ 846**	$ 889	$ 905

Net Charge-Offs

Charge-offs represent the amount of a loan that has been removed from our consolidated balance sheet when the loan is deemed uncollectible. Generally the amount of a charge-off is the recorded investment in excess of the fair value of the expected cash flows from the loan, or, if the loan is collateral dependent, the fair value of the underlying collateral securing the loan. We report charge-offs net of amounts recovered on previously charged off loans. We had no loan defaults or charge-offs during the years ended May 31, 2019, 2018 and 2017.

NOTE 5—ALLOWANCE FOR LOAN LOSSES

The following tables summarize changes, by company, in the allowance for loan losses as of and for the years ended May 31, 2019, 2018 and 2017.

	Year Ended May 31, 2019			
(Dollars in thousands)	CFC	NCSC	RTFC	Total
Balance as of May 31, 2018	**$ 12,300**	**$ 2,082**	**$ 4,419**	**$ 18,801**
Provision (benefit) for loan losses	**820**	**(75)**	**(2,011)**	**(1,266)**
Balance as of May 31, 2019	**$ 13,120**	**$ 2,007**	**$ 2,408**	**$ 17,535**

	Year Ended May 31, 2018			
(Dollars in thousands)	CFC	NCSC	RTFC	Total
Balance as of May 31, 2017	$ 29,499	$ 2,910	$ 4,967	$ 37,376
Benefit for loan losses	(17,199)	(828)	(548)	(18,575)
Balance as of May 31, 2018	$ 12,300	$ 2,082	$ 4,419	$ 18,801

	Year Ended May 31, 2017			
(Dollars in thousands)	CFC	NCSC	RTFC	Total
Balance as of May 31, 2016	$ 24,559	$ 3,134	$ 5,565	$ 33,258
Provision (benefit) for loan losses	4,781	(224)	1,421	5,978
Charge-offs	—	—	(2,119)	(2,119)
Recoveries	159	—	100	259
Balance as of May 31, 2017	$ 29,499	$ 2,910	$ 4,967	$ 37,376

The following tables present, by company, the components of our allowance for loan losses and the recorded investment of the related loans as of May 31, 2019 and 2018.

	May 31, 2019			
(Dollars in thousands)	CFC	NCSC	RTFC	Total
Ending balance of the allowance:				
Collective allowance	**$ 13,120**	**$ 2,007**	**$ 1,387**	**$ 16,514**
Specific allowance	**—**	**—**	**1,021**	**1,021**
Total ending balance of the allowance	**$ 13,120**	**$ 2,007**	**$ 2,408**	**$ 17,535**
Recorded investment in loans:				
Collectively evaluated loans	**$ 24,811,415**	**$ 742,888**	**$ 339,508**	**$ 25,893,811**
Individually evaluated loans	**6,261**	**—**	**5,592**	**11,853**
Total recorded investment in loans	**$ 24,817,676**	**$ 742,888**	**$ 345,100**	**$ 25,905,664**
Total recorded investment in loans, net [(1)]	**$ 24,804,556**	**$ 740,881**	**$ 342,692**	**$ 25,888,129**
Allowance coverage ratio:				
Allowance as a percentage of total recorded investment in loans	**0.05%**	**0.27%**	**0.70%**	**0.07%**

	May 31, 2018			
(Dollars in thousands)	CFC	NCSC	RTFC	Total
Ending balance of the allowance:				
Collective allowance	$ 12,300	$ 2,082	$ 3,221	$ 17,603
Specific allowance	—	—	1,198	1,198
Total ending balance of the allowance	$ 12,300	$ 2,082	$ 4,419	$ 18,801
Recorded investment in loans:				
Collectively evaluated loans	$ 24,011,412	$ 786,457	$ 357,026	$ 25,154,895
Individually evaluated loans	6,507	—	6,092	12,599
Total recorded investment in loans	$ 24,017,919	$ 786,457	$ 363,118	$ 25,167,494
Total recorded investment in loans, net[(1)]	$ 24,005,619	$ 784,375	$ 358,699	$ 25,148,693
Allowance coverage ratio:				
Allowance as a percentage of total recorded investment in loans	0.05%	0.26%	1.22%	0.07%

[(1)]Excludes unamortized deferred loan origination costs of $11 million as of both May 31, 2019 and 2018.

As noted above in "Note 4—Loans," we did not have any loans classified as nonperforming as of either May 31, 2019 or May 31, 2018.

In addition to the allowance for loan losses, we also maintain a reserve for unadvanced loan commitments at a level estimated by management to provide for probable losses under these commitments as of each balance sheet date, which was less than $1 million as of both May 31, 2019 and 2018.

NOTE 6—SHORT-TERM BORROWINGS

Short-term borrowings consist of borrowings with an original contractual maturity of one year or less and do not include the current portion of long-term debt. Our short-term borrowings totaled $3,608 million and accounted for 14% of total debt outstanding as of May 31, 2019, compared with $3,796 million, or 15%, of total debt outstanding as of May 31, 2018. The following table provides comparative information on our short-term borrowings and weighted-average interest rates as of May 31, 2019 and 2018.

	May 31,			
	2019		2018	
(Dollars in thousands)	Amount	Weighted-Average Interest Rate	Amount	Weighted-Average Interest Rate
Short-term borrowings:				
Commercial paper sold through dealers, net of discounts	**$ 944,616**	**2.46%**	$1,064,266	1.87%
Commercial paper sold directly to members, at par	**1,111,795**	**2.52**	1,202,105	1.89
Select notes	**1,023,952**	**2.70**	780,472	2.04
Daily liquidity fund notes	**298,817**	**2.25**	400,635	1.50
Medium-term notes sold to members	**228,546**	**2.87**	248,432	1.90
Farmer Mac notes payable [1]	**—**	**—**	100,000	2.23
Total short-term borrowings	**$ 3,607,726**	**2.56**	$3,795,910	1.88

[1]Advanced under the revolving note purchase agreement with Farmer Mac dated July 31, 2015. See "Note 7—Long-Term Debt" for additional information on this revolving note purchase agreement with Farmer Mac.

We issue commercial paper for periods of one to 270 days. We also issue select notes for periods ranging from 30 to 270 days. Select notes are unsecured obligations that do not require backup bank lines of credit for liquidity purposes. These notes require a larger minimum investment than our commercial paper sold to members and, as a result, offer a higher interest rate than our commercial paper. We also issue daily liquidity fund notes, which are unsecured obligations that do not require backup bank lines of credit for liquidity purposes. We also issue medium-term notes, which represent unsecured obligations that may be issued through dealers in the capital markets or directly to our members.

Committed Bank Revolving Line of Credit Agreements

We had $2,975 million and $3,085 million of commitments under committed bank revolving line of credit agreements as of May 31, 2019 and 2018, respectively. Under our current committed bank revolving line of credit agreements, we have the ability to request up to $300 million of letters of credit, which would result in a reduction in the remaining available amount under the facilities.

On November 28, 2018, we amended the three-year and five-year committed bank revolving line of credit agreements to extend the maturity dates to November 28, 2021 and November 28, 2023, respectively, and to terminate certain third-party bank commitments totaling $53 million under the three-year agreement and $57 million under the five-year agreement. As a result, the total commitment amount from third-parties under the three-year facility and the five-year facility is $1,440 million and $1,535 million, respectively, resulting in a combined total commitment amount under the two facilities of $2,975 million.

The following table presents the total commitment, the net amount available for use and the outstanding letters of credit under our committed bank revolving line of credit agreements as of May 31, 2019 and 2018.

	May 31,							
	2019			2018				
(Dollars in millions)	Total Commitment	Letters of Credit Outstanding	Net Available for Use	Total Commitment	Letters of Credit Outstanding	Net Available for Use	Maturity	Annual Facility Fee [1]
3-year agreement, 2020...	**$ —**	**$ —**	**$ —**	$ 1,492	$ —	$ 1,492	November 20, 2020	7.5 bps
3-year agreement, 2021...	**1,440**	**—**	**1,440**	—	—	—	November 28, 2021	7.5 bps
Total 3-year agreement.	**1,440**	**—**	**1,440**	1,492	—	1,492		
5-year agreement, 2022...	**—**	**—**	**—**	1,593	3	1,590	November 20, 2022	10 bps
5-year agreement, 2023...	**1,535**	**3**	**1,532**	—	—	—	November 28, 2023	10 bps
Total 5-year agreement.	**1,535**	**3**	**1,532**	1,593	3	1,590		
Total...........................	**$ 2,975**	**$ 3**	**$ 2,972**	$ 3,085	$ 3	$ 3,082		

(1) Facility fee determined by CFC's senior unsecured credit ratings based on the pricing schedules put in place at the inception of the related agreement.

We had no borrowings outstanding under our committed bank revolving line of credit agreements as of May 31, 2019 and 2018, and we were in compliance with all covenants and conditions under the agreements as of each date.

NOTE 7—LONG-TERM DEBT

The following table displays long-term debt outstanding and the weighted-average interest rates, by debt type, as of May 31, 2019 and 2018.

	May 31,					
	2019			2018		
(Dollars in thousands)	Amount	Weighted-Average Interest Rate	Maturity Date	Amount	Weighted-Average Interest Rate	Maturity Date
Unsecured long-term debt:						
Medium-term notes sold through dealers	**$ 2,962,375**	**3.55%**	**2019-2032**	$ 3,026,472	3.51%	2018-2032
Medium-term notes sold to members	**397,080**	**3.03**	**2019-2037**	395,389	2.56	2018-2037
Subtotal medium-term notes	**3,359,455**	**3.49**		3,421,861	3.40	
Unamortized discount	**(931)**			(1,256)		
Debt issuance costs	**(19,399)**			(22,237)		
Total unsecured medium-term notes	**3,339,125**			3,398,368		
Unsecured notes payable:	**13,701**	**3.97**	**2022-2023**	18,892	3.84	2022-2023
Unamortized discount	**(187)**			(277)		
Debt issuance costs	**(46)**			(68)		
Total unsecured notes payable	**13,468**	**3.97**		18,547	3.84	
Total unsecured long-term debt	**3,352,593**	**3.49**		3,416,915	3.40	
Secured long-term debt:						
Collateral trust bonds	**7,662,711**	**3.19**	**2019-2049**	7,917,711	3.89	2018-2032
Unamortized discount	**(244,643)**			(250,421)		
Debt issuance costs	**(34,336)**			(28,197)		
Total collateral trust bonds	**7,383,732**			7,639,093		
Guaranteed Underwriter Program notes payable	**5,410,507**	**2.97**	**2025-2039**	4,856,375	2.85	2025-2038
Debt issuance costs	**—**			(232)		
Total Guaranteed Underwriter Program notes payable	**5,410,507**			4,856,143		
Farmer Mac notes payable	**3,054,914**	**3.33**	**2019-2049**	2,791,496	2.90	2018-2048
Other secured notes payable	**9,225**	**2.70**	**2024**	11,556	2.74	2024
Debt issuance costs	**(178)**			(243)		
Total other secured notes payable	**9,047**			11,313		
Total secured notes payable	**8,474,468**	**3.10**		7,658,952	2.87	
Total secured long-term debt	**15,858,200**	**3.14**		15,298,045	3.39	
Total long-term debt	**$19,210,793**	**3.20**		$18,714,960	3.39	

The following table presents the amount of long-term debt maturing in each of the five fiscal years subsequent to May 31, 2019 and thereafter.

(Dollars in thousands)	Amount Maturing	Weighted-Average Interest Rate
2020	$ 1,638,048	2.36%
2021	1,827,162	2.73
2022	1,924,953	2.93
2023	1,170,032	2.75
2024	1,076,118	3.18
Thereafter	11,574,480	3.49
Total	$ 19,210,793	3.20

Medium-Term Notes

Medium-term notes represent unsecured obligations that may be issued through dealers in the capital markets or directly to our members.

Collateral Trust Bonds

Collateral trust bonds represent secured obligations sold to investors in the capital markets. Collateral trust bonds are secured by the pledge of mortgage notes or eligible securities in an amount at least equal to the principal balance of the bonds outstanding.

On July 12, 2018, we redeemed $300 million of the $1 billion 10.375% collateral trust bonds due November 1, 2018 at a premium of $7 million. We repaid the remaining $700 million of these bonds on the maturity date.

On October 31, 2018, we issued $325 million aggregate principal amount of 3.90% collateral trust bonds due 2028 and $300 million aggregate principal amount of 4.40% collateral trust bonds due 2048.

On January 31, 2019, we issued $450 million aggregate principal amount of 3.70% collateral trust bonds due 2029 and $500 million aggregate principal amount of 4.30% collateral trust bonds due 2049.

Secured Notes Payable

We had outstanding secured notes payable totaling $5,411 million and $4,856 million as of May 31, 2019 and 2018, respectively, under bond purchase agreements with the Federal Financing Bank and a bond guarantee agreement with RUS issued under the Guaranteed Underwriter Program, which provides guarantees to the Federal Financing Bank. We pay RUS a fee of 30 basis points per year on the total amount outstanding. On November 15, 2018, we closed on a $750 million committed loan facility (“Series N”) from the Federal Financing Bank under the Guaranteed Underwriter Program. Pursuant to this facility, we may borrow any time before July 15, 2023. Each advance is subject to quarterly amortization and a final maturity not longer than 20 years from the advance date. During the year ended May 31, 2019, we borrowed $625 million under our committed loan facilities with the Federal Financing Bank. We had up to $1,350 million available for access under the Guaranteed Underwriter Program as of May 31, 2019.

The notes outstanding under the Guaranteed Underwriter Program contain a provision that if during any portion of the fiscal year, our senior secured credit ratings do not have at least two of the following ratings: (i) A3 or higher from Moody’s, (ii)

A- or higher from S&P, (iii) A- or higher from Fitch, or (iv) an equivalent rating from a successor rating agency to any of the above rating agencies, we may not make cash patronage capital distributions in excess of 5% of total patronage capital. We are required to pledge eligible distribution system or power supply system loans as collateral in an amount at least equal to the total principal amount of notes outstanding under the Guaranteed Underwriter Program. See "Note 4—Loans" for additional information on the collateral pledged to secure notes payable under this program.

We have two revolving note purchase agreements with Farmer Mac, which together allow us to borrow up to $5,500 million from Farmer Mac. Under our first revolving note purchase agreement with Farmer Mac, dated March 24, 2011, as amended, we can currently borrow, subject to market conditions, up to $5,200 million at any time through January 11, 2022, and such date shall automatically extend on each anniversary date of the closing for an additional year, unless prior to any such anniversary date, Farmer Mac provides us with a notice that the draw period will not be extended beyond the remaining term. This revolving note purchase agreement allows us to borrow, repay and re-borrow funds at any time through maturity, as market conditions permit, provided that the outstanding principal amount at any time does not exceed the total available under the agreement. Each borrowing under the revolving note purchase agreement is evidenced by a pricing agreement setting forth the interest rate, maturity date and other related terms as we may negotiate with Farmer Mac at the time of each such borrowing. We may select a fixed rate or variable rate at the time of each advance with a maturity as determined in the applicable pricing agreement. Under this note purchase agreement with Farmer Mac, we had outstanding secured notes payable totaling $3,055 million and $2,791 million, as of May 31, 2019 and 2018, respectively. We borrowed $575 million under this note purchase agreement with Farmer Mac during the year ended May 31, 2019.

Under our second revolving note purchase agreement with Farmer Mac, dated July 31, 2015, as amended, we can borrow up to $300 million at any time through December 20, 2023 at a fixed spread over LIBOR. This agreement also allows us to borrow, repay and re-borrow funds at any time through maturity, provided that the outstanding principal amount at any time does not exceed the total available under the agreement. Prior to the maturity date, Farmer Mac may terminate the agreement upon 30 days written notice to us on periodic facility renewal dates, the first of which was January 31, 2019. Subsequent facility renewal dates are on each June 20 or December 20 thereafter until the maturity date. We may terminate the agreement upon 30 days written notice at any time. We did not have any outstanding notes payable under this revolving note purchase agreement with Farmer Mac as of May 31, 2019. Under the terms of the first revolving note purchase agreement with Farmer Mac described above, the $5,200 million commitment will increase to $5,500 million in the event the second revolving note purchase agreement is terminated.

We are required to pledge eligible distribution system or power supply system loans as collateral in an amount at least equal to the total principal amount of notes outstanding under each of our Farmer Mac revolving note purchase agreements. See "Note 4—Loans" for additional information on the collateral pledged to secure notes payable under these programs.

We were in compliance with all covenants and conditions under our senior debt indentures as of May 31, 2019 and 2018.

NOTE 8—SUBORDINATED DEFERRABLE DEBT

Subordinated deferrable debt is long-term debt that is subordinated to our outstanding debt and senior to subordinated certificates held by our members. Our 4.75% and 5.25% subordinated debt due 2043 and 2046, respectively, was issued for a term of up to 30 years, pays interest semi-annually, may be called at par after 10 years, converts to a variable rate after 10 years, and allows us to defer the payment of interest for one or more consecutive interest periods not exceeding five consecutive years. Our 5.50% subordinated debt due 2064 was issued for a term of up to 45 years, pays interest quarterly, may be called at par after five years and allows us to defer the payment of interest for one or more consecutive interest periods not exceeding 40 consecutive quarterly periods. To date, we have not exercised our right to defer interest payments.

The following table presents subordinated deferrable debt outstanding and the weighted-average interest rates as of May 31, 2019 and 2018.

	May 31,			
	2019		2018	
(Dollars in thousands)	Amount	Weighted-Average Interest Rate	Amount	Weighted-Average Interest Rate
4.75% due 2043 with a call date of April 30, 2023	**$ 400,000**	**4.75%**	$ 400,000	4.75%
5.25% due 2046 with a call date of April 20, 2026	**350,000**	**5.25**	350,000	5.25
5.50% due 2064 with a call date of May 15, 2024	**250,000**	**5.50**	—	—
Debt issuance costs	**(13,980)**		(7,590)	
Total subordinated deferrable debt	**$ 986,020**	**5.11**	$ 742,410	4.98

NOTE 9—MEMBERS' SUBORDINATED CERTIFICATES

Membership Subordinated Certificates

CFC members were required to purchase membership subordinated certificates as a condition of membership prior to June 2009. Such certificates are interest-bearing, unsecured, subordinated debt. Membership certificates typically have an original maturity of 100 years and pay interest at 5% semi-annually. No requirement to purchase membership certificates has existed for NCSC or RTFC members.

Loan and Guarantee Subordinated Certificates

Members obtaining long-term loans, certain line of credit loans or guarantees may be required to purchase additional loan or guarantee subordinated certificates with each such loan or guarantee based on the borrower's debt-to-equity ratio with CFC. These certificates are unsecured, subordinated debt and may be interest bearing or non-interest bearing.

Under our current policy, most borrowers requesting standard loans are not required to buy subordinated certificates as a condition of a loan or guarantee. Borrowers meeting certain criteria, including but not limited to, high leverage ratios, or borrowers requesting large facilities, may be required to purchase loan or guarantee subordinated certificates or member capital securities (described below) as a condition of the loan. Loan subordinated certificates have the same maturity as the related long-term loan. Some certificates may amortize annually based on the outstanding loan balance.

The interest rates payable on guarantee subordinated certificates purchased in conjunction with our guarantee program vary in accordance with applicable CFC policy. Guarantee subordinated certificates have the same maturity as the related guarantee.

Member Capital Securities

CFC offers member capital securities to its voting members. Member capital securities are interest-bearing, unsecured obligations of CFC, which are subordinate to all existing and future senior and subordinated indebtedness of CFC held by non-members of CFC, but rank proportionally to our member subordinated certificates. Member capital securities mature 30 years from the date of issuance, typically pay interest at 5% and are callable at par at our option 10 years from the date of issuance and anytime thereafter. These securities represent voluntary investments in CFC by the members.

The following table displays members' subordinated certificates and the weighted-average interest rates as of May 31, 2019 and 2018.

	May 31,			
	2019		2018	
(Dollars in thousands)	Amounts Outstanding	Weighted-Average Interest Rate	Amounts Outstanding	Weighted-Average Interest Rate
Membership subordinated certificates:				
Certificates maturing 2020 through 2119	**$ 630,466**		$ 630,173	
Subscribed and unissued [(1)]	**8**		275	
Total membership subordinated certificates	**630,474**	**4.95%**	630,448	4.94%
Loan and guarantee subordinated certificates:				
Interest-bearing loan subordinated certificates maturing through 2045	**290,259**		300,738	
Non-interest-bearing loan subordinated certificates maturing through 2047	**150,152**		162,263	
Subscribed and unissued [(1)]	**45**		57	
Total loan subordinated certificates	**440,456**	**2.73**	463,058	2.71
Interest-bearing guarantee subordinated certificates maturing through 2044	**47,878**		48,177	
Non-interest-bearing guarantee subordinated certificates maturing through 2043	**17,151**		17,151	
Total guarantee subordinated certificates	**65,029**	**4.49**	65,328	4.50
Total loan and guarantee subordinated certificates	**505,485**	**2.95**	528,386	2.93
Member capital securities:				
Securities maturing through 2048	**221,170**	**5.00**	221,148	5.00
Total members' subordinated certificates	**$ 1,357,129**	**4.21**	$ 1,379,982	4.18

(1) The subscribed and unissued subordinated certificates represent subordinated certificates that members are required to purchase. Upon collection of full payment of the subordinated certificate amount, the certificate will be reclassified from subscribed and unissued to outstanding.

The weighted-average maturity for all membership subordinated certificates outstanding was 57 years and 58 years as of May 31, 2019 and 2018, respectively. The following table presents the amount of members' subordinated certificates maturing in each of the five fiscal years following May 31, 2019 and thereafter.

(Dollars in thousands)	Amount Maturing[(1)]	Weighted-Average Interest Rate
2020	**$ 9,178**	**2.61%**
2021	**41,776**	**3.73**
2022	**14,471**	**2.91**
2023	**23,922**	**3.53**
2024	**16,457**	**2.32**
Thereafter	**1,251,272**	**4.29**
Total	**$ 1,357,076**	**4.21**

(1)Excludes $0.05 million in subscribed and unissued member subordinated certificates for which a payment has been received, but no certificate has been issued. Amortizing member loan subordinated certificates totaling $254 million are amortizing annually based on the unpaid principal balance of the related loan. Amortization payments on these certificates totaled $17 million in fiscal year 2019 and represented 7% of amortizing loan subordinated certificates outstanding.

NOTE 10—DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

We are an end user of derivative financial instruments and do not engage in derivative trading. We use derivatives, primarily interest rate swaps and Treasury rate locks, to manage interest rate risk. Derivatives may be privately negotiated contracts, which are often referred to as OTC derivatives, or they may be listed and traded on an exchange. We generally engage in OTC derivative transactions.

Outstanding Notional Amount and Maturities of Derivatives Not Designated as Accounting Hedges

The notional amount provides an indication of the volume of our derivatives activity, but this amount is not recorded on our consolidated balance sheets. The notional amount is used only as the basis on which interest payments are determined and is not the amount exchanged. The following table shows the outstanding notional amounts and the weighted-average rate paid and received for our interest rate swaps, by type, as of May 31, 2019 and 2018. The substantial majority of our interest rate swaps use an index based on the London Interbank Offered Rate (“LIBOR”) for either the pay or receive leg of the swap agreement.

	May 31,					
	2019			2018		
(Dollars in thousands)	Notional Amount	Weighted-Average Rate Paid	Weighted-Average Rate Received	Notional Amount	Weighted-Average Rate Paid	Weighted-Average Rate Received
Pay-fixed swaps	**$ 7,379,280**	**2.83%**	**2.60%**	$ 6,987,999	2.83%	2.30%
Receive-fixed swaps	**3,399,000**	**3.25**	**2.56**	3,824,000	2.93	2.50
Total interest rate swaps	**10,778,280**	**2.97**	**2.58**	10,811,999	2.86	2.37
Forward pay-fixed swaps	**65,000**			256,154		
Total	**$10,843,280**			$11,068,153		

The following table presents the maturities for each of the next five fiscal years and thereafter based on the notional amount of our interest rate swaps as of May 31, 2019.

		Notional Amortization and Maturities					
(Dollars in thousands)	Notional Amount	2020	2021	2022	2023	2024	Thereafter
Interest rate swaps	**$10,843,280**	**$1,311,765**	**$471,500**	**$764,282**	**$337,211**	**$668,924**	**$7,289,598**

Cash Flow Hedge

In anticipation of the repricing of $100 million in notes payable outstanding under the Guaranteed Underwriter Program, we entered into a treasury rate lock agreement with a notional amount of $100 million on May 25, 2018. The agreement, which was scheduled to mature on October 12, 2018, was designated as a cash flow hedge of the forecasted transaction. We recorded an unrealized loss in AOCI of $1 million as of May 31, 2018 related to this cash flow hedge. On September 25, 2018, we terminated this cash flow hedge as the forecasted transaction was no longer expected to occur. Upon termination, the fair value of the derivative had shifted to a gain of $1 million from a loss of $1 million as of May 31, 2018. We reversed the loss recorded in AOCI and recognized the gain in earnings as a component of derivative gains on our consolidated statements of operations.

Impact of Derivatives on Consolidated Balance Sheets

The following table displays the fair value of the derivative assets and derivative liabilities recorded on our consolidated balance sheets and the related outstanding notional amount of our interest rate swaps by derivatives type as of May 31, 2019 and 2018.

	May 31,			
	2019		2018	
(Dollars in thousands)	Fair Value	Notional Balance	Fair Value	Notional Balance
Derivative assets:				
Interest rate swaps	**$ 41,179**	**$ 2,332,104**	$ 244,526	$ 5,264,971
Derivative liabilities:				
Treasury rate lock—cash flow hedge	**$ —**	**$ —**	$ 1,059	$ 100,000
Interest rate swaps	**391,724**	**8,511,176**	274,873	5,803,182
Total derivative liabilities	**$ 391,724**	**$ 8,511,176**	$ 275,932	$ 5,903,182

All of our master swap agreements include netting provisions that allow for offsetting of all contracts with a given counterparty in the event of default by one of the two parties. However, as indicated above, in "Note 1—Summary of Significant Accounting Policies," we report derivative asset and liability amounts on a gross basis by individual contracts. The following table presents the gross fair value of derivative assets and liabilities reported on our consolidated balance sheets as of May 31, 2019 and 2018, and provides information on the impact of netting provisions and collateral pledged.

	May 31, 2019					
				Gross Amount Not Offset in the Balance Sheet		
(Dollars in thousands)	Gross Amount of Recognized Assets/ Liabilities	Gross Amount Offset in the Balance Sheet	Net Amount of Assets/ Liabilities Presented in the Balance Sheet	Financial Instruments	Cash Collateral Pledged	Net Amount
Derivative assets:						
Interest rate swaps	**$ 41,179**	**$ —**	**$ 41,179**	**$ 41,176**	**$ —**	**$ 3**
Derivative liabilities:						
Interest rate swaps	**391,724**	**—**	**391,724**	**41,176**	**—**	**350,548**

	May 31, 2018					
				Gross Amount Not Offset in the Balance Sheet		
(Dollars in thousands)	Gross Amount of Recognized Assets/ Liabilities	Gross Amount Offset in the Balance Sheet	Net Amount of Assets/ Liabilities Presented in the Balance Sheet	Financial Instruments	Cash Collateral Pledged	Net Amount
Derivative assets:						
Interest rate swaps	$ 244,526	$ —	$ 244,526	$ 196,633	$ —	$ 47,893
Derivative liabilities:						
Treasury rate lock—cash flow hedge	1,059		1,059			1,059
Interest rate swaps	274,873	—	274,873	196,633	—	78,240

Impact of Derivatives on Consolidated Statements of Operations

Derivative gains (losses) reported in our consolidated statements of operations consist of derivative cash settlements expense and derivative forward value gains (losses). Derivative cash settlements expense represents net contractual interest expense accruals on interest rate swaps during the period. The derivative forward value gains (losses) represent the change in fair value of our interest rate swaps during the reporting period due to changes in the estimate of future interest rates over the remaining life of our derivative contracts.

The following table presents the components of the derivative gains (losses) reported in our consolidated statements of operations for our interest rate swaps for fiscal years 2019, 2018 and 2017.

	Year Ended May 31,		
(Dollars in thousands)	2019	2018	2017
Derivative gains (losses) attributable to:			
Derivative cash settlements expense	**$ (43,611)**	$ (74,281)	$ (84,478)
Derivative forward value gains (losses)	**(319,730)**	306,002	179,381
Derivative gains (losses)	**$ (363,341)**	$ 231,721	$ 94,903

As noted above, during fiscal year 2018, we entered into a treasury rate lock agreement that was designated as a cash flow hedge of a forecasted transaction. This cash flow hedge was terminated on September 25, 2018 and a gain of $1 million was recorded upon termination as a component of derivative cash settlements expense in on our consolidated statements of operations.

Credit Risk-Related Contingent Features

Our derivative contracts typically contain mutual early-termination provisions, generally in the form of a credit rating trigger. Under the mutual credit rating trigger provisions, either counterparty may, but is not obligated to, terminate and settle the agreement if the credit rating of the other counterparty falls below a level specified in the agreement. If a derivative contract is terminated, the amount to be received or paid by us would be equal to the prevailing fair value, as defined in the agreement, as of the termination date.

Our senior unsecured credit ratings from Moody's and S&P were A2 and A, respectively, as of May 31, 2019. Both Moody's and S&P had our ratings on stable outlook as of May 31, 2019. The following table displays the notional amounts of our derivative contracts with rating triggers as of May 31, 2019, and the payments that would be required if the contracts were terminated as of that date because of a downgrade of our unsecured credit ratings or the counterparty's unsecured credit ratings below A3/A-, below Baa1/BBB+, to or below Baa2/BBB, below Baa3/BBB-, or to or below Ba2/BB+ by Moody's or S&P, respectively. In calculating the payment amounts that would be required upon termination of the derivative contracts, we assumed that the amounts for each counterparty would be netted in accordance with the provisions of the master netting agreements for each counterparty. The net payment amounts are based on the fair value of the underlying derivative instrument, excluding the credit risk valuation adjustment, plus any unpaid accrued interest amounts.

(Dollars in thousands)	Notional Amount	Payable Due from CFC	Receivable Due to CFC	Net (Payable)/ Receivable
Impact of rating downgrade trigger:				
Falls below A3/A-[(1)]	$ 50,460	$ (9,379)	$ —	$ (9,379)
Falls below Baa1/BBB+	7,024,759	(224,501)	5	(224,496)
Falls to or below Baa2/BBB [(2)]	562,062	(7,132)	—	(7,132)
Falls below Baa3/BBB-	221,865	(12,292)	—	(12,292)
Total	$ 7,859,146	$ (253,304)	$ 5	$ (253,299)

[(1)] Rating trigger for CFC falls below A3/A-, while rating trigger for counterparty falls below Baa1/BBB+ by Moody's or S&P, respectively.
[(2)] Rating trigger for CFC falls to or below Baa2/BBB, while rating trigger for counterparty falls to or below Ba2/BB+ by Moody's or S&P, respectively.

We have outstanding notional amount of derivatives with one counterparty subject to a ratings trigger and early termination provision in the event of a downgrade of CFC's senior unsecured credit ratings below Baa3, BBB- or BBB- by Moody's, S&P or Fitch, respectively, which is not included in the above table, totaling $165 million as of May 31, 2019. These contracts were in an unrealized loss position of $20 million as of May 31, 2019.

Our largest counterparty exposure, based on the outstanding notional amount, accounted for approximately 23% and 24% of the total outstanding notional amount of derivatives as of May 31, 2019 and 2018, respectively. The aggregate fair value amount, including the credit valuation adjustment, of all interest rate swaps with rating triggers that were in a net liability position was $266 million as of May 31, 2019.

NOTE 11—EQUITY

Total equity decreased by $202 million to $1,304 million as of May 31, 2019. The decrease was primarily attributable to our reported net loss of $151 million for the year ended May 31, 2019 and the patronage capital retirement of $48 million in August 2018. The following table presents the components of equity as of May 31, 2019 and 2018.

(Dollars in thousands)	May 31, 2019	2018
Membership fees	**$ 969**	$ 969
Educational fund	**2,013**	1,976
Total membership fees and educational fund	**2,982**	2,945
Patronage capital allocated	**860,578**	811,493
Members' capital reserve	**759,097**	687,785
Unallocated net income (loss):		
Prior year-end cumulative derivative forward value losses	**(30,831)**	(332,525)
Current year derivative forward value gains (losses)[1]	**(318,134)**	301,694
Current year-end cumulative derivative forward value losses	**(348,965)**	(30,831)
Other unallocated net income (loss)	**3,190**	(5,603)
Unallocated net income (loss)	**(345,775)**	(36,434)
CFC retained equity	**1,276,882**	1,465,789
Accumulated other comprehensive income (loss)	**(147)**	8,544
Total CFC equity	**1,276,735**	1,474,333
Noncontrolling interests	**27,147**	31,520
Total equity	**$ 1,303,882**	$ 1,505,853

[1] Represents derivative forward value gains (losses) for CFC only, as total CFC equity does not include the noncontrolling interests of the consolidated variable interest entities NCSC and RTFC. See "Note 15—Business Segments" for the statements of operations for CFC.

District of Columbia cooperative law requires cooperatives to allocate net earnings to patrons, to a general reserve in an amount sufficient to maintain a balance of at least 50% of paid-in capital and to a cooperative educational fund, as well as permits additional allocations to board-approved reserves. District of Columbia cooperative law also requires that a cooperative's net earnings be allocated to all patrons in proportion to their individual patronage and each patron's allocation be distributed to the patron unless the patron agrees that the cooperative may retain its share as additional capital. Annually, the CFC Board of Directors allocates its net earnings to its patrons in the form of patronage capital, to a cooperative educational fund, to a general reserve, if necessary, and to board-approved reserves. An allocation to the general reserve is made, if necessary, to maintain the balance of the general reserve at 50% of the membership fees collected. CFC's bylaws require the allocation to the cooperative educational fund to be at least 0.25% of its net earnings. Funds from the cooperative educational fund are disbursed annually to statewide cooperative organizations to fund the teaching of cooperative principles and for other cooperative education programs.

Currently, CFC has one additional board-approved reserve, the members' capital reserve. The CFC Board of Directors determines the amount of net earnings that is allocated to the members' capital reserve, if any. The members' capital reserve represents net earnings that CFC holds to increase equity retention. The net earnings held in the members' capital reserve have not been specifically allocated to members, but may be allocated to individual members in the future as patronage capital if authorized by the CFC Board of Directors.

All remaining net earnings are allocated to CFC's members in the form of patronage capital. The amount of net earnings allocated to each member is based on the member's patronage of CFC's lending programs during the year. No interest is earned by members on allocated patronage capital. There is no effect on CFC's total equity as a result of allocating net earnings to members in the form of patronage capital or to board-approved reserves. The CFC Board of Directors has voted annually to retire a portion of the patronage capital allocation. Upon retirement, patronage capital is paid out in cash to the members to whom it was allocated. CFC's total equity is reduced by the amount of patronage capital retired to its members and by amounts disbursed from board-approved reserves. Net earnings are based on CFC's adjusted net income, which excludes the impact of derivative forward value gains (losses).

The current policy of the CFC Board of Directors is to retire 50% of the prior year's allocated patronage capital and hold the remaining 50% for 25 years. The retirement amount and timing remains subject to annual approval by the CFC Board of Directors.

In July 2019, the CFC Board of Directors authorized the allocation of the fiscal year 2019 net earnings as follows: $97 million to members in the form of patronage, $71 million to the members' capital reserve and $1 million to the cooperative educational fund. In July 2019, the CFC Board of Directors authorized the retirement of allocated net earnings totaling $63 million, consisting of $48 million, which represented 50% of the patronage capital allocation for fiscal year 2019, and $15 million, which represented the portion of the allocation from fiscal year 1994 net earnings that has been held for 25 years pursuant to the CFC Board of Directors policy. We expect to return this amount to members in cash in the first quarter of fiscal year 2020. Future allocations and retirements of net earnings may be made annually as determined by the CFC Board of Directors with due regard for its financial condition. The CFC Board of Directors has the authority to change the current practice for allocating and retiring net earnings at any time, subject to applicable laws and regulations.

In July 2018, the CFC Board of Directors authorized the allocation of the fiscal year 2018 net earnings as follows: $95 million to members in the form of patronage capital, $57 million to the members' capital reserve and $1 million to the cooperative educational fund.

In July 2018, the CFC Board of Directors authorized the retirement of patronage capital totaling $48 million, which represented 50% of the fiscal year 2018 allocation of patronage capital of $95 million. We returned the $48 million to members in cash in August 2018. The remaining portion of the allocated amount will be retained by CFC for 25 years under guidelines adopted by the CFC Board of Directors in June 2009.

Total equity includes noncontrolling interest, which represents 100% of NCSC and RTFC equity, as the members of NCSC and RTFC own or control 100% of the interest in their respective companies. In accordance with District of Columbia cooperative law and its bylaws and board policies, RTFC allocates its net earnings to its patrons, a cooperative educational fund and a general reserve, if necessary. RTFC's bylaws require that it allocate at least 1% of net income to a cooperative educational fund. Funds from the cooperative educational fund are disbursed annually to fund the teaching of cooperative principles and for other cooperative education programs. An allocation to the general reserve is made, if necessary, to maintain the balance of the general reserve at 50% of the membership fees collected. The remainder is allocated to borrowers in proportion to their patronage. RTFC retires at least 20% of its annual allocation, if any, to members in cash prior to filing the applicable tax return. Any additional amounts are retired as determined by the RTFC Board of Directors taking into consideration RTFC's financial condition.

NCSC's bylaws require that it allocate at least 0.25% of its net earnings to a cooperative educational fund and an amount to the general reserve required to maintain the general reserve balance at 50% of membership fees collected. Funds from the cooperative educational fund are disbursed annually to fund the teaching of cooperative principles and for other cooperative education programs.

The NCSC Board of Directors has the authority to determine if and when net earnings will be allocated. There is no effect on noncontrolling interest as a result of NCSC and RTFC allocating net earnings to members or board-approved reserves. There is a reduction to noncontrolling interest as a result of the cash retirement of amounts allocated to members or to disbursements from board-approved reserves.

Accumulated Other Comprehensive Income (Loss)

The following tables summarize, by component, the activity in AOCI as of and for the years ended May 31, 2019 and 2018.

	Year Ended May 31, 2019				
(Dollars in thousands)	Unrealized Gains (Losses) Equity Securities	Unrealized Gains Derivatives	Unrealized Gains (Losses) Cash Flow Hedges	Unrealized Losses Defined Benefit Plan	Total
Beginning balance	**$ 8,794**	**$ 3,039**	**$ (1,059)**	**$ (2,230)**	**$ 8,544**
Cumulative effect of changes from adoption of new accounting standards	**(8,794)**	**—**	**—**	**—**	**(8,794)**
Unrealized gains	**—**	**—**	**1,059**	**—**	**1,059**
Gains reclassified into earnings	**—**	**(468)**	**—**	**(488)**	**(956)**
Other comprehensive income (loss)	**—**	**(468)**	**1,059**	**(488)**	**103**
Ending balance	**$ —**	**$ 2,571**	**$ —**	**$ (2,718)**	**$ (147)**

	Year Ended May 31, 2018				
(Dollars in thousands)	Unrealized Gains (Losses) Equity Securities	Unrealized Gains Derivatives	Unrealized Gains Cash Flow Hedge	Unrealized Losses Defined Benefit Plan	Total
Beginning balance	$ 12,016	$ 3,531	$ 171	$ (2,543)	$ 13,175
Unrealized losses	(3,222)	—	(1,059)	(194)	(4,475)
(Gains) losses reclassified into earnings	—	(492)	(171)	507	(156)
Other comprehensive income (loss)	(3,222)	(492)	(1,230)	313	(4,631)
Ending balance	$ 8,794	$ 3,039	$ (1,059)	$ (2,230)	$ 8,544

We expect to reclassify less than $1 million of amounts in AOCI related to unrealized derivative gains into earnings over the next 12 months.

NOTE 12—EMPLOYEE BENEFITS

National Rural Electric Cooperative Association (“NRECA”) Retirement Security Plan

CFC is a participant in the NRECA Retirement Security Plan (“the Retirement Security Plan”), a multiple-employer defined benefit pension plan. The employer identification number of the Retirement Security Plan is 53-0116145, and the plan number is 333. Plan information is available publicly through the annual Form 5500, including attachments. The Retirement Security Plan is a qualified plan in which all employees are eligible to participate upon completion of one year of service. Under this plan, participating employees are entitled to receive annually, under a 50% joint and surviving spouse annuity, 1.70% of the average of their five highest base salaries during their participation in the plan, multiplied by the number of years of participation in the plan.

The risks of participating in the multiple-employer plan are different from the risks of single-employer plans due to the following characteristics of the plan:

- Assets contributed to the multiple-employer plan by one participating employer may be used to provide benefits to employees of other participating employers.
- If a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers.
- If CFC chooses to stop participating in the plan, CFC may be required to pay a withdrawal liability representing an amount based on the underfunded status of the Plan.

Because of the current funding status of the Retirement Security Plan, it is not subject to a certified zone status determination under the Pension Protection Act of 2006. Based on the Pension Protection Act ("PPA") funding target and PPA actuarial value of the plan assets, it was more than 80% funded as of January 1, 2019, 2018 and 2017. We made contributions to the Retirement Security Plan of $5 million, $5 million and $4 million in fiscal year 2019, 2018 and 2017, respectively. In each of these years, our contribution represented less than 5% of total contributions made to the plan by all participating employers. Our contribution did not include a surcharge. CFC's expense is limited to the annual premium to participate in the Retirement Security Plan. Because it is a multiple-employer plan, there is no funding liability for CFC for the plan. There were no funding improvement plans, rehabilitation plans implemented or pending and no required minimum contributions. There are no collective bargaining agreements in place that cover CFC's employees.

Pension Restoration Plan

The Pension Restoration Plan ("PRP") is a nonqualified defined benefit plan established to provide supplemental benefits to certain eligible employees whose compensation exceeds the IRS limits for the qualified Retirement Security Plan. The PRP restores the value of the Retirement Security Plan for eligible officers to the level it would be if the IRS limits on annual pay and annual annuity benefits were not in place. The limit was $280,000 for calendar year 2019. The PRP which is administered by NRECA, was frozen as of December 31, 2014.

The benefit and payout formula under the nonqualified PRP component of the Retirement Security Plan is similar to that under the qualified plan component. Under the PRP, the amount NRECA invoices us for the Retirement Security Plan is based on the full compensation paid to each covered employee. Upon retirement of an employee covered under the PRP, NRECA will calculate the retirement benefits to be paid both with and without consideration of the IRS compensation limits. We will then pay the nonqualified supplemental benefit to the covered employee. NRECA will provide a credit for supplemental benefit payments made by us to covered employees against future contributions we are required to make to the Retirement Security Plan.

The three participating executive officers have satisfied the provisions established to receive the benefit from this plan. Since there is no longer a risk of forfeiture of the benefit under the PRP, we will make distributions of any earned benefit from the plan to each of the executive officers included in the plan and the distributions will be credited back to us by NRECA. Accordingly, the distributions have no impact on our consolidated financial statements.

Executive Benefit Restoration Plan

NRECA restricted additional participation in the PRP in December 2014. We therefore adopted a supplemental top-hat Executive Benefit Restoration ("EBR") Plan, effective January 1, 2015. The EBR Plan is a nonqualified, unfunded plan maintained by CFC to provide retirement benefits to a select group of executive officers whose compensation exceeds IRS limits for qualified defined benefit plans. There is a risk of forfeiture if participants leave the company prior to becoming fully vested in the EBR Plan. There were eight plan participants as of May 31, 2019. The unfunded projected benefit obligation of this plan, which is included on our consolidated balance sheets as a component of other liabilities, was $6 million and $4 million as of May 31, 2019 and 2018, respectively. We recognized pension expense for this plan of approximatively $1 million in each of fiscal years 2019, 2018 and 2017.

Defined Contribution Plan

CFC offers a 401(k) defined contribution savings program, the 401(k) Pension Plan, to all employees who have completed a minimum of 1,000 hours of service in either the first 12 consecutive months or first full calendar year of employment. We contribute an amount up to 2% of an employee's salary each year for all employees participating in the program with a minimum 2% employee contribution. We contributed approximatively $1 million to the plan in each of fiscal years 2019, 2018 and 2017.

NOTE 13—GUARANTEES

We guarantee certain contractual obligations of our members so they may obtain various forms of financing. We use the same credit policies and monitoring procedures in providing guarantees as we do for loans and commitments. If a member system defaults on its obligation to pay debt service, then we are obligated to pay any required amounts under our guarantees. Meeting our guarantee obligations satisfies the underlying obligation of our member systems and prevents the exercise of remedies by the guarantee beneficiary based upon a payment default by a member system. In general, the member system is required to repay any amount advanced by us with interest, pursuant to the documents evidencing the member system's reimbursement obligation.

The following table summarizes total guarantees, by type of guarantee and by member class, as of May 31, 2019 and 2018.

	May 31,	
(Dollars in thousands)	**2019**	**2018**
Total by type:		
Long-term tax-exempt bonds[1]	**$ 312,190**	$ 316,985
Letters of credit[2]	**379,001**	343,970
Other guarantees	**146,244**	144,206
Total	**$ 837,435**	$ 805,161
Total by member class:		
CFC:		
Distribution	**$ 235,919**	$ 201,993
Power supply	**586,717**	587,837
Statewide and associate	**3,481**	3,326
CFC total	**826,117**	793,156
NCSC	**8,714**	10,431
RTFC	**2,604**	1,574
Total	**$ 837,435**	$ 805,161

[1]Represents the outstanding principal amount of long-term fixed-rate and variable-rate guaranteed bonds.
[2]Reflects our maximum potential exposure for letters of credit.

We guarantee debt issued in connection with the construction or acquisition of pollution control, solid waste disposal, industrial development and electric distribution facilities, classified as long-term tax-exempt bonds in the table above. We unconditionally guarantee to the holders or to trustees for the benefit of holders of these bonds the full principal, interest, and in most cases, premium, if any, on each bond when due. If a member system defaults in its obligation to pay debt service, then we are obligated to pay any required amounts under our guarantees. Such payment will prevent the occurrence of an event of default that would otherwise permit acceleration of the bond issue. In general, the member system is required to repay any amount advanced by us with interest, pursuant to the documents evidencing the member system's reimbursement obligation.

Long-term tax-exempt bonds of $312 million and $317 million as of May 31, 2019 and 2018, respectively, included $247 million and $250 million, respectively, of adjustable or variable-rate bonds that may be converted to a fixed rate as specified in the applicable indenture for each bond offering. We are unable to determine the maximum amount of interest that we may be required to pay related to the remaining adjustable and variable-rate bonds. Many of these bonds have a call provision that allows us to call the bond in the event of a default, which would limit our exposure to future interest payments on these bonds. Our maximum potential exposure generally is secured by mortgage liens on the members' assets and future revenue.

If a member's debt is accelerated because of a determination that the interest thereon is not tax-exempt, the member's obligation to reimburse us for any guarantee payments will be treated as a long-term loan. The remaining long-term tax-exempt bonds of $65 million as of May 31, 2019 are fixed-rate. The maximum potential exposure for these bonds, including the outstanding principal of $65 million and related interest through maturity, totaled $91 million as of May 31, 2019. The maturities for long-term tax-exempt bonds and the related guarantees extend through calendar year 2042.

Of the outstanding letters of credit of $379 million and $344 million as of May 31, 2019 and 2018, respectively, $126 million and $120 million, respectively, were secured. We did not have any letters of credit outstanding that provided for standby liquidity for adjustable and floating-rate tax-exempt bonds issued for the benefit of our members as of May 31, 2019. The maturities for the outstanding letters of credit as May 31, 2019 extend through calendar year 2038.

In addition to the letters of credit listed in the table above, under master letter of credit facilities in place as of May 31, 2019, we may be required to issue up to an additional $53 million in letters of credit to third parties for the benefit of our members. All of our master letter of credit facilities were subject to material adverse change clauses at the time of issuance as of May 31, 2019. Prior to issuing a letter of credit, we would confirm that there has been no material adverse change in the business or condition, financial or otherwise, of the borrower since the time the loan was approved and confirm that the borrower is currently in compliance with the letter of credit terms and conditions.

The maximum potential exposure for other guarantees was $147 million and $145 million as of May 31, 2019 and 2018, respectively, all of which were unsecured. The maturities for these other guarantees listed in the table above extend through calendar year 2025.

Guarantees under which our right of recovery from our members was not secured totaled $374 million and $344 million and represented 45% and 43% of total guarantees as of May 31, 2019 and 2018, respectively.

In addition to the guarantees described above, we were also the liquidity provider for $247 million of variable-rate tax-exempt bonds as of May 31, 2019, issued for our member cooperatives. While the bonds are in variable-rate mode, in return for a fee, we have unconditionally agreed to purchase bonds tendered or put for redemption if the remarketing agents are unable to sell such bonds to other investors. We were not required to perform as liquidity provider pursuant to these obligations during fiscal years 2019, 2018 or 2017.

Guarantee Liability

As of May 31, 2019 and 2018, we recorded a guarantee liability of $14 million and $11 million, respectively, which represents the contingent and noncontingent exposures related to guarantees and liquidity obligations. The contingent guarantee liability was $1 million as of both May 31, 2019 and 2018, based on management's estimate of exposure to losses within the guarantee portfolio. The remaining balance of the total guarantee liability of $13 million and $10 million as of May 31, 2019 and 2018, respectively, relates to our noncontingent obligation to stand ready to perform over the term of our guarantees and liquidity obligations that we have entered into or modified since January 1, 2003.

The following table details the scheduled maturities of our outstanding guarantees in each of the five fiscal years following May 31, 2019 and thereafter:

(Dollars in thousands)		Amount Maturing
2020	$	**246,143**
2021		**133,015**
2022		**30,882**
2023		**159,059**
2024		**31,162**
Thereafter		**237,174**
Total	$	**837,435**

NOTE 14—FAIR VALUE MEASUREMENT

We use fair value measurements for the initial recording of certain assets and liabilities and periodic remeasurement of certain assets and liabilities on a recurring or nonrecurring basis. The accounting guidance for fair value measurements and disclosures establishes a three-level fair value hierarchy that prioritizes the inputs into the valuation techniques used to measure fair value. The levels of the fair value hierarchy, in priority order, include Level 1, Level 2 and Level 3. We describe the valuation technique for each level in "Note 1—Summary of Significant Accounting Policies." The following tables present the carrying value and fair value for all of our financial instruments, including those carried at amortized cost, as of May 31, 2019 and 2018. The tables also display the classification within the fair value hierarchy of the valuation technique used in estimating fair value.

	May 31, 2019		Fair Value Measurement Level		
(Dollars in thousands)	Carrying Value	Fair Value	Level 1	Level 2	Level 3
Assets:					
Cash and cash equivalents	$ 177,922	$ 177,922	$ 177,922	$ —	$ —
Restricted cash	8,282	8,282	8,282	—	—
Equity securities	87,533	87,533	87,533	—	—
Debt securities held-to-maturity	565,444	570,549	—	570,549	—
Deferred compensation investments	4,984	4,984	4,984	—	—
Loans to members, net	25,899,369	25,743,503	—	—	25,743,503
Accrued interest receivable	133,605	133,605	—	133,605	—
Debt service reserve funds	17,151	17,151	17,151	—	—
Derivative assets	41,179	41,179	—	41,179	—
Liabilities:					
Short-term borrowings	$ 3,607,726	$ 3,608,259	$ —	$ 3,608,259	$ —
Long-term debt	19,210,793	20,147,183	—	11,482,715	8,664,468
Accrued interest payable	158,997	158,997	—	158,997	—
Guarantee liability	13,666	13,307	—	—	13,307
Derivative liabilities	391,724	391,724	—	391,724	—
Subordinated deferrable debt	986,020	1,004,707	—	1,004,707	—
Members' subordinated certificates	1,357,129	1,357,129	—	—	1,357,129

	May 31, 2018		Fair Value Measurement Level		
(Dollars in thousands)	Carrying Value	Fair Value	Level 1	Level 2	Level 3
Assets:					
Cash and cash equivalents	$ 230,999	$ 230,999	$ 230,999	$ —	$ —
Restricted cash	7,825	7,825	7,825	—	—
Time deposits	100,000	100,000	—	100,000	—
Equity securities	89,332	89,332	89,332	—	—
Debt securities held-to-maturity	520,519	516,546		516,546	
Deferred compensation investments	5,194	5,194	5,194	—	—
Loans to members, net	25,159,807	24,167,886	—	—	24,167,886
Accrued interest receivable	127,442	127,442	—	127,442	—
Debt service reserve funds	17,151	17,151	17,151	—	—
Derivative assets	244,526	244,526	—	244,526	—
Liabilities:					
Short-term borrowings	$ 3,795,910	$ 3,795,799	$ —	$ 3,695,799	$ 100,000
Long-term debt	18,714,960	18,909,276	—	11,373,216	7,536,060
Accrued interest payable	149,284	149,284	—	149,284	—
Guarantee liability	10,589	10,454	—	—	10,454
Derivative liabilities	275,932	275,932	—	275,932	—
Subordinated deferrable debt	742,410	766,088	—	766,088	—
Members' subordinated certificates	1,379,982	1,380,004	—	—	1,380,004

On June 1, 2018, we adopted the accounting guidance on the overall recognition and measurement of financial assets and financial liabilities. This guidance eliminated the requirement to disclose the methods and significant assumptions used to estimate the fair value of financial instruments that are measured at amortized cost on the consolidated balance sheet, except for loans receivable where the fair value is not based on exit price. The guidance did not, however, eliminate the requirement to describe the valuation techniques used in estimating the fair value of financial instruments recorded at fair value on a recurring basis.

Loans to Members, Net

Because of the interest rate repricing options we provide to borrowers on loan advances and other characteristics of our loans, there is no ready market from which to obtain fair value quotes or observable inputs for similar loans. As a result, we are unable to use the exit price to estimate the fair value of loans to members. We therefore estimate fair value for fixed-rate loans by discounting the expected future cash flows based on the current rate at which we would make a similar new loan for the same remaining maturity to a borrower. The assumed maturity date used in estimating the fair value of loans with a fixed rate for a selected rate term is the next repricing date because at the repricing date, the loan will reprice at the current market rate. The carrying value of our variable-rate loans adjusted for credit risk approximates fair value since variable-rate loans are eligible to be reset at least monthly.

The fair value of loans with different risk characteristics, specifically nonperforming and restructured loans, is estimated using collateral valuations or by adjusting cash flows for credit risk and discounting those cash flows using the current rates at which similar loans would be made by us to borrowers for the same remaining maturities. See below for information on how we estimate the fair value of certain impaired loans.

Recurring Fair Value Measurements

The following table presents the carrying value and fair value of financial instruments reported in our consolidated financial statements at fair value on a recurring basis as of May 31, 2019 and 2018 and the classification of the valuation technique within the fair value hierarchy.

	May 31,					
	2019			2018		
(Dollars in thousands)	Level 1	Level 2	Total	Level 1	Level 2	Total
Equity securities	**$ 87,533**	**$ —**	**$ 87,533**	$ 89,332	$ —	$ 89,332
Deferred compensation investments	**4,984**	**—**	**4,984**	5,194	—	5,194
Derivative assets	**—**	**41,179**	**41,179**	—	244,526	244,526
Derivative liabilities	**—**	**391,724**	**391,724**	—	275,932	275,932

Below is a description of the valuation techniques we use to estimate fair value of our financial assets and liabilities recorded at fair value on a recurring basis, the significant inputs used in those techniques, if applicable, and the classification within the fair value hierarchy.

Equity Securities

Our investments in equity securities consist of investments in Farmer Mac Class A common stock and Series A, Series B and Series C preferred stock. These securities are reported at fair value in our consolidated balance sheets. We determine the fair value based on quoted prices on the stock exchange where the stock is traded. That stock exchange with respect to Farmer Mac Class A common stock is an active market based on the volume of shares transacted. Fair values for these securities are classified within Level 1 of the fair value hierarchy.

Deferred Compensation Investments

CFC offers a nonqualified 457(b) deferred compensation plan to highly compensated employees. Such amounts deferred by employees are invested by the company. The deferred compensation investments are presented as other assets in the consolidated balance sheets in the other assets category at fair value. We calculate fair value based on the daily published and quoted net asset value and these investments are classified within Level 1 of the fair value hierarchy.

Derivative Instruments

Our derivatives primarily consist of over-the-counter interest rate swaps. All of our swap agreements are subject to master netting agreements. There is not an active secondary market for the types of interest rate swaps we use. We determine the fair value of our derivatives using models that incorporate observable market inputs, such as spot LIBOR rates, Eurodollar futures contracts and market swap rates. These inputs can vary depending on the type of derivative and nature of the underlying rate, price or index upon which the derivative's value is based. The impact of counterparty nonperformance risk is considered when measuring the fair value of derivative assets. Internal pricing is compared against additional pricing sources, such as external valuation agents and other sources. Pricing variances among different pricing sources are analyzed and validated. The technique for determining the fair value for our interest rate swaps is classified as Level 2.

Transfers Between Levels

We monitor the availability of observable market data to assess the appropriate classification of financial instruments within the fair value hierarchy and transfer between Level 1, Level 2 and Level 3 accordingly. Observable market data includes, but is not limited to, quoted prices and market transactions. Changes in economic conditions or market liquidity generally will drive changes in availability of observable market data. Changes in availability of observable market data, which also may result in changes in the valuation technique used, are generally the cause of transfers between levels. We did not have any transfers between levels for financial instruments measured at fair value on a recurring basis during the fiscal years ended May 31, 2019 and 2018.

Nonrecurring Fair Value Measurements

We may be required, from time to time, to measure certain assets at fair value on a nonrecurring basis on our consolidated balance sheets. These assets are not measured at fair value on an ongoing basis but are subject to fair value adjustments in certain circumstances, such as in the application of lower of cost or fair value accounting or when we evaluate for impairment. Assets measured at fair value on a nonrecurring basis and still held as of May 31, 2019 and 2018 consisted of certain impaired loans. Fair value measurement adjustments for individually impaired loans are recorded in the provision for loan losses on our consolidated statements of operations. The fair value of these assets is determined based on the use of significant unobservable inputs, which are considered Level 3 in the fair value hierarchy. We did not have any nonrecurring fair value measurement adjustments recorded in earnings attributable to these assets during fiscal years 2019, 2018 or 2017.

Significant Unobservable Level 3 Inputs

Impaired Loans

We utilize the fair value of estimated cash flows or the collateral underlying the loan to determine the fair value and specific allowance for impaired loans. The valuation technique used to determine fair value of the impaired loans provided by both our internal staff and third-party specialists includes market multiples (i.e., comparable companies). The significant unobservable inputs used in the determination of fair value for individually impaired loans is a multiple of earnings before interest, taxes, depreciation and amortization based on various factors (i.e., financial condition of the borrower). In estimating the fair value of the collateral, we may use third-party valuation specialists, internal estimates or a combination of both. The significant unobservable inputs for estimating the fair value of impaired collateral-dependent loans are reviewed by our Credit Risk Management group to assess the reasonableness of the assumptions used and the accuracy of the work performed. In cases where we rely on third-party inputs, we use the final unadjusted third-party valuation analysis as support for any adjustments to our consolidated financial statements and disclosures.

Because of the limited amount of impaired loans as of May 31, 2019 and 2018, we do not believe that potential changes in the significant unobservable inputs used in the determination of the fair value for impaired loans will have a material impact on the fair value measurement of these assets or our results of operations.

NOTE 15—BUSINESS SEGMENTS

Our consolidated financial statements include the financial results of CFC, NCSC and RTFC and certain entities created and controlled by CFC to hold foreclosed assets. Separate financial statements are produced for CFC, NCSC and RTFC and are the primary reports that management reviews in evaluating performance. The separate financial statements for CFC represent the consolidation of the financial results for CFC and the entities controlled by CFC. For more detail on the requirement to consolidate the financial results of NCSC and RTFC see “Note 1—Summary of Significant Accounting Policies.”

The consolidated CFC financial statements include three operating segments: CFC, NCSC and RTFC. The NCSC and RTFC operating segments are not required to be separately reported as the financial results of NCSC and RTFC do not meet the quantitative thresholds outlined by the accounting standards for segment reporting as of May 31, 2019. As a result, we have elected to aggregate the NCSC and RTFC financial results into a combined “Other” segment. CFC is the primary source of funding to NCSC. CFC is the sole source of funding to RTFC. Pursuant to a guarantee agreement, CFC has agreed to indemnify NCSC and RTFC for loan losses. The loan loss allowance at NCSC and RTFC is offset by a guarantee receivable from CFC.

The following tables display segment results for the years ended May 31, 2019, 2018 and 2017, and assets attributable to each segment as of May 31, 2019 and 2018.

	Year Ended May 31, 2019			
(Dollars in thousands)	CFC	Other	Elimination	Consolidated
Statement of operations:				
Interest income	$ 1,126,869	$ 51,741	$ (42,940)	$ 1,135,670
Interest expense	(835,491)	(43,658)	42,940	(836,209)
Net interest income	291,378	8,083	—	299,461
Benefit for loan losses	1,266	—	—	1,266
Net interest income after benefit for loan losses	292,644	8,083	—	300,727
Non-interest income (loss):				
Fee and other income	20,515	2,655	(7,815)	15,355
Derivative losses:				
Derivative cash settlements expense	(42,618)	(993)	—	(43,611)
Derivative forward value losses	(318,135)	(1,595)	—	(319,730)
Derivative losses	(360,753)	(2,588)	—	(363,341)
Unrealized losses on equity securities	(1,799)	—	—	(1,799)
Total non-interest income (loss)	(342,037)	67	(7,815)	(349,785)
Non-interest expense:				
General and administrative expenses	(91,063)	(8,477)	6,374	(93,166)
Losses on early extinguishment of debt	(7,100)	—	—	(7,100)
Other non-interest expense	(1,675)	(1,441)	1,441	(1,675)
Total non-interest expense	(99,838)	(9,918)	7,815	(101,941)
Loss before income taxes	(149,231)	(1,768)	—	(150,999)
Income tax expense	—	(211)	—	(211)
Net loss	$ (149,231)	$ (1,979)	$ —	$ (151,210)

	May 31, 2019			
	CFC	Other	Elimination	Consolidated
Assets:				
Total loans outstanding	$ 25,877,305	$ 1,087,988	$ (1,059,629)	$ 25,905,664
Deferred loan origination costs	11,240	—	—	11,240
Less: Allowance for loan losses	(17,535)	—	—	(17,535)
Loans to members, net	25,871,010	1,087,988	(1,059,629)	25,899,369
Other assets	1,214,045	104,890	(93,932)	1,225,003
Total assets	$ 27,085,055	$ 1,192,878	$ (1,153,561)	$ 27,124,372

(Dollars in thousands)	Year Ended May 31, 2018 CFC	Other	Elimination	Consolidated
Statement of operations:				
Interest income	$ 1,067,016	$ 49,182	$ (38,841)	$ 1,077,357
Interest expense	(791,836)	(39,740)	38,841	(792,735)
Net interest income	275,180	9,442	—	284,622
Benefit for loan losses	18,575	—	—	18,575
Net interest income after benefit for loan losses	293,755	9,442	—	303,197
Non-interest income:				
Fee and other income	17,369	1,372	(1,163)	17,578
Derivative gains (losses):				
Derivative cash settlements expense	(71,906)	(2,375)	—	(74,281)
Derivative forward value gains	301,694	4,308	—	306,002
Derivative gains	229,788	1,933	—	231,721
Total non-interest income	247,157	3,305	(1,163)	249,299
Non-interest expense:				
General and administrative expenses	(83,783)	(7,101)	—	(90,884)
Other non-interest expense	(1,943)	(1,163)	1,163	(1,943)
Total non-interest expense	(85,726)	(8,264)	1,163	(92,827)
Income before income taxes	455,186	4,483	—	459,669
Income tax expense	—	(2,305)	—	(2,305)
Net income	$ 455,186	$ 2,178	$ —	$ 457,364

	May 31, 2018 CFC	Other	Elimination	Consolidated
Assets:				
Total loans outstanding	$ 25,134,384	$ 1,149,575	$ (1,116,465)	$ 25,167,494
Deferred loan origination costs	11,114	—	—	11,114
Less: Allowance for loan losses	(18,801)	—	—	(18,801)
Loans to members, net	25,126,697	1,149,575	(1,116,465)	25,159,807
Other assets	1,520,118	106,455	(96,176)	1,530,397
Total assets	$ 26,646,815	$ 1,256,030	$ (1,212,641)	$ 26,690,204

	Year Ended May 31, 2017			
(Dollars in thousands)	CFC	Other	Elimination	Consolidated
Statement of operations:				
Interest income	$ 1,026,302	$ 43,502	$ (33,170)	$ 1,036,634
Interest expense	(740,695)	(34,250)	33,207	(741,738)
Net interest income	285,607	9,252	37	294,896
Provision for loan losses	(5,978)	—	—	(5,978)
Net interest income after provision for loan losses	279,629	9,252	37	288,918
Non-interest income:				
Fee and other income	18,858	3,528	(2,673)	19,713
Derivative gains (losses):				
Derivative cash settlements expense	(81,489)	(2,989)	—	(84,478)
Derivative forward value gains	175,379	4,002	—	179,381
Derivative gains	93,890	1,013	—	94,903
Results of operations from foreclosed assets	(1,749)	—	—	(1,749)
Total non-interest income	110,999	4,541	(2,673)	112,867
Non-interest expense:				
General and administrative expenses	(78,965)	(7,261)	—	(86,226)
Gains on early extinguishment of debt	192	—	—	192
Other non-interest expense	(1,949)	(2,635)	2,636	(1,948)
Total non-interest expense	(80,722)	(9,896)	2,636	(87,982)
Income before income taxes	309,906	3,897	—	313,803
Income tax expense	—	(1,704)	—	(1,704)
Net income	$ 309,906	$ 2,193	$ —	$ 312,099

Selected Quarterly Financial Data (Unaudited)

Condensed quarterly financial information for fiscal years May 31, 2019 and 2018 is presented below.

	Fiscal Year May 31, 2019				
(Dollars in thousands)	**Aug 31, 2018**	**Nov 30, 2018**	**Feb 28, 2019**	**May 31, 2019**	**Total**
Interest income	**$ 278,491**	**$ 281,253**	**$ 285,566**	**$ 290,360**	**$ 1,135,670**
Interest expense	**(210,231)**	**(204,166)**	**(207,335)**	**(214,477)**	**(836,209)**
Net interest income	**68,260**	**77,087**	**78,231**	**75,883**	**299,461**
Benefit (provision) for loan losses	**109**	**1,788**	**(182)**	**(449)**	**1,266**
Net interest income after benefit (provision) for loan losses	**68,369**	**78,875**	**78,049**	**75,434**	**300,727**
Non-interest income (loss):					
Derivative gains (losses)	**7,183**	**63,343**	**(132,174)**	**(301,693)**	**(363,341)**
Other non-interest income	**3,185**	**4,321**	**3,714**	**2,336**	**13,556**
Total non-interest income (loss)	**10,368**	**67,664**	**(128,460)**	**(299,357)**	**(349,785)**
Non-interest expense	**(30,699)**	**(26,570)**	**(21,209)**	**(23,463)**	**(101,941)**
Income (loss) before income taxes	**48,038**	**119,969**	**(71,620)**	**(247,386)**	**(150,999)**
Income tax expense (benefit)	**(60)**	**(243)**	**149**	**(57)**	**(211)**
Net income (loss)	**47,978**	**119,726**	**(71,471)**	**(247,443)**	**(151,210)**
Less: Net (income) loss attributable to noncontrolling interests	**(13)**	**(466)**	**539**	**1,919**	**1,979**
Net income (loss) attributable to CFC	**$ 47,965**	**$ 119,260**	**$ (70,932)**	**$ (245,524)**	**$ (149,231)**

	Fiscal Year May 31, 2018				
(Dollars in thousands)	**Aug 31, 2017**	**Nov 30, 2017**	**Feb 28, 2018**	**May 31, 2018**	**Total**
Interest income	$ 265,915	$ 265,823	$ 271,468	$ 274,151	$ 1,077,357
Interest expense	(192,731)	(195,170)	(198,071)	(206,763)	(792,735)
Net interest income	73,184	70,653	73,397	67,388	284,622
Benefit (provision) for loan losses	298	304	(1,105)	19,078	18,575
Net interest income after benefit (provision) for loan losses	73,482	70,957	72,292	86,466	303,197
Non-interest income (loss):					
Derivative gains (losses)	(46,198)	125,593	168,048	(15,722)	231,721
Other non-interest income	3,921	5,532	3,935	4,190	17,578
Total non-interest income (loss)	(42,277)	131,125	171,983	(11,532)	249,299
Non-interest expense	(22,158)	(22,532)	(22,614)	(25,523)	(92,827)
Income before income taxes	9,047	179,550	221,661	49,411	459,669
Income tax expense	(32)	(827)	(632)	(814)	(2,305)
Net income	9,015	178,723	221,029	48,597	457,364
Less: Net (income) loss attributable to noncontrolling interest	118	(1,150)	(1,614)	468	(2,178)
Net income attributable to CFC	$ 9,133	$ 177,573	$ 219,415	$ 49,065	$ 455,186

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Senior management, including the Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934. At the end of the period covered by this Report, based on this evaluation process, the Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures are effective at the reasonable assurance level.

Management's Report on Internal Control Over Financial Reporting

The management of National Rural Utilities Cooperative Finance Corporation ("we", "our" or "us") is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. Our internal control over financial reporting is designed under the supervision of management, including the Chief Executive Officer and Chief Financial Officer, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. Our 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;

(ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of ours are being made only in accordance with authorizations of management and our directors;

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or dispositions of our assets that could have a material effect on our financial statements; and

(iv) ensure disclosure controls and procedures include, without limitation, controls and procedures designed to provide reasonable assurance that information required to be disclosed by us in reports filed under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure.

Any system of internal control, no matter how well designed, has inherent limitations, including but not limited to the possibility that a control can be circumvented or overridden and misstatements due to error or fraud may occur and not be detected. Also, because of changes in conditions, internal control effectiveness may vary over time. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Our management assessed the effectiveness of internal control over financial reporting as of May 31, 2019. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework ("2013 Framework").

Based on management's assessment and those criteria, management believes that we maintained effective internal control over financial reporting as of May 31, 2019.

This annual report on Form 10-K does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to the rules of the U.S. Securities and Exchange Commission that permit us to furnish only management's report with this annual report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during our last fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

By:	/s/ SHELDON C. PETERSEN	By:	/s/ J. ANDREW DON
	Sheldon C. Petersen Chief Executive Officer		J. Andrew Don Senior Vice President and Chief Financial Officer
	July 31, 2019		July 31, 2019

By:	/s/ ROBERT E. GEIER
	Robert E. Geier Vice President and Controller
	July 31, 2019

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

(a) Directors

Name	Age	Director Since	Date Present Term Expires
Kent D. Farmer (President of CFC)	61	2014	2020
Dean R. Tesch (Vice President of CFC)	57	2015	2021
Alan W. Wattles (Secretary-Treasurer of CFC)	53	2016	2022
Thomas A. Bailey	77	2019	2022
Robert Brockman	69	2015	2019
Chris D. Christensen	55	2019	2022[(1)]
David E. Felkel	58	2018	2021
Dennis Fulk	68	2019	2022
Barbara E. Hampton	57	2019	2022
Doyle Jay Hanson	73	2015	2021
Thomas L. Hayes	63	2014	2020
Bradley P. Janorschke	55	2019	2022
Jimmy A. LaFoy	78	2015	2021
G. Anthony Norton	67	2019	2022
Debra L. Robinson	61	2016	2019
Timothy Rodriguez	58	2018	2021
Bradley J. Schardin	59	2015	2021
Marsha L. Thompson	64	2017	2020
Stephen C. Vail	60	2014	2020
Bruce A. Vitosh	53	2017	2020
Todd P. Ware	53	2015	2021
Gregory D. Williams	60	2015	2020
Curtis Wynn	55	2017	2021[(1)]

(1) Pursuant to CFC's bylaws, NRECA determines the method of director election and length of term for the seat occupied by this director.

Under CFC's bylaws, the board of directors shall be composed of the following individuals:
- 20 directors, which must include one general manager and one director of a member system from each of 10 districts (but no more than one director from each state except in a district where only one state has members);
- two directors designated by NRECA; and
- if the board determines at its discretion that an at-large director shall be elected, one at-large director who satisfies the requirements of an Audit Committee financial expert as defined by the Sarbanes-Oxley Act of 2002 and is a trustee, director, manager, Chief Executive Officer or Chief Financial Officer of a member.

The 20 district-level directors are each elected by a vote of the members within the district for which the director serves. The at-large director who satisfies the requirements of an Audit Committee financial expert is elected by the vote of all members. All CFC directors, other than the two directors designated by NRECA, are elected for a three-year term and can serve a maximum of two consecutive terms. Each CFC member (other than associates) is entitled to one vote with respect to elections of directors in their districts.

(b) Executive Officers

Title	Name	Age	Held Present Office Since[1]
President and Director	Kent D. Farmer	61	2019
Vice President and Director	Dean R. Tesch	57	2019
Secretary-Treasurer and Director	Alan W. Wattles	53	2019
Chief Executive Officer	Sheldon C. Petersen	66	1995
Senior Vice President and Chief Financial Officer	J. Andrew Don	59	2014
Senior Vice President & Chief Administrative Officer	Graceann D. Clendenen	61	2019
Senior Vice President, Member Services	Joel Allen	53	2014
Senior Vice President and General Counsel	Roberta B. Aronson	61	2014
Senior Vice President, Credit Risk Management	John M. Borak	74	2003
Senior Vice President, Corporate Relations	Brad L. Captain	49	2014
Senior Vice President, Strategic Services	Steven M. Kettler	60	2014
Senior Vice President, Loan Operations	Robin C. Reed	57	2016
Senior Vice President, Business and Industry Development	Gregory Starheim	56	2016

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[1] Refers to fiscal year.

The President, Vice President and Secretary-Treasurer are elected annually by the board of directors at its first organizational meeting immediately following CFC's annual membership meeting, each to serve a term of one year; the Chief Executive Officer serves at the pleasure of the board of directors; and the other Executive Officers serve at the pleasure of the Chief Executive Officer.

(c) Identification of Certain Significant Employees

Not applicable.

(d) Family Relationships

No family relationship exists between any director or executive officer and any other director or executive officer of the registrant.

(e) (1) and (2) Business Experience and Directorships

Mr. Farmer has been the president and CEO of Rappahannock Electric Cooperative in Fredericksburg, Virginia, since 2004 and has been employed there in various roles, including chief operating officer and chief financial officer, since 1979. Mr. Farmer has been the vice chairman of the Old Dominion Electric Cooperative Board of Directors since July 2014 and on the University of Mary Washington Business Advisory Board since 2013. He has served as a board member of the Virginia, Maryland and Delaware Association of Electric Cooperatives since 2004. As the president and CEO of Rappahannock Electric Cooperative, Mr. Farmer has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Farmer has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Tesch has served as board chairman of Taylor Electric Cooperative in Stetsonville, Wisconsin, since August 2014. Mr. Tesch also served as a director for the cooperative's wholesale power supplier, Dairyland Power Cooperative, headquartered in La Crosse, Wisconsin, from June 2014 to June 2019. Mr. Tesch has been a certified financial planner since 2000 and is a former elementary school teacher. From 2010 to January 2019 he served as a member of the Certified Financial Planners Board Item Writing Group. As the board chairman of Taylor Electric Cooperative, Mr. Tesch has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Tesch has the qualifications, skills and experience necessary to act in the best interest of CFC and to serve as a director on the CFC board.

Mr. Wattles has been president and chief executive officer of Monroe County Electric Co-Operative in Waterloo, Illinois since 2002. He has been a board member of Southern Illinois Power Cooperative since 2002. As president and chief executive officer of Monroe County Electric Co-Operative, Mr. Wattles has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Wattles has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Bailey has served as a director of Vermont Electric Cooperative in Johnson, Vermont since January 2004. From 2006 to 2015 Mr. Bailey served as board president of Vermont Electric Cooperative. He has operated a real estate investment business since 2009. As a director of Vermont Electric Cooperative, Mr. Bailey has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Bailey has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Brockman has been a director at Wheatland Rural Electric Association in Wheatland, Wyoming since 2006. He has served as president and real estate broker for Keyhole Land Co. in Wheatland, Wyoming, since 1988. As a director of Wheatland Rural Electric Association, Mr. Brockman has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Brockman has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Christensen has served as a director of Norval Electric Cooperative, Inc. in Glasgow, Montana since 2004. Mr. Christensen has also served as a director of the NRECA Board of Directors since 2014, and has served as NRECA board vice president since March 2019. He has been a self-employed rancher since 1979. As a director of Norval Electric Cooperative, Inc. and NRECA, Mr. Christensen has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Christensen has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Felkel has been president and CEO of Edisto Electric Cooperative, Inc. in Bamberg, South Carolina since 1997. He has been a trustee on the Board of Trustees of Central Electric Power Cooperative since 1997. As the president and CEO of Edisto Electric Cooperative, Mr. Felkel has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Felkel has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC Board.

Mr. Fulk has served as a director of Platte-Clay Electric Cooperative in Kearney, Missouri since 1993, including serving as board President from 2000 to 2015. He served as a director of NW Electric Cooperative from 2014 until April 2019, serving as board Vice President from 2011 to April 2019. Mr. Fulk also served as a director of the Association of Missouri Electric Cooperatives from 2000 until 2015, serving as board President from 2010 to 2011. As a director of Platte-Clay Electric Cooperative, Mr. Fulk has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Fulk has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mrs. Hampton has served as the Senior Vice President, CFO at Georgia Transmission Corporation in Tucker, Georgia since 2005. Mrs. Hampton has been a Certified Public Accountant since 1990. As Senior Vice President, CFO of Georgia Transmission Corporation, Mrs. Hampton has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mrs. Hampton has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board. We believe Mrs. Hampton's experience with accounting principles, financial reporting rules and regulations and evaluating financial results makes her qualified to serve as CFC's Audit Committee financial expert as defined by Section 407 of the Sarbanes-Oxley Act of 2002.

Mr. Hanson has been a director of Fall River Rural Electric Cooperative in Ashton, Idaho since 2005. From 1968 until 2001 Mr. Hanson served as a cooperative extension agent for the University of Idaho and University of Wyoming. He also chaired the Idaho Consumer-Owned Utilities Association Nominating Committee from 2013 until 2014. As a director of Fall River Rural Electric Cooperative, Mr. Hanson has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Hanson has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Hayes has been a director of Brown County Rural Electrical Association in Sleepy Eye, Minnesota since 1997. Mr. Hayes also served as the vice president of Brown County Rural Electrical Association from March 2014 to March 2016 and as president from 2004 to March 2014. He has been a self-employed farmer since 1973. Mr. Hayes was a director and utility committee chair of Cooperative Network from 1998 to 2014. As the president of Brown County Rural Electrical Association, Mr. Hayes has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Hayes has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Janorschke has been the General Manager at Homer Electric Association, Inc. in Homer, Alaska since 2004. He has also been the General Manager of Alaska Electric and Energy Cooperative in Homer, Alaska, since 2004. Mr. Janorschke has also served on the Board of Trustees of the Northwest Public Power Association in Vancouver, Washington, since 2014. As the General Manager of Homer Electric Association, Inc., Mr. Janorschke has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Janorschke has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. LaFoy has served as a director and the secretary-treasurer for Baldwin County Electric Member Corporation in Gulf Shores, Alabama, since July 2009. Mr. LaFoy is a certified public accountant and since 1977 has owned and operated the public accounting firm LaFoy & Associates. He is a founding organizer and has served as a member of the Southern States Bank Board since August 2007. Mr. LaFoy also was a member of the Farmers National Bank Board of Opelika from 1989 to 2002 and the First American Bank Advisory Board from 2002 to 2006. Mr. LaFoy was a council member from 1981 until 1986 and president from 1985 until 1986 of the Alabama Society of Certified Public Accountants. He was also a council member of the American Institute of Certified Public Accountants from 1986 until 1990. As a director and secretary-treasurer of Baldwin County Electric Member Corporation, Mr. LaFoy has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. LaFoy has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Norton has served as a director of Snapping Shoals Electric Membership Corporation in Covington, Georgia since 1993. Mr. Norton has also served as a director at Georgia Electric Membership Corporation in Tucker, Georgia, since 2009 and Georgia System Operations Corporation in Tucker, Georgia, since 2012. Mr. Norton has owned and operated Conyers Pharmacy in Conyers, Georgia from 1982 to 2018. As a director of Snapping Shoals Electric Membership Corporation, Mr. Norton has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Norton has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mrs. Robinson has served as chief executive officer and general manager of Wood County Electric Cooperative, Inc. in Quitman, Texas since 1997. Mrs. Robinson has also served as the Board President of East Texas Electric Cooperative, Inc. in Nacogdoches, Texas since July 2002 and as a director of Northeast Texas Electric Cooperative, Inc. in Longview, Texas since 1997. Mrs. Robinson is also a certified public accountant. As chief executive officer and general manager of Wood County Electric Cooperative, Inc., Mrs. Robinson has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mrs. Robinson has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Rodriguez has been the CEO of Kay Electric Cooperative in Blackwell, Oklahoma since 2014. He also served as COO of Kay Electric Cooperative from 2010 to 2014. Mr. Rodriguez has been a CPA since 1998. As the CEO of Kay Electric Cooperative, Mr. Rodriguez has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Rodriguez has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC Board.

Mr. Schardin has served as general manager of Southeastern Electric Cooperative in Marion, South Dakota since 1990. He chaired the Managers Advisory Committee for his cooperative's wholesale power supplier, East River Electric Power Cooperative from January 2013 to 2015 and at the same time was a member of the Basin Electric Power Cooperative Managers Advisory Committee. Mr. Schardin has also been a member of the South Dakota Rural Electric Association Strategic Issues Committee since 2005 and a director on the Rural Electric Economic Development Fund Board of Directors since 1996. As general manager of Southeastern Electric Cooperative, Mr. Schardin has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Schardin has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mrs. Thompson has served as director of Trico Electric Cooperative in Mariana, Arizona since 2001, and has served as secretary of the board since 2015. Mrs. Thompson also serves as a member of Trico Electric Cooperative's Audit and Finance Committee and served as its chair from 2013 until 2015. Additionally, Mrs. Thompson has been a director of Grand Canyon State Electric Cooperative Association since 2002 and served as its Board President from 2008 to 2010. As secretary of the board and director of Trico Electric Cooperative, Mrs. Thompson has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mrs. Thompson has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Vail has served as director of NineStar Connect in Greenfield, Indiana since 1999. Mr. Vail has also served as the board chairman of NineStar Connect from 2012 to 2016 and has served as its board vice-chairman since April 2019. Since 2011, he also has served as a board member of the Indiana Statewide Association of Rural Electric Cooperatives. Mr. Vail has been the owner of ETL Group since 2011. The ETL Group provides strategic and operational efficiency consulting services to business entities and non-profit organizations. Mr. Vail has held various positions at the Hancock Regional Hospital, and he was the senior special accounts loan officer at Farm Credit Services. He has been a member of Hancock Redevelopment Commission since 2010. As a former board chairman and current vice-chairman of NineStar Connect, Mr. Vail has acquired extensive experience with and knowledge of the rural electric cooperative industry. We, therefore, believe Mr. Vail has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Vitosh has been general manager and CEO of Norris Public Power District in Beatrice, Nebraska since 2012. From 2008 to 2012, Mr. Vitosh was the Manager of Finance and Accounting at Norris Public Power District. Mr. Vitosh is a CPA and is a member of the Nebraska Society of Certified Public Accountants. Mr. Vitosh has also been a self-employed farmer since 2004. As general manager and CEO of Norris Public Power District, Mr. Vitosh has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Vitosh has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board. We believe Mr. Vitosh's experience with accounting principles, financial reporting rules and regulations and evaluating financial results makes him qualified to serve as the Chairman of CFC's Audit Committee.

Mr. Ware has been president and CEO of Licking Rural Electrification-The Energy Cooperative in Newark, Ohio since 2012. Mr. Ware was the vice president and CFO of Licking Rural Electrification-The Energy Cooperative from 2000 until 2011. In May 2019 Mr. Ware was elected as a director of Farmer Mac, a federally chartered and publicly traded corporation that provides a secondary market for a variety of loans made to borrowers in rural America, where he serves on the Audit and Enterprise Risk Committees. He has served as a director of Licking County United Way and Genesis Healthcare Foundation from 2009 to 2018. He also served as a director of Altheirs Oil Inc. since 2005, the cooperative's wholesale power supplier, Buckeye Power Cooperative, since 2012, and The Ohio State University-Newark Advisory Board since 2016 where he currently serves as vice-chairman. He is also a member of the Buckeye Power Cooperative Executive and Rate Committees and the American Gas Association Leadership Council. As president and CEO of Licking Rural Electrification-The Energy Cooperative, Mr. Ware has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Ware has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Williams has been the general manager and executive vice president of Appalachian Electric Cooperative in New Market, Tennessee since 2010. He served as a board member of the East Tennessee Economic Development Agency from 2010 to 2018 and has served as a board member of the Northeast Tennessee Valley Industrial Development Association since 2010. He also served as chairman of the board of the Tennessee Valley Public Power Association from 2015-2017. As general manager and executive vice president of Appalachian Electric Cooperative, Mr. Williams has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Williams has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Wynn has been president and CEO of Roanoke Electric Membership Corporation in Aulander, North Carolina since 1997. He has been a director on the NRECA Board of Directors since 2007, and has served as NRECA board president since March 2019. Mr. Wynn also served as NRECA vice president from 2017 to 2019. Mr. Wynn has also served as a director of the North Carolina Electric Membership Corporation and the North Carolina Association of Electric Cooperatives since

1997. As president and CEO of Roanoke Electric Membership Corporation and director of NRECA, Mr. Wynn has acquired extensive experience with and knowledge of the rural electric cooperative industry and, therefore, we believe Mr. Wynn has the qualifications, skills and experience necessary to act in the best interests of CFC and to serve as a director on the CFC board.

Mr. Petersen joined CFC in August 1983 as an area representative. He became the director of Policy Development and Internal Audit in January 1990, director of Credit Analysis in November 1990 and corporate secretary on June 1, 1992. He became assistant to the governor on May 1, 1993. He became assistant to the governor and acting administrative officer on June 1, 1994. He became governor and CEO on March 1, 1995. Mr. Petersen began his career in the rural electrification program in 1976 as staff assistant for Nishnabotna Rural Electric Cooperative in Harlan, Iowa. He later served as general manager of Rock County Electric Cooperative Association in Janesville, Wisconsin.

Mr. Don joined CFC in September 1999 as Director of Loan Syndications and became Vice President of Capital Market Relations in June 2005. Effective June 2010, Mr. Don became CFC's Senior Vice President and Treasurer. Effective July 1, 2013, Mr. Don became CFC's Senior Vice President and Chief Financial Officer. Prior to joining CFC, he held the position of Vice President and Manager of the Washington, D.C. Office for The Bank of Tokyo-Mitsubishi. Mr. Don started his banking career with the Bank of Montreal in New York in 1984 and subsequently was a Vice President for Corporate Banking for The Bank of New York from 1987 to 1990.

Ms. Clendenen joined CFC in 1982. Throughout her career with CFC, Ms. Clendenen has held various positions. She served as Vice President, Human Resources until February 2012. In February 2012, she became Vice President, Human Resources & Corporate Services until April 2014. In April 2014, she became Senior Vice President, Corporate Services. Effective December 17, 2018, Ms. Clendenen became Senior Vice President and Chief Administrative Officer.

Mr. Allen joined CFC in 1990. Throughout his career with CFC, Mr. Allen has held various positions. He served as a Director, Portfolio Management through 2010 and as Vice President, Portfolio Management from 2010 until April 2014, when he became Senior Vice President, Member Services.

Ms. Aronson joined CFC in 1995. She served as Vice President and Deputy General Counsel until June 2013. Effective July 1, 2013, Ms. Aronson became Senior Vice President and General Counsel. Prior to joining CFC, Ms. Aronson was a partner at the law firm of Thompson Hine LLP.

Mr. Borak joined CFC in June 2002 as Senior Vice President, Credit Risk Management. Previously, he was with Fleet National Bank, Boston, Massachusetts, from 1992 to 2001 where he was a senior credit officer with risk management and loan approval responsibility for several industry banking portfolios including investor-owned utilities. Prior assignments at Fleet in Hartford, Connecticut, included Manager of Credit Review and Manager of Loan Workout.

Mr. Captain joined CFC in 1999. He served as Vice President, Government Relations until 2010 when he became Vice President, Corporate Communications. In January 2014, Mr. Captain became Vice President, Corporate Relations. Effective April 16, 2014, Mr. Captain became Senior Vice President, Corporate Relations. Prior to joining CFC, he worked as a Special Assistant to the Undersecretary of Rural Development at the United States Department of Agriculture.

Mr. Kettler joined CFC as a regional vice president in 2001. In 2010, he became Vice President, Portfolio Management. On April 16, 2014, Mr. Kettler became Senior Vice President, Strategic Business Development and Support. Effective July 6, 2015, Mr. Kettler became Senior Vice President, Strategic Services.

Ms. Reed joined CFC in 1987. She served as Vice President, Portfolio Management from 2002 until 2014. On April 16, 2014, Ms. Reed became Senior Vice President, Member Services. Effective September 14, 2015, Ms. Reed became Senior Vice President, Loan Operations.

Mr. Starheim joined CFC as Senior Vice President, Business and Industry Development on July 6, 2015. Prior to joining CFC, Mr. Starheim served as CEO and General Manager of Delaware County Electric Cooperative in upstate New York from 2001 until 2012. From 2012 until joining CFC, Mr. Starheim held the position of President and CEO of Kenergy Corp in Henderson, Kentucky.

(f) Involvement in Certain Legal Proceedings

None to our knowledge.

(g) Promoters and Control Persons

Not applicable.

(h) Code of Ethics

We have adopted a Code of Ethics within the meaning of Item 406(b) of Regulation S-K. This Code of Ethics applies to our principal executive officer, principal financial officer and principal accounting officer. This Code of Ethics is publicly available on our website at www.nrucfc.coop (under the link "Investor Relations/Corporate Governance").

(i) Nominating Committee

Our board of directors does not have a standing nominating committee. As described above under "Item 10(a) Directors," 20 of our directors are each elected by members in the district for which the director serves. To nominate director candidates, at the district meeting before the meeting at which candidates are to be elected from such district, a nominating committee is elected composed of one person from each state within the district. Each member of the nominating committee must be a trustee, director or manager of one of our members. Each district nominating committee then submits names of two or more nominees for each position in the district for which an election is to be held. We provide members of the nominating committee with director guidelines to use in reviewing applications from potential candidates. One or more candidates for the at-large director position who satisfies the requirements of an Audit Committee financial expert are nominated by our board of directors if the board determines that it is appropriate to fill the seat. Our board of directors believes that it is appropriate for the full board of directors to nominate this director because of the position's specific qualification requirements and the lack of any local district qualification requirement.

While we do not have a formal policy regarding diversity, the director guidelines we provide to each district nominating committee specify that a variety of perspectives, opinions and backgrounds is critical to the board's ability to perform its duties and various roles. We recognize the value of having a board that encompasses a broad range of skills, expertise, industry knowledge and diversity of professional and personal experience.

(j) Audit Committee

Our Audit Committee currently consists of 12 directors: Mr. Vitosh (Chairperson), Mr. Williams (Vice Chairperson), Mr. Farmer (Ex Officio), Mr. Christensen, Mr. Felkel, Mrs. Hampton, Mr. Hayes, Mr. Janorschke, Mr. Norton, Mr. Tesch, Mr. Vail and Mr. Ware. Mrs. Hampton was designated by the board as the "Audit Committee financial expert" as defined by Section 407 of the Sarbanes-Oxley Act of 2002. The members of the Audit Committee are "independent" as that term is defined in Rule 10A-3 under the Securities Exchange Act. Among other things, the Audit Committee reviews our financial statements and the disclosure under "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K. The Audit Committee meets with our independent registered public accounting firm, internal auditors, CEO and financial management executives to review the scope and results of audits and recommendations made by those persons with respect to internal and external accounting controls and specific accounting and financial reporting issues and to assess corporate risk. The board has adopted a written charter for the Audit Committee that may be found on our website, www.nrucfc.coop (under the link "Investor Relations/Corporate Governance").

The Audit Committee completed its review and discussions with management regarding our audited financial statements for the year ended May 31, 2019. The Audit Committee has discussed with the independent auditors the matters required to be discussed by Auditing Standard No. 1301, and received from the independent accountants written disclosures and the letter from the independent accountant required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent accountant's communications with the Audit Committee concerning independence, and discussed with the accountants their independence.

Based on the review and discussions noted above, the Audit Committee recommended to the board that the audited financial statements be included in our Annual Report on Form 10-K for the year ended May 31, 2019 for filing with the U.S. Securities and Exchange Commission.

(k) Compensation Committee

Role of the Compensation Committee

Our Compensation Committee currently consists of seven directors: Mr. Farmer, Mr. Tesch, Mr. Wattles, Mr. Vitosh, Mrs. Thompson, Mr. Felkel and Mr. Schardin. The Compensation Committee of the board of directors reviews and makes appropriate recommendations to the full board of directors regarding CFC's total compensation philosophy and pay components, including, but not limited to, base and incentive pay programs. The Compensation Committee is also responsible for approving the compensation, employment agreements and perquisites for the CEO. The Compensation Committee annually reviews all approved corporate goals and objectives relevant to compensation, evaluates performance in light of those goals and approves the CEO's compensation based on this evaluation, all of which is then submitted to the full board of directors for ratification. The Compensation Committee has delegated authority to the CEO for evaluating the performance and approving the annual base compensation for all of the other named executive officers as identified in the "Summary Compensation Table" below. Other than the CEO, no other named executive officer makes decisions regarding executive compensation.

The Compensation Committee reports to the board of directors on its actions and recommendations following committee meetings and meets in executive session without members of management present when making specific compensation decisions. Although the board has delegated authority to the Compensation Committee with respect to CFC's executive and general employee compensation programs and practices, the full board of directors also reviews and ratifies CFC's compensation and benefit programs each year.

The Compensation Committee's charter can be found on our website at www.nrucfc.coop (under the link "Investor Relations/Corporate Governance").

The Compensation Committee's Processes

The Compensation Committee has established a process to assist it in ensuring that CFC's executive compensation program is achieving its objectives. Prior to the start of each fiscal year, the board of directors approves performance measures for the "corporate balanced scorecard," which is the basis for the short-term incentive plan, and the specific goal and metrics for the long-term incentive plan. The Compensation Committee reviews and assesses the accomplishment of goals as of the end of the fiscal year and determines whether to authorize the payment of incentive compensation. This authorization is then submitted to the full board of directors for ratification.

The President, Vice President and Secretary-Treasurer of the board of directors meet annually with the CEO to review his performance based on his individual achievements, contribution to CFC's performance and other leadership accomplishments. In determining Mr. Petersen's base pay, the Compensation Committee subjectively considers a variety of corporate performance measures, including financial metrics, portfolio management, customer satisfaction and market share, industry leadership, and peer group compensation data provided by the compensation consultant, as discussed below.

Role of Compensation Consultant

In fiscal year 2019, the Compensation Committee hired Mercer (US) Inc. ("Mercer US") to advise it on the CEO's compensation as compared with the compensation of CEOs of peer group organizations. Through discussions with the Compensation Committee, Mercer US established a peer group of companies to use in assessing the competitiveness of the CEO's compensation (see "Compensation Analysis" in the "Compensation Discussion and Analysis" section below). Mercer US advised the Compensation Committee through an assessment of compensation data from this peer group using a one-year compensation analysis, which assesses CFC's CEO compensation and the compensation of peer CEOs for the most recent fiscal year. The elements of compensation reviewed include current base pay, target and actual annual incentives, actual long term incentive granted as well as long term incentive payouts, and total direct compensation. Mercer US did not determine or provide the Compensation Committee with a specific recommendation on any component of executive compensation; it only reviewed benchmark data and discussed what is generally occurring with executive compensation. Mercer US did not provide any other service to CFC in fiscal year 2019.

In fiscal year 2019, the Compensation Committee conducted an evaluation of Mercer US' independence considering the relevant regulations of the U.S. Securities and Exchange Commission and the listing standards of the New York Stock Exchange, and concluded that the services performed by Mercer US raised no conflicts of interest.

Role of Executive Officers

As described above, the Compensation Committee has delegated the authority for making base pay decisions for the other named executive officers to the CEO. The CEO exercises his judgment to set base pay rates, based on general market data, overall corporate performance and leadership accomplishments. For additional information about the CEO's role in compensation decisions, see "Base Pay" under the "Compensation Discussion and Analysis" section below.

(l) Section 16(a) Beneficial Ownership Reporting Compliance

Not applicable.

(m) Board Leadership Structure and Role of Risk Oversight by the Board of Directors

Board Leadership Structure

The positions of CEO and president of the CFC Board of Directors are held by two separate individuals. The president must be a member of the board of directors and is elected annually by the board of directors. The president of the CFC Board of Directors has authority, among other things, to appoint members of the board to standing committees, to appoint a vice chairperson to each board standing committee and to appoint members to ad-hoc board committees. The president of the board presides over board meetings, sets meeting agendas and determines materials to be distributed to the board. Accordingly, the board president has substantial ability to influence the direction of the board. CFC believes that separation of the positions of board president and CEO reinforces the independence of the board in its oversight of CFC's business and affairs. CFC also believes that this leadership structure is appropriate in light of the cooperative nature of the organization. The board of directors appoints the CEO. The CEO is not a member of the board of directors. If the CEO position becomes vacant, the Chief Administrative Officer will exercise the responsibilities of the CEO until a permanent or interim CEO is selected by the board of directors.

Board Role in Risk Oversight

The board of directors has primary responsibility for the oversight and strategic direction of risk management. The board of directors has adopted a comprehensive risk management policy that describes the roles and responsibilities of the board and management within an established framework for identifying and managing risks. The board of directors reviews the risk management policy annually and updates it accordingly. The board of directors has developed a risk management philosophy, which is reviewed and, if appropriate, updated annually. It states CFC's set of shared beliefs and attitudes on how risk is considered from strategy development and implementation to our operations.

The board of directors has also established a risk appetite statement that includes a common understanding between the board of directors and management regarding acceptable risks and risk tolerances underlying the execution of CFC's strategy. The board of directors reviews the risk appetite on at least an annual basis. The risk appetite is also intended as a benchmark for discussing the implications of pursuing new strategies and business opportunities.

The board of directors has also approved and authorized an Enterprise Risk Management ("ERM") program for CFC that provides a holistic view of key risks that may impact CFC's strategic objectives. ERM provides CFC with a process that allows CFC to become more anticipatory and effective at evaluating and managing uncertainties. The ERM activities, which include risk surveys, risk assessments, and risk analyses, are executed within the context of CFC's strategic objectives, mission, values, culture, risk management philosophy and risk appetite. The program provides a consistent approach for identifying CFC's key risks and determining appropriate responses in light of the board of directors' strategic objectives, risk appetite and tolerances. As part of the ERM program and the board of directors' strategic planning process, the board of directors periodically participates in a risk assessment process in order to evaluate each risk identified as part of the ERM program on the basis of likelihood and impact, and prioritize the risks in order to effectively manage CFC's most critical risks. Management has primary responsibility for the execution of the ERM program in accordance with the risk philosophy, risk appetite and risk tolerances of the board of directors. Additionally, management is responsible for regularly evaluating the ERM program, making regular reports to the board of directors about its evaluation of the ERM program, and proposing to the board of directors changes to the ERM program to reflect best practices.

In fulfilling its risk management oversight duties, the board of directors receives periodic reports on business activities and risk management activities from management and from various operating groups and committees across the organization, including the Credit Risk Management, the Member Services, the Treasury, the Internal Audit, the Business and Technology Services and the Legal Services groups, as well as Corporate Compliance, the Asset Liability Committee, the Corporate Credit Committee, the Investment Management Committee and the Disclosure Committee. Management provides reports to the board of directors at each regularly scheduled board meeting, and more frequently as requested by the board of directors, relating to, among other things, the ongoing progress of managing risk at CFC through the ERM program, management's responses for the critical business risks identified during each risk assessment process and the status of any gaps or deficiencies, and CFC's risk profile and trends, as well as emerging risks and opportunities.

The board of directors places particular emphasis on the oversight of cybersecurity risks. Each quarter, or more frequently as requested by the board of directors, management provides reports on CFC's security operations, including any cybersecurity incidents, management's efforts to manage any incidents, and any other information requested from management. On at least an annual basis, the board of directors reviews management reports concerning the disclosure controls and procedures in place to enable CFC to make accurate and timely disclosures about any material cybersecurity events. Additionally, upon the occurrence of a material cybersecurity incident, the board of directors will be notified of the event so it may properly evaluate such incident, including management's remediation plan.

Item 11. Executive Compensation

Compensation Discussion and Analysis

Executive Compensation Philosophy and Objectives

The components of our compensation package for the named executive officers (consisting of Messrs. Petersen, Don, Evans, Starheim, Allen and Ms. Aronson) are consistent with those offered to all employees. Mr. Evans is reported as a named executive officer, however he is deceased as of September 2, 2018.

Our executive compensation program provides a balanced mix of compensation that incorporates the following key components:

- annual base pay;
- an annual cash incentive that is based on the achievement of short-term (one-year) corporate goals;
- a three-year cash incentive that is based on the achievement of long-term corporate goals; and
- retirement, health and welfare and other benefit programs.

While all elements of executive compensation work together to provide a competitive compensation package, each element of compensation is determined independently of the other elements.

Our compensation philosophy is to provide a total compensation package for employees—base pay, short-term incentive, long-term incentive and benefits—that is competitive in the local employment market. However, due to the cooperative nature of the organization, CFC does not meet the total cash compensation levels of named executive officers of other financial services organizations since we do not offer stock or other equity compensation. It is important to CFC, however, to pay the named executive officers of CFC competitively in base pay to retain key talent.

Performance—Named executive officers receive base pay that is both market competitive and reflective of their role in developing, implementing and overseeing CFC's strategy and operations. Other components of compensation—short-term and long-term incentives—reflect the performance of the organization and its success in achieving corporate performance metrics established by the board of directors.

Retention—CFC's success is due in large part to the relationship between our employees and our members. This makes the retention of employees, including the named executive officers, vital to our business and long-term success. The compensation package, particularly the long-term incentive plan and the retirement benefits, assist in the retention of a highly qualified management team.

Compensation Analysis

In fiscal year 2019, Mercer (US), Inc. ("Mercer US") was engaged by the Compensation Committee to conduct a survey to provide compensation data for the CEO position using 15 peer organizations identified by Mercer US through discussions with the Compensation Committee. Mercer US included companies in the peer group that were similar to CFC in asset size, industry and business description. The peer group included financial institutions that are private market, commercial and/or mission-driven lenders, offering full-service financing, investment and related services. The companies targeted as peer companies included two members of the Farm Credit system and 13 regional banks and financial services companies.

The peer group companies had assets ranging from approximately 50% to 200% of CFC's May 31, 2018 total assets of $26.7 billion, and included seven companies with greater total assets than CFC's. The peer group consisted of financial services organizations New York Community Bancorp, Inc.; Signature Bank; Nelnet, Inc.; Webster Financial Corporation; Flagstar Bancorp, Inc.; People's United Financial, Inc.; Bok Financial Corporation; Hancock Whitney Corporation; Onemain Holdings, Inc.; BankUnited, Inc.; Synovus Financial Corporation; TFS Financial Corporation; and Federal Agricultural Mortgage Corporation, as well as two Farm Credit System peers. Synovus Financial Corporation and BankUnited, Inc. were added to the peer group in fiscal year 2019, one to replace Nationstar Mortgage Holdings, Inc., which was removed due to its acquisition, and one in anticipation of a future merger.

Mercer US led the Compensation Committee through an assessment of CEO compensation data for the peer group companies. Mercer US' data included both actual compensation and target compensation based on information obtained from each peer group company's most recent annual report or proxy statement.
The elements of compensation reviewed include:

- current base salary;
- target and actual annual incentive paid in fiscal year 2018;
- actual long-term incentive granted, which includes restricted stock awards (valued at face value on the date of grant), stock option awards (valued at grant date utilizing the Black-Scholes option pricing model), other long-term incentive target awards (valued at target value on date of award) and cash long-term incentive payouts (valued at actual payout on date of award if target value is not disclosed);
- sign-on awards, special awards and mega-grants annualized over the term of the employment contract or the vesting schedule; and
- annualized value of retirement, perquisites and other noncash compensation.

The Compensation Committee reviewed total compensation data for the peer group for informational purposes and used this data solely to determine the competitiveness of our CEO base pay.

In determining the base compensation paid to our other named executive officers, the CEO reviewed national, credible third-party compensation surveys (including the Mercer US Executive and CompAnalyst surveys) for financial services and other organizations of similar asset size as CFC in order to obtain a general understanding of current compensation practices and to ensure that the base pay component of compensation for the named executive officers other than the CEO is competitive with such institutions. CFC has often recruited non-CEO talent from industries outside the financial services sector. As a result, the CEO considers data from surveys covering a larger and broader group of for-profit companies in setting compensation for the other named executive officers than the Compensation Committee considers in setting compensation for the CEO. The CEO considered the data to gain a general understanding of current compensation practices at institutions of similar asset size to CFC; he did not review or consider underlying data pertaining to individual organizations comprising any of the survey groups. Instead, the CEO considered the aggregate compensation data to enhance his understanding of current practices in setting compensation at competitive levels.

Elements of Compensation

Base Pay—Our philosophy is to provide annual base pay that reflects the value of the job in the marketplace, targeted at the 50th percentile. To attract and retain a highly skilled workforce, we must remain competitive with the pay of other employers that compete with us for talent.

After reviewing the performance of the organization and the evaluation of the CEO's performance by each board member, it was the assessment of the Compensation Committee that the CEO and the organization performed extremely well during this business year. In fact, the business results met or exceeded company targets for many key metrics of performance, and the CEO continued to demonstrate outstanding leadership. Therefore, in recognition of his strong performance and leadership, the Committee increased the CEO's base pay to $1,145,000 effective January 1, 2019.

As discussed under "Compensation Analysis" above, the CEO exercised his judgment to set the annual base pay for the other named executive officers based on general market data, overall company performance and individual leadership accomplishments.

Mr. Don, Mr. Starheim, Ms. Aronson, and Mr. Allen all performed well in their various roles as senior leaders of the organization. They each contributed to the achievement of corporate strategies and objectives in a positive and meaningful way that would typically warrant a merit-based increase in base pay and/or a one-time cash award. Mr. Allen received a merit increase. Mr. Don, Mr. Starheim and Ms. Aronson received a merit increase as well as a one-time cash award. The merit increases and/or cash awards granted are included in the total compensation table below.

Short-Term Incentive—Our short-term cash incentive program is a one-year cash incentive that is tied to the annual performance of the organization as a whole. We believe that by paying a short-term incentive tied to the achievement of annual operating goals, all employees, including named executive officers, will focus their efforts on the most important strategic objectives that will help us fulfill our mission to our members and our obligations to the financial markets.

Additionally, the short-term incentive pay enhances our ability to provide competitive compensation while at the same time tying total compensation paid to the achievement of corporate goals. Every employee participates in the short-term incentive program, and the corporate strategic goals are the same for all employees, including the named executive officers. The short-term incentive program provides annual cash incentive opportunities based upon the level of the position within our base pay structure, ranging from 15% to 25% of base pay. Named executive officers are eligible to receive short-term cash incentive compensation up to 25% of their base pay. Over the last 10 years, the actual payout percentage has ranged from 52.5% to 100% of total opportunity, with an average over the 10 years of 83.88%. This equates to a 10-year average payout of 16.07% of base salaries for all employees.

Our approach to establishing corporate goals for short-term incentive compensation has not changed since the plan's inception. Corporate performance is measured using a balanced scorecard approved by the board of directors prior to the start of the fiscal year. The balanced scorecard is a performance management tool that articulates the corporate strategy into specific, quantifiable and measurable goals. The goals have always been tied to enhancing service to our member-owners while ensuring all aspects of the business are effectively managed.

The scorecard is divided into four quadrants, reflecting crucial areas of business performance. Specific goals are established within those quadrants to focus all employees on the target results and measures that must be achieved if we are to succeed at realizing our strategic plan. The intent is to align organizational, departmental and individual initiatives to achieve a common set of goals.

The four quadrants for fiscal year 2019, which were the basis for the short-term incentive payment, were the same as they have been in previous years: Customer Engagement; Financial Ratios; Internal Process and Operations; and Learning, Growth and Innovation. For fiscal year 2019, the board of directors established six corporate goals within these four quadrants. The board of directors establishes corporate goals and measures they believe are challenging but achievable if each individual performs well in his or her role and we meet our internal business plan goals.

The goals for fiscal year 2019 were:

- *Customer Engagement*: Two goals supporting efforts to maintain or increase market share of borrowers in key segments of the loan portfolio.
- *Internal Process and Operations*: One goal focused on managing CFC's operating expense levels.
- *Financial Ratios*: Two goals supporting efforts to meet or exceed established financial targets to maintain CFC's financial strength.
- *Learning, Growth & Innovation*: One goal focused on the development of a program to assess the effectiveness of CFC's existing and new products and services.

The determination of the extent to which the six goals were achieved and, therefore, the amount to be paid out under the short-term incentive plan for fiscal year 2019 was confirmed by the board of directors with the filing of this Form 10-K. The board determined that four goals were achieved at the target level. Each goal may carry a different weight varying between 10% and 20% resulting in an aggregate payout of 52.5% of the total opportunity.

<u>Long-Term Incentive</u>—The long-term incentive program is a three-year plan that is tied to CFC's long-term strategic objectives. The long-term incentive program was implemented to create dynamic tension between short-term objectives and long-term goals. It is also an effective retention tool, helping us to keep key employees, and supports CFC's efforts to compensate its employees at market-competitive levels.

All individuals employed by CFC on the first day of each fiscal year in which there is a long-term incentive plan in place, June 1, are eligible to participate in the program for the performance period beginning on that date. Under the long-term incentive program, performance units covering a three-year performance period are issued to each employee at the start of each fiscal year. The long-term incentive is paid out in one lump sum cash payment after the end of the performance period, subject to approval by the board of directors and the continued employment (or retirement, disability or death) of the participant by CFC on the date of payment. We sometimes refer to each three-year performance period as a plan cycle.

The performance measure for the active long-term incentive plans is the achievement of bond rating targets for our issuer credit ratings as rated by S&P Global Inc., Fitch Ratings Inc. and Moody's Investors Service rating agencies, as outlined in each plan document. The value of the performance units will range from $0 to $150 per performance unit according to the level of CFC's issuer credit ratings by the rating agencies. To achieve the highest value of $150, which exceeds the targeted value, the agencies defined in each plan would have to raise CFC's issuer credit rating to AA (or the equivalent rating at Moody's). To determine the payout value of performance units, the ratings by agencies identified in each plan are given a numerical value, i.e., 2 for A stable, 3 for A positive, etc. The ratings of these agencies are then averaged to achieve the final value of the performance units.

The number of performance units awarded to each employee for each plan cycle is calculated by dividing a percentage, ranging from 15% to 25%, of the participant's base pay for the first fiscal year of the plan cycle, by the payout value assigned to the target rating level. For the program cycle ending May 31, 2019, the target rating level was "A+ Stable," which was assigned a payout value of $100 per performance unit. For the named executive officers, the number of performance units awarded for that program cycle was based on 25% of each named executive officer's base pay for fiscal year 2017, the first year of the plan cycle. If the highest rating level was achieved at the end of that plan cycle, resulting in payout of $150 per performance unit, the long-term incentive pay for named executive officers would have been 37.5% of fiscal year 2017 base pay.

The following table presents the potential payout values for performance units awarded for the program cycle that ended May 31, 2019:

Issuer Credit Rating—Incentive-Performance Linkage

Rating	A			A+			AA-
Outlook	*Negative*	*Stable*	*Positive*	*Negative*	***Stable***	*Positive*	
Numerical Score	1	2	3	4	**5**	6	
Plan Payout Unit Value	$—	$40	$60	$60	**$100**	$120	$150

* The target objective is in bold.

CFC uses our issuer credit rating as the performance measure for the long-term incentive plan because stronger ratings lead to lower interest cost and more reliable access to the capital markets. We also believe our long-term incentive measure will better align management's interests with the interests of our members and investors. Since we have no publicly held equity securities and our objective is to offer our members cost-based financial products and services consistent with sound financial management rather than to maximize net income, more traditional performance measures such as net income or earnings per share would not be appropriate.

As of May 31, 2019, there were three active long-term incentive plans in which named executive officers were participants. Performance units issued to all named executive officers in fiscal year 2017 had a payout value based on our issuer credit ratings in place on May 31, 2019. Performance units issued to all named executive officers in fiscal year 2018 will have a payout value based on issuer credit ratings in place on May 31, 2020; and performance units issued to named executive officers in fiscal year 2019 will have a payout value based on issuer credit ratings in place on May 31, 2021.
Payments made to the named executive officers for fiscal year 2019 were for performance units issued in fiscal year 2017 and were based on the May 31, 2019 issuer credit rating level of A stable outlook, which has a value of $40 per performance unit, or 40% of the targeted opportunity (10% of fiscal year 2017 base pay).

All current plans will pay out if the three rating agencies rate our issuer credit rating at a high enough level to receive a payout. The payout will be based on the average of the three ratings (averages are calculated and rounded down to the next whole number).

Risk Assessment

The Compensation Committee conducts an annual risk assessment of the company's compensation policies and practices, particularly the short-term and long-term incentive plan goals, to ensure that the policies and practices do not encourage excessive risk. For fiscal year 2019 the Compensation Committee concluded that our compensation policies and practices are not reasonably likely to provide incentives for behavior that could have a material adverse effect on the company.

Benefits

An important retention tool is our defined benefit pension plan, the Retirement Security Plan. CFC participates in a multiple-employer pension plan managed by NRECA. We balance the effectiveness of this plan as a compensation and retention tool with the cost of the annual premium incurred to participate in this pension plan. The value of the pension benefit is determined by base pay only and does not include other cash compensation.

We also offer a Pension Restoration Plan ("PRP") and an Executive Benefit Restoration Plan ("EBR"). The PRP is a plan for a select group of management, to increase their retirement benefits above amounts available under the Retirement Security Plan, which is restricted by Internal Revenue Service ("IRS") limitations on annual pay levels and maximum annual annuity benefits. The PRP restores the value of the Retirement Security Plan for named executive officers to the level it would be if the IRS limits on annual pay and annual annuity benefits were not in place. The PRP was frozen as of December 31, 2014. We then established the EBR to provide a similar benefit to a select group of management. A named executive officer may participate in the PRP or the EBR. Unlike the Retirement Security Plan, the PRP and the EBR are unfunded, unsecured obligations of CFC and are not qualified for tax purposes. All six named executive officers are participants in either the PRP or the EBR.

Under the PRP, we pay the amount owed to the named executive officers for the pension restoration benefit; amounts paid are then deducted from the premium due for the next Retirement Security Plan invoice(s) to NRECA. Under the EBR, we will also pay any amounts owed to the named executive officers for the restoration benefit once the risk of forfeiture has expired; amounts will be paid directly by CFC. We record an unfunded pension obligation and an offsetting adjustment to AOCI for this liability.

For more information on the Retirement Security Plan, the PRP and the EBR, see the "Pension Benefits Table" and accompanying narrative below.

As an additional retention tool designed to assist named executive officers in deferring compensation for use in retirement, each named executive officer is also eligible to participate in CFC's nonqualified 457(b) deferred compensation savings plan. Contributions to this plan are limited by IRS regulations. The calendar year 2019 cap for contributions is $19,000. There is no CFC contribution to the deferred compensation plan. For more information see "Nonqualified Deferred Compensation" below.

The CEO is eligible to earn retirement benefits in addition to those credited under any of the above-mentioned plans in a Supplemental Executive Retirement Plan ("SERP"). This plan is an ineligible deferred compensation plan within the meaning of section 457 of the Internal Revenue Code. The account is considered unfunded and may be credited from time to time pursuant to the plan at the discretion of the CFC Board of Directors. During fiscal year 2019, the CFC Board of Directors used its discretion and credited the account. According to the terms of the SERP, the CEO became fully vested and those benefits were paid in full. These payments are reflected in the Summary Compensation Table below.

Other Compensation

We provide named executive officers with other benefits, as reflected in the All Other Compensation column in the "Summary Compensation Table" below, that we believe are reasonable and consistent with our compensation philosophy. We do not provide significant perquisites or personal benefits to the named executive officers.

The Compensation Committee considers perquisites for the CEO in connection with its annual review of the CEO's total compensation package described above. The perquisites provided to Mr. Petersen are limited to an annual automobile allowance, an annual spousal air travel allowance to permit Mr. Petersen's spouse to accompany him on business travel, and home security. To provide the automobile and spousal travel perquisites in an efficient fashion, the board of directors authorizes an annual allowance rather than providing unlimited reimbursement or use of a company-owned vehicle. The amount of each allowance is authorized annually by the board of directors and is determined based on the estimated cost for operation and maintenance of an automobile and the anticipated cost of air travel by the CEO's spouse. For 2019, the board of directors authorized an aggregate of $30,000 to cover these two allowances. We provide security for Mr. Petersen, including security in addition to that provided at business facilities. We believe that all company-incurred security costs are reasonable and necessary and for the company's benefit.

Severance/Change-in-Control Agreements

Mr. Petersen, CEO, has an executive agreement with CFC under which he may continue to receive compensation and benefits in certain circumstances after resignation or termination of employment. The value of Mr. Petersen's severance package was determined to be appropriate for a CEO and approved by the Compensation Committee as part of his employment contract. No other named executive officers have termination or change-in-control agreements. For more information on this severance arrangement, see "Termination of Employment and Change-in-Control Arrangements" below.

Compensation Committee Report

The Compensation Committee of the board of directors oversees CFC's compensation program on behalf of the board. In fulfilling its oversight responsibilities, the Compensation Committee reviewed and discussed with management the "Compensation Discussion and Analysis" set forth in this Annual Report on Form 10-K. Based on this review and discussion, the Compensation Committee recommended to the board of directors that the "Compensation Discussion and Analysis" be included in this Form 10-K.

Submitted by the Compensation Committee:

Kent D. Farmer
David E. Felkel
Bradley J. Schardin
Dean R. Tesch
Marsha L. Thompson
Bruce A. Vitosh
Alan W. Wattles

Summary Compensation Table

The summary compensation table below sets forth the aggregate compensation for the fiscal years ended May 31, 2019, 2018 and 2017 earned by the named executive officers.

Name and Principal Position	Year	Salary	Bonus[(1)]	Non-Equity Incentive Plan Compensation[(2)]	Change in Pension Value and Nonqualified Deferred Compensation Earnings [(3)]	All Other Compensation[(4)]	Total
Sheldon C. Petersen.......	**2019**	**$ 1,118,750**	**$ —**	**$ 246,293**	**$ 415,728**	**$ 40,870**	**$1,821,641**
Chief Executive	2018	1,062,171	—	363,015	636,443	46,532	2,108,161
Officer	2017	1,017,563	—	275,172	443,017	42,747	1,778,499
J. Andrew Don..............	**2019**	**470,000**	**10,000**	**105,688**	**49,564**	**8,125**	**643,377**
Senior Vice President	2018	455,000	10,000	156,270	314,276	8,025	943,571
and Chief Financial Officer	2017	440,000	5,000	119,500	288,597	7,925	861,022
John T. Evans[(5)].............	**2019**	**550,000**	**—**	**60,019**	**—**	**156,682**	**766,701**
Executive Vice	2018	550,000	15,000	191,020	191,083	5,400	952,503
President and Chief Operating Officer	2017	550,000	15,000	149,750	160,950	5,425	881,125
Gregory J. Starheim[(5)]....	**2019**	**459,750**	**10,000**	**101,454**	**113,379**	**8,292**	**692,875**
Senior Vice President,	2018	435,000	—	148,520	333,817	8,254	925,591
Business and Industry Development	2017	410,000	10,000	92,250	337,809	44,370	894,429
Roberta B. Aronson.......	**2019**	**406,250**	**10,000**	**90,794**	**114,130**	**5,646**	**626,820**
Senior Vice President	2018	392,500	—	134,125	320,023	5,546	852,194
and General Counsel	2017	375,000	3,600	101,495	262,477	5,425	747,997
Joel Allen...................... Senior Vice President of Member Services	**2019**	**360,000**	**—**	**80,490**	**5,218**	**9,125**	**454,833**

(1) Includes amounts given as one-time cash awards in lieu of or in addition to base pay increases. Details for 2019 can be found in "Elements of Compensation" in "Compensation Discussion and Analysis" above.

(2) Includes amounts earned during each respective fiscal year and payable as of May 31 under the long-term and short-term incentive plans. For a discussion of the long-term and short-term incentive plans, see "Elements of Compensation" in "Compensation Discussion and Analysis" above. The amounts earned by each named executive officer under these incentive plans are listed above.

(3) Represents the aggregate change in the actuarial present value of the accumulated pension benefit under NRECA Retirement Security Plan, the multiple-employer defined benefit pension plan in which CFC participates, during each respective fiscal year as calculated by NRECA. For Mr. Petersen, in fiscal years 2017, 2018 and 2019 this also includes a payment from the SERP. For a discussion of the SERP, see "Benefits" in "Compensation Discussion and Analysis" above.

(4) For Mr. Petersen for fiscal year 2019, includes (i) perquisites comprising Mr. Petersen's automobile allowance and his spousal air travel allowance, and (ii) $3,770 representing the approximate aggregate incremental cost to the company for maintaining security arrangements for Mr. Petersen in addition to security arrangements provided at the headquarters facility. We do not believe this provides a personal benefit (other than the intended security) nor do we view these security arrangements as compensation to the individual. We report these security arrangements as perquisites as required under applicable SEC rules. The annual automobile allowance is calculated based on estimated costs associated with maintenance, use and insurance of a personal automobile. The annual spousal travel allowance is calculated based on the anticipated air travel for Mrs. Petersen during the fiscal year. For Mr. Evans for fiscal year 2019, the amount represents a payout for an accrued and unused annual leave balance at the time of his death. The remaining amounts included in this column represent CFC contributions on behalf of each named executive officer pursuant to the CFC 401(k) defined contribution plan and contributions to health savings accounts.

(5) Mr. Evans is deceased as of September 2, 2018 and Mr. Starheim began employment on July 6, 2015.

The following chart has the amounts paid to each named executive officer under the short-term and long-term incentive plans for the preceding three years.

Name	Year	Short-Term Incentive Plan	Long-Term Incentive Plan
Sheldon C. Petersen	**2019**	**$ 145,773**	**$ 100,520**
	2018	265,495	97,520
	2017	228,932	46,240
J. Andrew Don	**2019**	**61,688**	**44,000**
	2018	113,750	42,520
	2017	99,000	20,500
John T. Evans	**2019**	**18,769**	**41,250**
	2018	137,500	53,520
	2017	123,750	26,000
Gregory J. Starheim	**2019**	**60,454**	**41,000**
	2018	108,750	39,770
	2017	92,250	—
Roberta B. Aronson	**2019**	**53,274**	**37,520**
	2018	98,125	36,000
	2017	84,375	17,120
Joel Allen	**2019**	**47,250**	**33,240**

Grants of Plan-Based Awards

We have a long-term and a short-term incentive plan for all employees, under which the named executive officers may receive a cash incentive up to 37.5% and 25% of salary, respectively. The incentive payouts are based on the executive officer's salary for the fiscal year in which the program becomes effective. See the "Compensation Discussion and Analysis" above for further information on these incentive plans.

The following table contains the estimated possible payouts under our short-term incentive plan and possible future payouts for grants issued under our long-term incentive plan during the year ended May 31, 2019.

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards Threshold	Target	Maximum
Sheldon C. Petersen				
Long-Term Incentive Plan [(1)]......	June 1, 2018	$ —	$ 275,000	$ 412,500
Short-Term Incentive Plan [(2)]		—	286,250	286,250
J. Andrew Don				
Long-Term Incentive Plan [(1)]......	June 1, 2018	—	117,500	176,250
Short-Term Incentive Plan [(2)]		—	117,500	117,500
John T. Evans				
Long-Term Incentive Plan [(1)]......	June 1, 2018	—	137,500	206,250
Short-Term Incentive Plan [(2)]		—	137,500	137,500
Gregory J. Starheim				
Long-Term Incentive Plan [(1)]......	June 1, 2018	—	112,400	168,600
Short-Term Incentive Plan [(2)]		—	117,500	117,500
Roberta B. Aronson				
Long-Term Incentive Plan [(1)]......	June 1, 2018	—	100,600	150,900
Short-Term Incentive Plan [(2)]		—	102,500	102,500
Joel Allen				
Long-Term Incentive Plan [(1)]......	June 1, 2018	—	90,000	135,000
Short-Term Incentive Plan [(2)]		—	90,000	90,000

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(1) Target payouts are calculated using unit values of $100 based on our goal of achieving an average long-term senior secured credit rating of A+ stable as of May 31, 2021.

(2) Target and maximum payouts represent 25% of May 31, 2019 base salary. For the payout earned under the fiscal year 2019 short-term incentive plan, see the Non-Equity Incentive Plan Compensation column of the "Summary Compensation Table" above.

The board of directors approved a new long-term incentive plan with grants of performance units effective June 1, 2019. The performance units will be calculated and issued to the named executive officers in August 2019. The payout under these grants will be determined on May 31, 2022.

Employment Contracts

Pursuant to an employment agreement effective as of January 1, 2015, CFC employs Mr. Petersen as Chief Executive Officer on a year to year basis, unless otherwise terminated in accordance with the terms of the Agreement. The amended Agreement provides that CFC shall pay Mr. Petersen a base salary at an annual rate of not less than $975,000 per annum, plus such incentive payments (if any) as may be awarded him. In addition, pursuant to the Agreement, Mr. Petersen is entitled to certain payments in the event of his termination other than for cause (e.g., Mr. Petersen leaving for good reason, disability or termination due to death). See "Termination of Employment and Change-in-Control Arrangements" below for a description of these provisions and for information on these amounts.

Pension Benefits Table

CFC is a participant in a multiple-employer defined benefit pension plan, the Retirement Security Plan, which is administered by NRECA. Since this plan is a multiple-employer plan in which CFC participates, CFC is not liable for the amounts shown in the table below and such amounts are not reflected in CFC's audited financial statements. CFC's expense is limited to the annual premium to participate in the Retirement Security Plan. There is no funding liability for CFC for this plan.

The Retirement Security Plan is a qualified plan in which all employees are eligible to participate upon completion of one year of service. Each of the named executive officers participates in the qualified pension plan component of the Retirement Security Plan. CFC reduced the value of the pension plan effective September 1, 2010. Under the current pension plan, participants are entitled to receive annually, under a 50% joint and surviving spouse annuity, 1.70% of the average of their five highest base salaries during their participation in the Retirement Security Plan, multiplied by the number of years of participation in the plan. The value of the pension benefit is determined by base pay only and does not include other cash compensation. Normal retirement age under the qualified pension plan is age 65; however, the plan does allow for early retirement with reduced benefits beginning at age 55. For early retirement, the pension benefit will be reduced by 1/15 for each of the first five years and 1/30 for each of the next five years by which the elected early retirement date precedes the normal retirement date. Benefits accrued prior to September 1, 2010, are based on a benefit level of 1.9% of the average of their five highest base salaries during their participation in the Retirement Security Plan and a normal retirement age of 62.

CFC also offers a PRP and an EBR. Each of the named executive officers participates in either the PRP or the EBR. The purpose of these plans is to increase the retirement benefits above amounts available under the Retirement Security Plan, which is restricted by IRS limitations on annual pay levels and maximum annual annuity benefits. The PRP and the EBR restore the value of the Retirement Security Plan for each officer to the level it would be if the IRS limits on annual pay and annual annuity benefits were not in place.

The benefit and payout formula under these restoration plans is similar to that under the qualified Retirement Security Plan. However, two of the named executive officers have satisfied the provisions established to receive the benefit from the PRP. They were grandfathered in the plan and no longer have a risk of forfeiture of the benefit under the PRP. Distributions are made from the plan to each of those named executive officers annually. The details of theses distributions are shown in the Pension Benefits table below.

In addition, the CEO is eligible for benefits under the SERP. This plan is an ineligible deferred compensation plan within the meaning of section 457 of the Internal Revenue Code. The account is considered unfunded and may be credited from time to time pursuant to the plan at the discretion of the CFC Board of Directors. During fiscal year 2019, the CFC Board of Directors used its discretion and credited the account. According to the terms of the SERP, the CEO became fully vested and those benefits totaling $67,141 were paid in full during fiscal year 2019, as presented in the table below.

The following table contains the years of service, the present value of the accumulated benefit for the named executive officers listed in the "Summary Compensation Table" as of May 31, 2019, as calculated by NRECA and distributions from the plans for the fiscal year then ended.

Name	Plan Name	Number of Years of Credited Service [(1)]	Present Value of Accumulated Benefit [(2)]	Payments During Last Fiscal Year [(3)]
Sheldon C. Petersen [(4)]	NRECA Retirement Security Plan	9.33	$ 698,389	$ 325,683
	SERP	—	—	67,141
J. Andrew Don	NRECA Retirement Security Plan	18.66	2,080,458	—
John T. Evans [(3)]	NRECA Retirement Security Plan	—	—	684,532
Gregory J. Starheim	NRECA Retirement Security Plan	13.25	1,253,229	—
Roberta B. Aronson	NRECA Retirement Security Plan	22.83	1,919,408	—
Joel Allen	NRECA Retirement Security Plan	27.66	1,831,203	—

(1) CFC is a participant in a multiple-employer pension plan. Credited years of service, therefore, includes not only years of service with CFC, but also years of service with another cooperative participant in the multiple-employer pension plan. All other named executive officers, except for Mr. Starheim, have credited years of service only with CFC.

(2) Amount represents the actuarial present value of the named executive officer's accumulated benefit under this plan as of May 31, 2019, as provided by the plan administrator, NRECA, using interest rates ranging from 1.50% to 4.88% per annum and mortality according to tables prescribed by the IRS as published in Revenue Rulings 2001-62 and 2007-67.

(3) Distributions during fiscal year 2019 were as a result of named executive officers no longer being at risk of forfeiture with respect to these amounts provided under the PRP. Mr. Don, Mr. Starheim, Mr. Allen and Ms. Aronson continue to have a risk of forfeiture of the benefits under the EBR; therefore, no payments have been made. Mr. Evans' distributions were as a result of his death on September 2, 2018.

(4) The NRECA Pension Plan allows active employees who have reached normal retirement age to cash in their lump-sum benefit accrued through August 31, 2010, or "quasi-retire." Due to the quasi-retirements of Mr. Petersen in February 2015 his credited years of service was reduced and he received 12 months of credited service in January of each year thereafter.

Nonqualified Deferred Compensation

The CFC deferred compensation plan is a nonqualified deferred compensation savings program for the senior executive group, including each of the named executive officers, and other select management or highly compensated employees designated by CFC. Participants may elect to defer up to the lesser of 100% of their compensation for the year or the applicable IRS statutory dollar limit in effect for that calendar year. The calendar year 2019 cap for contributions is $19,000. During the three plan years immediately prior to the date a participant attains normal retirement age, participants may be eligible for a statutory catch-up provision that allows them to defer more than the annual contribution limit. Compensation for the purpose of this plan is defined as the total amount of compensation, including incentive pay, if any, paid by CFC. CFC does not make any contributions to this plan.

The accounts are credited with "earnings" based on the participants' selection of available investment options (currently, eight options) within the Homestead Funds. When a participant ceases to be an employee for any reason, distribution of the account will generally be made in 15 substantially equal annual payments beginning approximately 60 days after termination (unless an election is made to change the form and timing of the payout). The participant may elect either a single lump sum or substantially equal annual installments paid over no less than two and no more than 14 years. The amount paid is based on the accumulated value of the account.

The following table summarizes information related to the nonqualified deferred compensation plan in which the named executive officers listed in the "Summary Compensation Table" were eligible to participate during the fiscal year ended May 31, 2019.

Name	Executive Contributions in Last Fiscal Year [1]	Registrant Contributions in Last Fiscal Year	Aggregate Earnings in Last Fiscal Year	Aggregate Withdrawals/ Distributions	Aggregate Balance at Last Fiscal Year End
Sheldon C. Petersen	$ 18,708	$ —	$ 34,597	$ —	$ 850,802
J. Andrew Don	18,500	—	1,054	—	58,762
John T. Evans	4,625	—	14,104	(464,860)	—
Gregory J. Starheim	18,708	—	(2,888)	—	219,325
Roberta B. Aronson........	18,500	—	2,722	—	127,249
Joel Allen	—	—	—	—	—

[1] Executive contributions are also included in the fiscal year 2019 Salary column in the "Summary Compensation Table" above.

Termination of Employment and Change-in-Control Arrangements

Mr. Petersen has an executive agreement with CFC under which he may continue to receive base salary and benefits in certain circumstances after resignation or termination of employment. No other named executive officers have termination or change-in-control agreements.

Mr. Petersen

Under the executive agreement with Mr. Petersen, if CFC terminates his employment without "cause," or Mr. Petersen terminates his employment for "good reason" (each term as defined below), CFC is obligated to pay him a lump-sum payment equal to the product of three times his annual base salary at the rate in effect at the time of termination and his short-term incentive bonus, if any, for the previous year. Assuming a triggering event on May 31, 2019, the compensation payable to Mr. Petersen for termination without cause would be $4,235,250. The actual payments due on a termination without cause on different dates could materially differ from this estimate.

For purposes of Mr. Petersen's executive agreement, "cause" generally means (i) the willful and continued failure by Mr. Petersen to perform his duties under the agreement or comply with written policies of CFC, (ii) willful conduct materially injurious to CFC, or (iii) conviction of a felony involving moral turpitude. "Good reason" generally means (i) a reduction in the rate of Mr. Petersen's base salary, (ii) a decrease in his titles, duties or responsibilities, or the assignment of new responsibilities which, in either case, is materially less favorable to Mr. Petersen when compared with his titles, duties and responsibilities that were in effect immediately prior to such assignment, or (iii) the relocation of CFC's principal office or the relocation of Mr. Petersen to a location more than 50 miles from the principal office of CFC.

This estimate does not include amounts to which the named executive officer would be entitled to upon termination, such as base salary to date, unpaid bonuses earned, unreimbursed expenses, paid vacation time and any other earned benefits under company plans.

Chief Executive Officer Pay Ratio

The fiscal year 2019 compensation ratio of the median annual total compensation of all of our employees to the annual total compensation of our Chief Executive Officer is as follows:

Category and Ratio	Total Compensation
Median annual total compensation of all employees (excluding Chief Executive Officer)	$ 123,915
Annual total compensation of Sheldon C. Petersen, Chief Executive Officer	1,821,641
Ratio of the median annual total compensation of all employees to the annual total compensation of Sheldon C. Petersen, Chief Executive Officer	14.70:1.0

In determining the median employee, a listing was prepared of all active employees of CFC as of March 29, 2019. We did not make any assumptions, adjustments or estimates with respect to total compensation. We did not annualize the compensation for any part-time employees or those who were not employed by us for the full 10-month portion of the fiscal year. We determined the compensation of our median employee by (i) taking the total gross compensation earned fiscal year-to-date for all active employees as of March 29, 2019, and (ii) ranking the total gross compensation of all employees, except the Chief Executive Officer, from lowest to highest.

After identifying the median employee, we calculated annual total compensation for such employee using the same methodology we use for our named executive officers as set forth in the above Summary Compensation Table.

Director Compensation Table

Directors receive an annual fee for their service on the CFC board. Additionally, the directors receive reimbursement for reasonable travel expenses. The fee is paid on a monthly basis and reimbursement for travel expenses is paid following the conclusion of each board meeting.

The following chart summarizes the total compensation earned by CFC's directors during the fiscal year ended May 31, 2019.

Name	Total Fees Earned
Alan Wattles	$ 56,500
Barbara Hampton	13,750
Bradley J. Schardin	55,000
Bradley P. Janorschke	13,750
Bruce A. Vitosh	55,000
Chris Christensen	13,750
Curtin Rakestraw	41,250
Curtis Wynn	55,000
David Felkel	55,000
Dean Tesch	61,000
Debra Robinson	55,000
Dennis Fulk	13,750
Gordon Anthony Norton	13,750
Gregory Williams	55,000
Harry N. Park	45,750
Jay Hanson	55,000
Jimmy LaFoy	55,000
Kent Farmer	61,000
Marsha L. Thompson	55,000
Patrick Bridges	41,250
Philip Carson	41,250
Robert Brockman	55,000
Robert Hill	41,250
Roman Gillen	41,250
Stephen Vail	55,000
Thomas Bailey	13,750
Thomas Hayes	55,000
Timothy Rodriguez	55,000
Todd Ware	55,000

Compensation Committee Interlocks and Insider Participation

During the year ended May 31, 2019, there were no compensation committee interlocks or insider participation related to executive compensation.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Not applicable.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Review and Approval of Transactions with Related Persons

Our board of directors has established a written policy governing related-person transactions. The policy covers transactions between CFC, on the one hand, and its directors, executive officers or key employees and their immediate family members and entities of which any of our directors, executive officers or key employees (i) is an officer, director, trustee, alternative director or trustee or employee, (ii) control, or (iii) have a substantial interest. Under this policy, a related person transaction is any transaction in excess of $120,000 in which CFC was, is or is proposed to be a direct or indirect participant in which a related person had, has or will have a direct or indirect material interest in the transaction. Related person transactions do not include compensation or expense reimbursement arrangements with directors, officers or key employees (notwithstanding that officer compensation may be disclosed in “Item 13. Certain Relationships and Related Transactions, and Director Independence” in our Annual Report on Form 10-K, elsewhere in the CFC’s periodic reports filed with the SEC or otherwise disclosed publicly as a related person transaction), transactions where the related person’s interest arises only from the person’s position as a director of another entity that is a party to the transaction, and transactions deemed to be related credits. Related-person transactions are subject to review by the general counsel, or in some cases, the board of directors (excluding any interested director), based on whether the transaction is fair and reasonable to CFC and consistent with the best interests of CFC.

Related credits are extensions of credit to, or for the benefit of, related persons and entities that are made on substantially the same terms as, and follow underwriting procedures that are no less stringent than, those prevailing at the time for comparable transactions generally offered by CFC. Related credits are not subject to the procedures for transactions with related persons because we were established for the very purpose of extending financing to our members. We, therefore, enter into loan and guarantee transactions with members of which our officers and directors are officers, directors, trustees, alternative directors or trustees, or employees in the ordinary course of our business. All related credits are reviewed from time to time by our internal Corporate Credit Committee, which monitors our extensions of credit, and our independent third-party reviewer, which reviews our credit extension policies on an annual basis. All loans, including related credits, are approved in accordance with an internal credit approval matrix, with each level of risk or exposure potentially escalating the required approval from our lending staff to management, a credit committee or the board of directors. Related credits of $250,000 or less are generally approved by our lending staff or internal Corporate Credit Committee. Any related credit in excess of $250,000 requires approval by the full board of directors, except that any interested directors may not participate, directly or indirectly, in the credit approval process, and the CEO has the authority to approve emergency lines of credit and certain other loans and lines of credit. Notwithstanding the related-person transaction policy, the CEO will extend such loans and lines of credit in qualifying situations to a member of which a CFC director was a director or officer, provided that all such credits are underwritten in accordance with prevailing standards and terms. Such situations are typically weather related and must meet specific qualifying criteria. To ensure compliance with this policy, no related persons may be present in person or by teleconference while a related credit is being considered. Under no circumstances may we extend credit to a related person or any other person in the form of a personal loan.

As a cooperative, CFC was established for the very purpose of extending financing to its members, from which our directors must be drawn. Loans and guarantees to member systems of which directors of CFC are officers, directors, trustees, alternative directors or trustees, or employees, are made in the ordinary course of CFC business on the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with other members and that do not involve more than normal risk of uncollectibility or present other unfavorable features. It is anticipated that, consistent with its loan and guarantee policies in effect from time to time, additional loans and guarantees will be made by CFC to member systems and trade and service organizations of which directors of CFC or their immediate family members (i) are officers, directors, trustees, alternative directors or trustees or employees, (ii) control or (iii) have a substantial beneficial interest. CFC has adopted a policy whereby substantially all extensions of credit to such entities are approved only by the disinterested directors.

Related-Person Transactions

The following table contains the total compensation earned by CFC's executive officers during the year ended May 31, 2019 who are not named executive officers but meet the definition of a "related person" as described above. Total compensation disclosed below is made up of the same components included in the "Summary Compensation Table" under "Item 11. Executive Compensation."

Name and Principal Position	Total Compensation
Graceann D. Clendenen Senior Vice President & Chief Administrative Officer	**$ 629,920**
Steven M. Kettler Senior Vice President, Strategic Services	**474,591**
John M. Borak Senior Vice President, Credit Risk Management	**401,234**
Robin C. Reed Senior Vice President, Loan Operations	**370,742**
Brad L. Captain Senior Vice President, Corporate Relations	**353,117**

Independence Determinations

The board of directors has determined the independence of each director based on a review by the full board. The Audit Committee is subject to the independence requirements of Rule 10A-3 under the Securities Exchange Act. To evaluate the independence of our directors, the board has voluntarily adopted categorical independence standards consistent with the New York Stock Exchange ("NYSE") standards. However, because we only list debt securities on the NYSE, we are not subject to most of the corporate governance listing standards of the NYSE, including the independence requirements.

No director is considered independent unless the board has affirmatively determined that he or she has no material relationship with CFC, either directly or as a partner, shareholder or officer of an organization that has a relationship with CFC. Material relationships can include banking, legal, accounting, charitable and familial relationships, among others. In addition, a director is not considered independent if any of the following relationships existed:

(i) the director is, or has been within the last three years, an employee of CFC or an immediate family member is, or has been within the last three years, an executive officer of CFC;

(ii) the director has received, or has an immediate family member who has received, during any 12-month period within the last three years, more than $120,000 in direct compensation from CFC, other than director and committee fees and pension or other forms of deferred compensation for prior service (provided that such compensation is not contingent in any way on continued service);

(iii) (a) the director or an immediate family member is a current partner of a firm that is CFC's internal or external auditor; (b) the director is a current employee of such a firm; (c) the director has an immediate family member who is a current employee of such a firm and personally works on CFC's audit; or (d) the director or an immediate family member was within the last three years (but is no longer) a partner or employee of such a firm and personally worked on CFC's audit within that time;

(iv) the director or an immediate family member is, or has been within the last three years, employed as an executive officer of another company where any of CFC's present executive officers at the same time serves or served on that company's compensation committee; or

(v) the director is a current employee, or an immediate family member is a current executive officer, of a company that has made payments to, or received payments from, CFC for property or services in an amount which, in any of the last three fiscal years, exceeds the greater of $1 million, or 2% of such other company's consolidated gross revenue.

The board of directors also reviewed directors' responses to a questionnaire asking about their relationships with CFC and its affiliates (and those of their immediate family members) and other potential conflicts of interest.

Based on the criteria above, the board of directors has determined that the directors listed below are independent for the period of time served by such directors during fiscal year 2019. The board determined that none of the directors listed below had any of the relationships listed in (i)—(v) above or any other material relationship that would compromise their independence.

Independent Directors		
Thomas A. Bailey	Patrick L. Bridges[1]	Robert Brockman
Philip A. Carson[1]	Chris D. Christensen	Kent D. Farmer
David E. Felkel	Dennis Fulk	Barbara E. Hampton
Doyle Jay Hanson	Thomas L. Hayes	Robert M. Hill[1]
Jimmy A. LaFoy	G. Anthony Norton	Harry N. Park[1]
Curtin R. Rakestraw II[1]	Bradley J. Schardin	Dean R. Tesch
Marsha L. Thompson	Stephen C. Vail	Bruce A. Vitosh
Gregory D. Williams	Curtis Wynn	

(1) This director served during fiscal year 2019; however, he was no longer a director as of May 31, 2019.

Item 14. Principal Accounting Fees and Services

CFC's Audit Committee is solely responsible for the nomination, approval, compensation, evaluation and discharge of the independent public accountants. The independent registered public accountants report directly to the Audit Committee, and the Audit Committee is responsible for the resolution of disagreements between management and the independent registered public accountants. Consistent with U.S. Securities and Exchange Commission requirements, the Audit Committee has adopted a policy to pre-approve all audit and permissible non-audit services provided by the independent registered public accountants, provided such services do not impair the independent public accountant's independence.

KPMG, LLP was our independent registered public accounting firm for the fiscal years ended May 31, 2019 and 2018. KPMG, LLP has advised the Audit Committee that they are independent accountants with respect to the Company, within the meaning of standards established by the Public Company Accounting Oversight Board and federal securities laws administered by the SEC. The following table displays the aggregate estimated or actual fees for professional services provided by KPMG, LLP in fiscal years 2019 and 2018, including fees for the 2019 and 2018 audits. All services for fiscal years 2019 and 2018 were pre-approved by the Audit Committee.

	May 31,	
(Dollars in thousands)	**2019**	**2018**
Description of fees:		
Audit fees[1]	**$ 1,589**	$ 1,540
Tax fees[2]	**13**	15
All other fees[3]	**11**	11
Total	**$ 1,613**	$ 1,566

(1) Audit fees for fiscal years 2019 and 2018 consist of fees for the quarterly reviews of our interim financial information and the audit of our annual consolidated financial statements and fees for the preparation of the stand-alone financial statements for RTFC and NCSC. Audit fees for fiscal years 2019 and 2018 also include comfort letter fees and consents related to debt issuances and compliance work required by the independent auditors.

(2) Tax fees consist of assistance with matters related to tax compliance and consulting.

(3) All other fees for fiscal years 2019 and 2018 consist of fees for certain agreed-upon procedures.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Financial Statement Schedules

The following documents are filed as part of this Report in Part II, Item 8 and are incorporated herein by reference.

2. Schedules

None.

(b) Exhibits

An Exhibit Index has been filed as part of this Form 10-K and is incorporated herein by reference.

Item 16. Form 10-K Summary

Not applicable.

EXHIBIT INDEX

The following exhibits are incorporated by reference or filed herewith.

Exhibit No.		Description
3.1	—	Articles of Incorporation. Incorporated by reference to Exhibit 3.1 to our Form 10-K filed on August 28, 2014.
3.2	—	Amended Bylaws as approved by the CFC Board of Directors and members on March 7, 2011. Incorporated by reference to Exhibit 3.2 to our Form 10-Q filed on April 13, 2011.
4.1*	—	Description of Securities.
4.2	—	Form of Capital Term Certificate.
4.3	—	Indenture dated February 15, 1994, between the Registrant and First Bank National Association as trustee. Incorporated by reference to Exhibit 4.2 to our Form 10-Q filed on October 15, 2007.
4.4	—	Form of indenture between CFC and Mellon Bank, N.A., as Trustee. Incorporated by reference to Exhibit 4.1 to Registration Statement on Form S-3 filed on November 14, 1995 (Registration No. 33-64231).
4.5	—	Indenture dated as of December 15,1987, between CFC and Chemical Bank, as Trustee. Incorporated by reference to Exhibit 4.1 to Registration Statement on Form S-3ASR filed on November 24, 2008 (Registration No. 333-155631).
4.6	—	First Supplemental Indenture between CFC and Chemical Bank, as Trustee. Incorporated by reference to Exhibit 4.2 to Registration Statement on Form S-3 filed on April 5, 1995 (Registration No. 33-58445).
4.7	—	Form of indenture dated May 15, 2000, between the Registrant and Bank One Trust Company, National Association, as trustee. Incorporated by reference to Exhibit 4.1 to Registration Statement on Form S-3 filed on May 25, 2000 (Registration No. 333-37940).
4.8	—	First Supplemental Indenture dated March 12, 2007, between the Registrant and U.S. Bank National Association, as successor trustee. Incorporated by reference to Exhibit 4.2 to Registration Statement on Form S-3ASR filed on April 19, 2007 (Registration No. 333-142230).
4.9	—	Indenture dated October 25, 2007, between the Registrant and U.S. Bank National Association, as trustee. Incorporated by reference to Exhibit 4.1 to Registration Statement on Form S-3ASR filed on October 26, 2007 (Registration No. 333-146960).
4.10	—	Indenture dated October 15, 1996, between the Registrant and U.S. Bank National Association, as successor trustee. Incorporated by reference to Exhibit 4.1 to Form 8-K filed on October 28, 1996.
10.1^	—	Plan Document for CFC’s Deferred Compensation Pension Restoration Plan amended and restated effective January 1, 2015.
10.2^	—	Plan Document for CFC’s Deferred Compensation Program amended and restated February 1, 2014. Incorporated by reference to Exhibit 10.6 to our Form 10-K filed on August 28, 2014.
10.3^	—	Plan Document for CFC's Executive Benefit Restoration Plan dated December 9, 2014. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed on April 13, 2015.
10.4^	—	Employment Agreement between the Company and Sheldon C. Petersen, effective January 1, 2015. Incorporated by reference to Exhibit 10.1 to our Form 8-K filed on December 23, 2014.
10.5^	—	Supplemental Executive Retirement Plan of the Company, effective January 1, 2015. Incorporated by reference to Exhibit 10.2 to our Form 8-K filed on December 23, 2014.
10.6	—	Amended and Restated Revolving Credit Agreement dated November 19, 2015 maturing on November 19, 2018. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed on January 13, 2016.
10.7	—	Amended and Restated Revolving Credit Agreement dated November 19, 2015 maturing on November 19, 2020. Incorporated by reference to Exhibit 10.2 to our Form 10-Q filed on January 13, 2016.
10.8	—	Amendment No.1 dated as of November 18, 2016 to the Amended and Restated Revolving Credit Agreement dated as of November 19, 2015 maturing on November 19, 2019. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed on January 13, 2017.

Exhibit No.		Description
10.9	—	Amendment No.1 dated as of November 18, 2016 to the Amended and Restated Revolving Credit Agreement dated as of November 19, 2015 maturing on November 19, 2021. Incorporated by reference to Exhibit 10.2 to our Form 10-Q filed on January 13, 2017.
10.10	—	Amendment No. 2 dated as of November 20, 2017 to the Amended and Restated Revolving Credit Agreement dated as of November 19, 2015 maturing on November 20, 2020. Incorporated by reference to Exhibit 10.01 to our Form 10-Q filed on January 11, 2018.
10.11	—	Amendment No. 2 dated as of November 20, 2017 to the Amended and Restated Revolving Credit Agreement dated as of November 19, 2015 maturing on November 20, 2022. Incorporated by reference to Exhibit 10.02 to our Form 10-Q filed on January 11, 2018.
10.12	—	Amendment No. 3 dated as of November 28, 2018 to the Amended and Restated Revolving Credit Agreement dated as of November 19, 2015 maturing on November 21, 2028. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed on January 11, 2019.
10.13	—	Amendment No. 3 dated as of November 28, 2018 to the Amended and Restated Revolving Credit Agreement dated as of November 19, 2015 maturing on November 28, 2023. Incorporated by reference to Exhibit 10.2 to our Form 10-Q filed on January 11, 2019.
10.14	—	Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated June 14, 2005 for up to $1,000,000,000. Incorporated by reference to Exhibit 4.12 to our Form 10-K filed on August 24, 2005.
10.15	—	Series A Future Advance Bond from the Registrant to the Federal Financing Bank dated June 14, 2005 for up to $1,000,000,000 maturing on July 15, 2028. Incorporated by reference to Exhibit 4.15 to our Form 10-K filed on August 24, 2005.
10.16	—	Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated April 28, 2006 for up to $1,500,000,000. Incorporated by reference to Exhibit 4.11 to our Form 10-K filed on August 25, 2006.
10.17	—	Series B Future Advance Bond from the Registrant to the Federal Financing Bank dated April 28, 2006 for up to $1,500,000,000 maturing on July 15, 2029. Incorporated by reference to Exhibit 4.14 to our Form 10-K filed on August 25, 2006.
10.18	—	Series C Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated September 19, 2008 for up to $500,000,000. Incorporated by reference to Exhibit 4.29 to our Form 10-Q filed on October 14, 2008.
10.19	—	Series C Future Advance Bond from the Registrant to the Federal Financing Bank dated September 19, 2008 for up to $500,000,000 maturing on October 15, 2031. Incorporated by reference to Exhibit 4.32 to our Form 10-Q filed on October 14, 2008.
10.20	—	Series D Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of November 10, 2010 for up to $500,000,000. Incorporated by reference to Exhibit 4.1 to our Form 10-Q filed on January 14, 2011.
10.21	—	Series D Future Advance Bond from the Registrant to the Federal Financing Bank dated as of November 10, 2010 for up to $500,000,000 maturing on October 15, 2033. Incorporated by reference to Exhibit 4.4 to our Form 10-Q filed on January 14, 2011.
10.22	—	Series E Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of December 1, 2011 for up to $499,000,000. Incorporated by reference to Exhibit 10.3 to our Form 10-Q filed on January 17, 2012.
10.23	—	Series E Future Advance Bond from the Registrant to the Federal Financing Bank dated as of December 1, 2011 for up to $499,000,000 maturing on October 15, 2034. Incorporated by reference to Exhibit 10.6 to our Form 10-Q filed on January 17, 2012.
10.24	—	Series F Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of December 13, 2012 for up to $424,286,000. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed in January 14, 2013.
10.25	—	Series F Future Advance Bond from the Registrant to the Federal Financing Bank dated as of December 13, 2012 for up to $424,286,000 maturing on October 15, 2035. Incorporated by reference to Exhibit 10.4 to our Form 10-Q filed in January 14, 2013.
10.26	—	Series G Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of November 21, 2013 for up to $500,000,000. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed in January 13, 2014.

Exhibit No.		Description
10.27	—	Series G Future Advance Bond from the Registrant to the Federal Financing Bank dated as of November 21, 2013 for up to $500,000,000 maturing on October 15, 2036. Incorporated by reference to Exhibit 10.3 to our Form 10-Q filed in January 13, 2014.
10.28	—	Series H Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of November 18, 2014 for up to $250,000,000. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed on January 14, 2015.
10.29	—	Series H Future Advance Bond from the Registrant to the Federal Financing Bank dated as of November 18, 2014 for up to $250,000,000 maturing on October 15, 2034. Incorporated by reference to Exhibit 10.3 to our Form 10-Q filed on January 14, 2015.
10.30	—	Series K Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of March 29, 2016 for up to $250,000,000. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed on April 4, 2016.
10.31	—	Series K Future Advance Bond from the Registrant to the Federal Financing Bank dated as of March 29, 2016 for up to $250,000,000 maturing on January 15, 2039. Incorporated by reference to Exhibit 10.2 to our Form 10-Q filed on April 4, 2016.
10.32	—	Series L Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of December 1, 2016 for up to $375,000,000. Incorporated by reference to Exhibit 10.3 to our Form 10-Q filed on January 13, 2017.
10.33	—	Series L Future Advance Bond from the Registrant to the Federal Financing Bank dated as of December 1, 2016 for up to $375,000,000 maturing on October 15, 2039. Incorporated by reference to Exhibit 10.4 to our Form 10-Q filed on January 13, 2017.
10.34	—	Series M Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of November 9, 2017 for up to $750,000,000. Incorporated by reference to Exhibit 10.03 to our Form 10-Q filed on January 11, 2018.
10.35	—	Series M Future Advance Bond from the Registrant to the Federal Financing Bank dated as of November 9, 2017 for up to $750,000,000 maturing on July 15, 2042. Incorporated by reference to Exhibit 10.04 to our Form 10-Q filed on January 11, 2018.
10.36	—	Series N Bond Purchase Agreement between the Registrant, Federal Financing Bank and Rural Utilities Service dated as of November 15, 2018 for up to $750,000,000. Incorporated by reference to Exhibit 10.3 to our Form 10-Q filed on January 11, 2019.
10.37	—	Series N Future Advance Bond from the Registrant to the Federal Financing Bank dated as of November 15, 2018 for up to $750,000,000 maturing on July 15, 2043. Incorporated by reference to Exhibit 10.3 to our Form 10-Q filed on January 11, 2019.
10.38	—	Fifth Amended, Restated and Consolidated Pledge Agreement dated as of November 15, 2018 between the Registrant, the Rural Utilities Service and U.S. Bank National Association. Incorporated by reference to Exhibit 10.5 to our Form 10-Q filed on January 11, 2019.
10.39	—	Fifth Amended, Restated and Consolidated Bond Guarantee Agreement dated as of November 15, 2018 between the Registrant and the Rural Utilities Service. Incorporated by reference to Exhibit 10.6 to our Form 10-Q filed on January 11, 2019.
10.40	—	Amended and Restated Master Sale and Servicing Agreement, dated as of August 12, 2011, by and between the Registrant and the Federal Agricultural Mortgage Corporation, as amended by Amendment No. 1 dated as of November 28, 2016. Incorporated by reference to Exhibit 10.7 to our Form 10-Q filed on January 13, 2017.
10.41	—	Amended and Restated Master Note Purchase Agreement dated March 24, 2011 between the Registrant and Federal Agricultural Mortgage Corporation. Incorporated by reference to Exhibit 4.4 to our Form 10-Q filed on April 13, 2011.
10.42	—	Second Amended and Restated First Supplemental Note Purchase Agreement dated February 26, 2018 for up to $5,500,000,000 between the Registrant and Federal Agricultural Mortgage Corporation. Incorporated by reference to Exhibit 10.01 to our Form 10-Q filed on April 11, 2018.
10.43	—	Second Amended, Restated and Consolidated Pledge Agreement dated July 31, 2015, between the Registrant, Federal Agricultural Mortgage Corporation and U.S. Bank Trust National Association. Incorporated by reference to Exhibit 10.48 to our Form 10-K filed on August 26, 2015.
10.44	—	Long Term Standby Commitment to Purchase dated August 31, 2015, between the Registrant and Federal Agricultural Mortgage Corporation. Incorporated by reference to Exhibit 10.1 to our Form 10-Q filed on October 14, 2015.

Exhibit No.		Description
10.45	—	Amendment No. 1 to Long Term Standby Commitment to Purchase, dated as of May 31, 2016, between the Registrant and Federal Agricultural Mortgage Corporation. Incorporated by reference to Exhibit 10.38 to our Form 10-K filed on August 25, 2016.
10.46	—	Purchase Agreement dated September 30, 2015, between the Registrant, Caribbean Asset Holdings, LLC, ATN VI Holdings, LLC and Atlantic Tele-Network, Inc. Incorporated by reference to Exhibit 10.2 to our Form 10-Q filed on October 14, 2015.
10.47	—	Amendment to Purchase Agreement dated July 1 2016, between the Registrant, Caribbean Asset Holdings, LLC, ATN VI Holdings, LLC and ATN International (formerly Atlantic Tele-Network, Inc.). Incorporated by reference to Exhibit 10.40 to our Form 10-K filed on August 25, 2016.
		Registrant agrees to furnish to the Securities and Exchange Commission a copy of all other instruments defining the rights of holders of its long-term debt upon request.
23.1*	—	Consent of KPMG LLP.
31.1*	—	Certification of the Chief Executive Officer required by Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	—	Certification of the Chief Financial Officer required by Section 302 of the Sarbanes-Oxley Act of 2002.
32.1†	—	Certification of the Chief Executive Officer required by Section 906 of the Sarbanes-Oxley Act of 2002.
32.2†	—	Certification of the Chief Financial Officer required by Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	—	XBRL Instance Document.
101.SCH*	—	XBRL Taxonomy Extension Schema Document.
101.CAL*	—	XBRL Taxonomy Calculation Linkbase Document.
101.LAB*	—	XBRL Taxonomy Label Linkbase Document.
101.PRE*	—	XBRL Taxonomy Presentation Linkbase Document
101.DEF*	—	XBRL Taxonomy Definition Linkbase Document

*Indicates a document being filed with this Report.

^Identifies a management contract or compensatory plan or arrangement.

†Indicates a document that is furnished with this Report, which shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that Section.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the County of Loudoun, Commonwealth of Virginia, on the 31st day of July 2019.

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION

By: /s/ SHELDON C. PETERSEN

Sheldon C. Petersen
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ SHELDON C. PETERSEN **Sheldon C. Petersen**	Chief Executive Officer	July 31, 2019
/s/ J. ANDREW DON **J. Andrew Don**	Senior Vice President and Chief Financial Officer	July 31, 2019
/s/ ROBERT E. GEIER **Robert E. Geier**	Vice President and Controller	July 31, 2019
/s/ KENT D. FARMER **Kent D. Farmer**	President and Director	July 31, 2019
/s/ DEAN R. TESCH **Dean R. Tesch**	Vice President and Director	July 31, 2019
/s/ ALAN W. WATTLES **Alan W. Wattles**	Secretary-Treasurer and Director	July 31, 2019
/s/ THOMAS A. BAILEY **Thomas A. Bailey**	Director	July 31, 2019
/s/ ROBERT BROCKMAN **Robert Brockman**	Director	July 31, 2019
/s/ CHRIS D. CHRISTENSEN **Chris D. Christensen**	Director	July 31, 2019
/s/ DAVID E. FELKEL **David E. Felkel**	Director	July 31, 2019
/s/ DENNIS FULK **Dennis Fulk**	Director	July 31, 2019
/s/ BARBARA E. HAMPTON **Barbara E. Hampton**	Director	July 31, 2019
/s/ DOYLE JAY HANSON **Doyle Jay Hanson**	Director	July 31, 2019
/s/ THOMAS L. HAYES **Thomas L. Hayes**	Director	July 31, 2019

/s/ BRADLEY P. JANORSCHKE **Bradley P. Janorschke**	Director	July 31, 2019
/s/ JIMMY A. LAFOY **Jimmy A. LaFoy**	Director	July 31, 2019
/s/ G. ANTHONY NORTON **G. Anthony Norton**	Director	July 31, 2019
/s/ DEBRA L. ROBINSON **Debra L. Robinson**	Director	July 31, 2019
/s/ TIMOTHY RODRIGUEZ **Timothy Rodriguez**	Director	July 31, 2019
/s/ BRADLEY J. SCHARDIN **Bradley J. Schardin**	Director	July 31, 2019
/s/ MARSHA L. THOMPSON **Marsha L. Thompson**	Director	July 31, 2019
/s/ STEPHEN C. VAIL **Stephen C. Vail**	Director	July 31, 2019
/s/ BRUCE A. VITOSH **Bruce A. Vitosh**	Director	July 31, 2019
/s/ TODD P. WARE **Todd P. Ware**	Director	July 31, 2019
/s/ GREGORY D. WILLIAMS **Gregory D. Williams**	Director	July 31, 2019
/s/ CURTIS WYNN **Curtis Wynn**	Director	July 31, 2019

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

<u>Description of the 5.500% Subordinated Notes due 2064 (Subordinated Deferrable Interest Notes)</u>

The following description is a summary of the 5.500% Subordinated Notes due 2064 (Subordinated Deferrable Interest Notes) (the "Notes") of National Rural Utilities Cooperative Finance Corporation (the "Company," "CFC," "we," "us" and "our"). The following summary of specified provisions of the 1996 Indenture (defined below) and the Notes is subject to, and qualified in its entirety by reference to, the actual provisions of the 1996 Indenture and the Notes.

General

On May 6, 2019, we issued $250,000,000 aggregate principal amount of the Notes. The Notes were issued as a series of subordinated debt securities under that certain indenture dated as of October 15, 1996 (the "1996 Indenture"), between us and U.S. Bank National Association, as successor trustee (the "Notes Trustee"). The Notes were issued in registered form and only in denominations of?$25.00 and integral multiples in excess thereof.There is no limit on the amount of additional securities similar to the Notes that may be issued under the 1996 Indenture. The Notes are traded on the New York Stock Exchange under the symbol "NRUC."

Maturity

The Notes will mature on May 15, 2064. If that day is not a business day, payment of principal and interest will be postponed to the next business day and no interest will accrue as a result of that postponement.

Interest Rate and Interest Payment Dates

The Notes bear interest at the annual rate of 5.500%, and we will pay accrued interest quarterly in arrears on February 15, May 15, August 15 and November 15 of each year, beginning on August 15, 2019 subject to our rights and obligations under "Option to Extend Interest Payment Period." Interest payments will be made to the persons or entities in whose names the Notes are registered at the close of business on February 1, May 1, August 1 or November 1 (whether or not a business day), as the case may be, immediately preceding the relevant interest payment date. The amount of interest payable for any interest period will be computed on the basis of a 360-day year consisting of twelve 30-day months. In the event that any interest payment date falls on a day that is not a business day, the interest payment due on that date will be postponed to the next day that is a business day, and no additional interest will accrue as a result of that postponement.

"Business day" means any day other than (i) a Saturday or Sunday, (ii) a day on which banking institutions in The City of New York are authorized or required by law or executive order to remain closed, or (iii) a day on which the corporate trust office of the Notes Trustee is closed for business.

Option to Extend Interest Payment Period

So long as there is no event of default under the 1996 Indenture with respect to the Notes that is continuing, we may at any time and from time to time during the term of the Notes extend the interest payment period (such a period being referred to as an "extension period") for a period not exceeding forty (40) consecutive quarterly periods, except that we may not extend the interest payment period beyond the maturity date, any earlier accelerated maturity date arising from an event of default or any other earlier redemption of the Notes. During an extension period, interest will continue to accrue on the Notes at the interest rate on the Notes and accrued interest on the Notes will bear additional interest at the interest rate on the Notes, compounded on each interest payment date, subject to applicable law. At the end of an extension period, unless further extended in accordance with the requirements below, we must pay all accrued and unpaid interest (and interest thereon).

During any extension period we may not declare or pay any dividend or interest on, or principal of, or redeem, purchase, acquire or make a liquidation payment with respect to, any of our members' subordinated certificates. Before the termination of any extension period, we may further extend the interest payment period, so long as the extension period, together with all previous and further extensions, would not exceed forty (40) consecutive quarterly periods or extend beyond the maturity of the Notes. No extension period (including as extended) may end on a day other than the last day of an interest payment period.

Upon the termination of an extension period and the payment of all amounts then due (including interest on unpaid interest), we may select a new extension period, subject to the above requirements. No interest during an extension period, except at the end thereof, shall be due and payable. We shall give the holders of the Notes and the Notes Trustee notice of our election of extension of an extension period at least ten business days prior to the earlier of?(i) the next interest payment date and (ii) the date upon which we are required to give notice to any applicable self-regulatory organization or to holders of the Notes of such next succeeding record or payment date for such interest payment.

Optional Redemption

We may redeem the Notes at any time, prior to May 15, 2024, in whole or in part, at a "make-whole" redemption price equal to the greater of?? (1) 100% of the principal amount being redeemed or (2) the sum of the present values of the remaining scheduled payments of the principal and interest (other than accrued interest) on the Notes being redeemed that would be due if such Notes matured on May 15, 2024, discounted to the redemption date on a quarterly basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points for the Notes plus in each of? (1) and (2) above, accrued interest to, but excluding, the redemption date.

At any time on or after May 15, 2024, we may redeem the Notes, at our option, in whole or in part, at a redemption price equal to 100% of the principal amount of the Notes then outstanding to be redeemed, plus accrued and unpaid interest thereon to, but excluding, the date of redemption.

For purposes of these redemption provisions, the following terms have the following meanings:

"Comparable Treasury Issue" means the United States Treasury security selected by an Quotation Agent as having a maturity comparable to the remaining term of the Notes being redeemed (assuming, for this purpose, that the Notes matured on May 15, 2024) that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of such Notes.

"Comparable Treasury Price" means with respect to any redemption date, (A) the average of the Reference Treasury Dealer Quotations for the redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations for that redemption date, or (B) if we obtain fewer than four Reference Treasury Dealer Quotations, the average of all the Reference Treasury Dealer Quotations obtained.

"Quotation Agent" means one of the Reference Treasury Dealers appointed by CFC.

"Reference Treasury Dealer" means (1) each of J.P. Morgan Securities LLC and RBC Capital Markets, LLC, or their respective affiliates or successors; provided, however, that if any of them ceases to be a primary U.S. Government securities dealer in the United States, CFC will appoint another primary U.S. Government securities dealer as a substitute and (2) any other U.S. Government securities dealers selected by CFC.

"Reference Treasury Dealer Quotations" means, for each Reference Treasury Dealer and any redemption date, the average, as determined by the Quotation Agent, of the bid and ask prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Quotation Agent by the Reference Treasury Dealer at 5:00 p.m. New York City time on the third business day preceding the redemption date for the Notes being redeemed.

“Treasury Rate” means, for any redemption date, the rate per annum equal to the quarterly equivalent yield to maturity of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for the redemption date.

Redemption Following a Tax Event

We will have the right to redeem the Notes, at any time before May 15, 2024, in whole but not in part, at any time within 90 days following the occurrence and continuation of a Tax Event at a redemption price equal to 100% of the principal amount of the Notes, plus accrued and unpaid interest, if any, thereon to, but not including, the redemption date.

A “Tax Event” means that the Company has received an opinion of nationally recognized independent tax counsel experienced in such matters at any time after the occurrence of any of the events set forth below to the effect that:

(i) there is more than an insubstantial risk that the Company would lose its status as a 501(c)(4) tax-exempt entity pursuant to the Internal Revenue Code as a result of:

- any amendment to or change or announced proposed change in the laws or regulations of the United States or any of its political subdivisions or taxing authorities affecting taxation;
- any amendment to or change in an interpretation or application of such laws or regulations by any legislative body, court, governmental agency or regulatory authority; or
- any official administrative interpretation or official administrative pronouncement that provides for a position with respect to those laws or regulations that differs from the generally accepted position on the date the Notes are issued;

which amendment or change becomes effective or proposed change, pronouncement, interpretation, action or decision is announced on or after April 29, 2019; and

(ii) there is more than an insubstantial risk that interest payable on the Notes is not or within 90 days of the date of the opinion would not be currently deductible as such interest accrues, in whole or in part, by the Company for United States federal income tax purposes as a result of:

- any amendment to or change or announced proposed change in the laws or regulations of the United States or any of its political subdivisions or taxing authorities affecting taxation;
- any amendment to or change in an interpretation or application of such laws or regulations by any legislative body, court, governmental agency or regulatory authority; or
- any official administrative interpretation or official administrative pronouncement that provides for a position with respect to those laws or regulations that differs from the generally accepted position on the date the Notes are issued;

?which amendment or change becomes effective or proposed change, pronouncement, interpretation, action or decision is announced on or after April 29, 2019.

Our right to redeem the Notes due to a Tax Event is subject to the condition that, if we have the opportunity to eliminate a Tax Event, within 90 days following the occurrence and continuation of such Tax Event, by taking some ministerial action (a “ministerial action”), such as filing a form or making an election, or pursuing some other similar reasonable measure that will have no adverse effect on us or the holders of the Notes and will involve no material cost, we will pursue such measures in lieu of redemption. We cannot redeem the Notes while we are pursuing any such ministerial action.

Redemption Following a Rating Agency Event

We will have the right to redeem the Notes, at any time before May 15, 2024, in whole but not in part, at any time within 90 days following the conclusion of any review or appeal process instituted by us at any time following the occurrence and continuation of a Rating Agency Event, at a redemption price equal to 102% of the principal amount of the Notes, plus any accrued unpaid interest, if any, thereon to, but not including, the redemption date.

"Rating Agency Event" means a change in the methodology published by any nationally recognized statistical rating organization within the meaning of Section 3(a)(62) of the Exchange Act (sometimes referred to as a "rating agency") that currently publishes a rating for us in assigning equity credit to securities such as the Notes, as such methodology is in effect on April 29, 2019 (the "current criteria"), which change results in (i) any shortening of the length of time for which equity credit pertaining to the Notes would have been in effect had the current methodology not been changed or (ii) a lower equity credit being assigned by such rating agency to the Notes as of the date of such change than the equity credit that would have been assigned to the Notes as of the date of such change by such rating agency pursuant to its current criteria.

Redemption Procedures

We will provide not less than 30 nor more than 60 days' notice mailed to each registered holder of the Notes to be redeemed. If the redemption notice is given and funds deposited as required, then interest will cease to accrue from and after the redemption date on the Notes or portions of such Notes called for redemption. In the event that any redemption date is not a business day, we will pay the redemption price on the next business day without any interest or other payment due to the delay.

Ranking

The Notes are unsecured subordinated debt securities and are subordinated and junior in right of payment to all senior indebtedness of CFC.

No payment of principal of, including redemption and sinking fund payments, or premium or interest on, the subordinated debt securities may be made if any senior indebtedness is not paid when due, or a default has occurred with respect to the senior indebtedness permitting the holders to accelerate its maturity and the default has not been cured or waived and has not ceased to exist. Upon any acceleration of the principal amount due on the subordinated debt securities or any payment or distribution of assets of CFC to creditors upon any dissolution, winding-up, liquidation or reorganization, whether voluntary or involuntary or in bankruptcy, insolvency, receivership or other proceedings, all principal of, and premium, if any, and interest due or to become due on, all senior indebtedness must be paid in full before the holders of the subordinated debt securities are entitled to receive or retain any payment. The holders of the subordinated debt securities will be subrogated to the rights of the holders of senior indebtedness to receive payments or distributions until all amounts owing on the senior indebtedness are paid in full.

The term "senior indebtedness" is defined in the 1996 Indenture to mean:

- all indebtedness heretofore or hereafter incurred by us for money borrowed unless by its terms it is provided that such indebtedness is not senior indebtedness;
- all other indebtedness hereafter incurred by us which by its terms provides that such indebtedness is senior indebtedness;
- all guarantees, endorsements and other contingent obligations in respect of, or obligations to purchase or otherwise acquire or service, indebtedness or obligations of others; and

- any amendments, modifications, deferrals, renewals or extensions of any such senior indebtedness, or debentures, notes or evidences of indebtedness heretofore or hereafter issued in evidence of or exchange of such senior indebtedness.

The Notes rank equal in right of payment and upon liquidation to our outstanding subordinated debt.

The Notes are senior to our members' subordinated certificates.

Events of Default

The following "events of default" are applicable to the Notes:

- failure to pay interest on the Notes within 60 days after such interest is due (provided, however, that a failure to pay interest during a valid optional extension period will not constitute an event of default, as described above under "Option to Extend Interest Payment Period");

- failure to pay principal of or any premium on the Notes when due; and

- certain bankruptcy, insolvency or reorganization events with respect to CFC.

No event of default with respect to one series of subordinated debt securities necessarily constitutes an event of default with respect to another series of subordinated debt securities.

With respect to the Notes, a failure to comply with the other covenants under the 1996 Indenture does not constitute an event of default.

Modification of the 1996 Indenture

Without the consent of any holder of the Notes, we and the Notes Trustee may enter into one or more supplemental indentures to the 1996 Indenture for any of the following purposes:

- to evidence the assumption by any permitted successor to CFC of the covenants of CFC in the 1996 Indenture and the subordinated debt securities;
- to add one or more covenants of CFC or other provisions for the benefit of the holders of all or any series of the subordinated debt securities or to surrender any right or power conferred upon CFC by the 1996 Indenture;
- to add any additional events of default with respect to all or any series of outstanding subordinated debt securities;
- to change or eliminate any provision of the 1996 Indenture or to add any new provision to the 1996 Indenture, but if the change, elimination or addition will adversely affect the interests of the holders of subordinated debt securities of any series in any material respect, the change, elimination or addition will not become effective with respect to the series;
- to provide collateral security for the subordinated debt securities;
- to establish the form or terms of subordinated debt securities of any series as permitted by the 1996 Indenture;
- to provide for the acceptance of appointment by a successor trustee with respect to the subordinated debt securities of one or more series and to add to or change any of the provisions of the 1996 Indenture as necessary to provide for or facilitate the administration of the trusts under the 1996 Indenture by more than one trustee;
- to provide for the procedures required to permit the utilization of a non-certificated system of registration for any series of subordinated debt securities;
- to change any place where:

- ◦ the principal of and premium, if any, and interest, if any, on any subordinated debt securities is payable;
- ◦ any subordinated debt securities may be surrendered for registration of transfer or exchange;
- ◦ notices and demands to or upon CFC in respect of subordinated debt securities and the 1996 Indenture may be served; or
- ◦ to cure any ambiguity or inconsistency or to make or change any other provisions with respect to matters and questions arising under the 1996 Indenture, so long as such changes or additions do not adversely affect the interests of the holders of subordinated debt securities of any series in any material respect.

? If the Trust Indenture Act is amended after the date of the 1996 Indenture to require changes to the 1996 Indenture or the incorporation of additional provisions or to permit changes to, or the elimination of, provisions which, at the date of the 1996 Indenture, were required by the Trust Indenture Act to be contained in the 1996 Indenture, the 1996 Indenture will be deemed amended so as to conform to the amendment or to effect the changes or elimination. CFC and the trustee may, without the consent of any holders, enter into one or more supplemental 1996 Indentures to evidence or effect the amendment.

Except as provided above, the consent of the holders of not less than a majority in aggregate principal amount of the subordinated debt securities of all series then outstanding, considered as one class, is required to add any provisions to, or change in any manner, or eliminate any of the provisions of, the 1996 Indenture. However, if less than all of the series of subordinated debt securities outstanding are directly affected by a proposed supplemental indenture, then the consent only of the holders of a majority in aggregate principal amount of outstanding subordinated debt securities of all series so directly affected, considered as one class, will be required. If the subordinated debt securities of any series have been issued in more than one tranche and if the proposed supplemental indenture directly affects the rights of the holders of one or more, but less than all, tranches, the consent only of the holders of a majority in aggregate principal amount of the outstanding subordinated debt securities of all tranches directly affected, considered as one class, will be required. However, no supplemental indenture may, without the consent of the holders of all of the affected outstanding subordinated debt securities:

- change the stated maturity, installment or interest rate of any of the subordinated debt securities;
- reduce the principal amount, any premium or the interest rate on any of the subordinated debt securities;
- reduce the amount of the principal of original issue discount subordinated debt securities payable on acceleration of maturity;
- change the coin or currency or other property in which any principal, premium or interest of any of the subordinated debt securities is payable;
- impair any right to take legal action for an overdue payment;
- reduce the percentage required for modifications to or waivers of compliance with the 1996 Indenture;
- reduce the requirements for quorum or voting; or
- with certain exceptions, modify the provisions for the waivers of certain covenants and defaults and any of the foregoing provisions.

?A supplemental indenture that changes or eliminates any provision of the 1996 Indenture expressly included solely for the benefit of a particular series of subordinated debt securities or tranches, or modifies the rights of the holders of subordinated debt securities of the series or tranches with respect to the provision, will be deemed not to affect the rights under the 1996 Indenture of the holders of the subordinated debt securities of any other series or tranche.

The 1996 Indenture provides that in determining whether the holders of the requisite principal amount of the outstanding subordinated debt securities have given or taken any direction, notice, consent, waiver or other action under the 1996 Indenture as of any date:

- subordinated debt securities owned by CFC or any other obligor upon the securities or any affiliate of CFC or of the other obligor unless CFC, the affiliate or obligor owns all securities outstanding under the 1996 Indenture, or all outstanding subordinated debt securities of each the series and the tranche, as the case may be, determined without regard to this bullet point shall be disregarded and deemed not outstanding;
- the principal amount of a discount subordinated debt security deemed outstanding shall be the amount of the principal that would be due and payable as of the date of determination upon a declaration of acceleration of the maturity as provided in the 1996 Indenture; and
- the principal amount of a subordinated debt security denominated in foreign currencies or a composite currency deemed outstanding will be the dollar equivalent, determined as of that date in the manner prescribed for that subordinated debt security, of the principal amount of that subordinated debt security, or, in the case of a subordinated debt security described in the second bullet point above, of the amount described in that bullet point.

? If CFC solicits from holders of subordinated debt securities any request, demand, authorization, direction, notice, consent, election, waiver or other act, CFC may, at its option, by board resolution, fix in advance a record date for the determination of holders of subordinated debt securities entitled to give such request, demand, authorization, direction, notice, consent, election, waiver or other act, but CFC shall have no obligation to do so. If a record date is fixed, the request, demand, authorization, direction, notice, consent, election, waiver or other act may be given before or after the record date, but only the holders of record at the close of business on the record date shall be deemed holders for the purposes of determining whether holders of the requisite proportion of the outstanding subordinated debt securities have authorized or agreed or consented to such request, demand, authorization, direction, notice, consent, waiver or other act, and for that purpose the outstanding subordinated debt securities shall be computed as of the record date. Any request, demand, authorization, direction, notice, consent, election, waiver or other act of a holder shall bind every future holder of the same security and the holder of every security issued upon the registration of transfer or in exchange or in lieu of the security in respect of anything done, omitted or suffered to be done by the trustee or CFC in reliance thereon, whether or not notation is made upon security.

Agreement by Holders of Certain Tax Treatment

Each holder of the Notes, by accepting the Notes or a beneficial interest therein, is deemed to have agreed that the holder intends that the Notes constitute indebtedness and will treat the Notes as indebtedness for all United States federal, state and local tax purposes.

Denomination

The Notes are issued only in denominations of? $25.00 and integral multiples in excess thereof.

Governing Law

The 1996 Indenture and the Notes are governed by, and construed in accordance with, the laws of the State of New York, without regard to its principles of conflicts of laws.

Paying Agent and Registrar

U.S. Bank National Association is the paying agent and registrar for the Notes.

Notices

Except as otherwise provided in the 1996 Indenture, notices to holders of the Notes will be sent by mail to the registered holders.

Description of the 7.35% Collateral Trust Bonds due 2026

The following description is a summary of our 7.35% Collateral Trust Bonds due 2026 (the "Bonds"). The following summary of specified provisions of the 1994 Indenture (defined below) and the Bonds is subject to, and qualified in its entirety by reference to, the actual provisions of the 1994 Indenture and the Bonds.

General

On [November 6], 1996, we issued $100,000,000 aggregate principal amount of the Bonds. The Bonds were issued under that certain indenture dated as of February 15, 1994 (the "1994 Indenture"), between us and First Bank National Association, as trustee (the "Bonds Trustee"). The Bonds are traded on the New York Stock Exchange under the symbol "NRUC 26."

Maturity Date

The Bonds will mature on November 1, 2026.

Interest Rate and Interest Payment Dates

The Bonds bear interest at a rate of 7.35% per annum. Interest is payable semiannually on May 1 and November 1 to the persons in whose names the Bonds are registered at the close of business on the preceding April 15 and October 15, respectively, commencing May 1, 1997.

Sinking Fund

CFC is required to make mandatory sinking fund payments sufficient to redeem, on November 1 of each of the years 2007 through 2025 inclusive, $5,000,000 in principal amount of the Bonds at 100% of the principal amount thereof plus accrued interest to the redemption date, to be applied on a pro rata basis to holders of the Bonds. Such mandatory sinking fund payments are calculated to retire 95% of the principal amount of the issue prior to maturity.

Redemption

Except as provided under "Sinking Fund" above, the Bonds may not be redeemed prior to maturity.

Security

The Bonds are secured under the 1994 Indenture, equally with outstanding bonds issued under the 1994 Indenture, by the pledge with the Bonds Trustee of "eligible collateral" having an "allowable amount" at least equal to the aggregate principal amount of bonds outstanding.

The 1994 Indenture provides that "eligible collateral" will consist of cash, eligible mortgage notes of distribution system members and permitted investments. The allowable amount of cash is 100% thereof, the allowable amount of eligible mortgage notes is the amount advanced and not repaid and the allowable amount of permitted investments is their cost to CFC (exclusive of accrued interest and brokerage commissions). However, the allowable amount of permitted investments traded on a national securities exchange or in any over-the-counter market is their fair market value as determined by CFC. For purposes of the 1994 Indenture and as used in describing the Bonds herein, a "member" is any person which is a member of CFC, and a "distribution system member" is a member 50% or more of whose gross operating revenues are derived from sales of electricity to end users, as determined as of the end of the last completed calendar year.

Events of Default

The following "events of default" are applicable to the Bonds:

- failure to pay interest on any bonds for 30 days after the interest becomes due;
- failure to pay principal or any premium on any bonds at their maturity or upon redemption;
- default in the making of any sinking fund payment;
- default in the performance or breach of specified covenants in the indenture for 60 days after such default is known to any officer of CFC, including the covenant to maintain eligible collateral outlined above;
- failure to perform any other covenant or warranty in the indenture for 60 days after notice from the trustee to CFC or from holders of at least 25% in principal amount of the then outstanding bonds to CFC and the trustee; and
- specified events of bankruptcy, reorganization or insolvency.

In case an event of default should occur and be continuing, the Bonds Trustee or the holders of at least 25% in principal amount of the Bonds then outstanding may declare the principal of the Bonds to be due and payable. Each declaration may, under certain circumstances, be rescinded by the holders of a majority in principal amount of the Bonds at the time outstanding.

Modification of the 1994 Indenture

Modifications of the provisions of the 1994 Indenture may be made with the consent of the holders of not less than a majority in aggregate principal amount of the then outstanding Bonds, but, without the consent of the holder of each Bond affected thereby, no such modification shall (i) effect a reduction, or an extension of the stated time of payment, of the principal of or interest on any Bond or of any premium payable on redemption, (ii) permit the creation of any prior or equal lien on the securities or other property pledged under the Indenture (except as expressly permitted) or deprive the holder of any Bond (except as expressly permitted) of the lien created by the 1994 Indenture or (iii) reduce the above-stated percentage of holders of Bonds whose consent is required to modify the 1994 Indenture or the percentage of holders of Bonds whose consent is required for any waiver under the 1994 Indenture.

The 1994 Indenture provides that the Company and the Bonds Trustee may, without the consent of any holders of Bonds, enter into supplemental indentures for the purposes, among other things, of adding to the Company's covenants, establishing the form or terms of bonds of any series, changing or eliminating any restriction on the manner or place of payment of principal of or interest on bonds or, provided such action shall not adversely affect the interests of the holders of the Bonds in any material respect, curing ambiguities or inconsistencies in the 1994 Indenture or making other provisions with respect to matters arising under the 1994 Indenture.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
National Rural Utilities Cooperative Finance Corporation:

We consent to the incorporation by reference in the registration statements (No. 333-230569, No. 333-221261, and No. 333-213558) on Form S-3 of National Rural Utilities Cooperative Finance Corporation of our report dated July 31, 2019, with respect to the consolidated balance sheets of National Rural Utilities Cooperative Finance Corporation as of May 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended May 31, 2019, and the related notes, which report appears in the May 31, 2019 annual report on Form 10-K of National Rural Utilities Cooperative Finance Corporation.

/s/ KPMG LLP

McLean, Virginia
July 31, 2019

Exhibit 31.1

National Rural Utilities Cooperative Finance Corporation
Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
(18 U.S.C. Section 1350)

I, Sheldon C. Petersen, certify that:

1. I have reviewed this report on Form 10-K of National Rural Utilities Cooperative Finance Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:

    a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

    c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's board of directors:

    a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 31, 2019

By: /s/ SHELDON C. PETERSEN

Sheldon C. Petersen
Chief Executive Officer

A signed original of this written statement required by Section 302 has been provided to National Rural Utilities Cooperative Finance Corporation and will be retained by National Rural Utilities Cooperative Finance Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 31.2

National Rural Utilities Cooperative Finance Corporation
Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
(18 U.S.C. Section 1350)

I, J. Andrew Don, certify that:

1. I have reviewed this report on Form 10-K of National Rural Utilities Cooperative Finance Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's board of directors:

   a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 31, 2019

By: /s/ J. ANDREW DON
J. Andrew Don
Chief Financial Officer

A signed original of this written statement required by Section 302 has been provided to National Rural Utilities Cooperative Finance Corporation and will be retained by National Rural Utilities Cooperative Finance Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.1

National Rural Utilities Cooperative Finance Corporation
Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(18 U.S.C. Section 1350)

Pursuant to the requirements of Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Sections 1350(a) and (b)), I, the Chief Executive Officer of National Rural Utilities Cooperative Finance Corporation ("CFC"), hereby certify to the best of my knowledge as follows:

1. CFC's Annual Report on Form 10-K for the fiscal year ended May 31, 2019 filed with the Securities and Exchange Commission (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of CFC.

Date: July 31, 2019

By: /s/ SHELDON C. PETERSEN
Sheldon C. Petersen
Chief Executive Officer

A signed original of this written statement required by Section 906 has been provided to National Rural Utilities Cooperative Finance Corporation and will be retained by National Rural Utilities Cooperative Finance Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

National Rural Utilities Cooperative Finance Corporation
Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(18 U.S.C. Section 1350)

Pursuant to the requirements of Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Sections 1350(a) and (b)), I, the Chief Financial Officer of National Rural Utilities Cooperative Finance Corporation ("CFC"), hereby certify to the best of my knowledge as follows:

1. CFC's Annual Report on Form 10-K for the fiscal year ended May 31, 2019 filed with the Securities and Exchange Commission (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of CFC.

Date: July 31, 2019

By: /s/ J. ANDREW DON
J. Andrew Don
Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to National Rural Utilities Cooperative Finance Corporation and will be retained by National Rural Utilities Cooperative Finance Corporation and furnished to the Securities and Exchange Commission or its staff upon request.