NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP /DC/
Form 10-K
July 31, 2018

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, 2018
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	Name of Each Exchange on Which Registered
6.55% Collateral Trust Bonds, due 2018	New York Stock Exchange
7.35% Collateral Trust Bonds, due 2026	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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form

10-K.

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 contains certain statements that are considered “forward-looking statements” within the Securities Act of 1933, as amended, and the 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,” “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” of 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, 2018 or May 31, 2017. 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 nonprofit 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, 2018. 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 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 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 14—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 competitively priced credit products to our members.

Focus on Electric Lending

CFC focuses on lending to its member electric utility cooperatives. Most 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, 2018 and 2017.

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. While 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 (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 5—Short-Term Borrowings," "Note 6—Long-Term Debt," "Note 7—Subordinated Deferrable Debt" and "Note

8—Members' Subordinated Certificates."

LOAN PROGRAMS

CFC lends to its members and associates. NCSC lends to its members, associates, entities eligible to be members of CFC and for-profit and nonprofit entities that are owned, operated or controlled by, or provide significant benefit, to CFC members. RTFC lends to its members, 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 uses its best efforts to syndicate the loan requirements of certain borrowers. The success of such efforts depends on the financial position and credit quality of the borrower as well as market conditions.

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

Loans to rural local exchange carriers or holding companies of rural local exchange carriers represented 95% and 97% of RTFC's total outstanding loans as of May 31, 2018 and 2017, respectively. Most of these rural telecommunications companies have diversified their operations and also provide broadband services.

Long-Term Loans

RTFC makes long-term loans to rural telecommunications systems for debt refinancing, construction or upgrades of infrastructure, acquisitions and other corporate purposes.

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

Line of credit loans are generally unsecured. Line of credit loans are designed primarily to assist borrowers with liquidity and cash management and generally are advanced at variable interest rates. Line of credit loans are typically revolving facilities and generally 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 also are made available as interim financing, or bridge loans, when a borrower 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. RUS loan advances, when received, must be used to repay these bridge loans.

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,” “MD&A—Off-Balance Sheet Arrangements” and “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, 2018.

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 and Cooperative Development 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 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, 2018 and 2017 in “Item 7. MD&A—Off-Balance Sheet Arrangements,” “Item 7. MD&A—Credit Risk—Loan and Guarantee Portfolio Credit Risk” and “Note 12—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. 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 makes loan guarantees and provides 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 so a source of financing would be available to them to supplement the 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 members by:

- 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;

- meeting the financing needs of those rural electric systems that repay or prepay their RUS loans and replace the government loans with private capital; and
- providing financing to RUS-eligible rural electric systems for infrastructure; including for those facilities that are not eligible for financing from RUS.

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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, 2018. 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. One EPA rulemaking is the Clean Power Plan (“CPP”). Falling under Section 111(d) of the federal

Clean Air Act, the CPP is designed to cut carbon emissions (from 2005 levels) from existing fossil fuel-fired power plants by 32% by 2030. The CPP is presently under legal review by United States Court of Appeals for the District of Columbia Circuit and the United States Supreme Court has stayed the rule pending disposition of this appeal. On October 16, 2017, the EPA officially proposed to repeal the CPP. In a future regulatory action, the EPA is expected to replace the CPP with a more narrowly focused rule.

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 49 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, 2017 and 2016, based on financial data reported to us by our electric utility cooperative members. The data as of December 31, 2017 was provided by 812 distribution systems and 58 power supply systems, while the data as of December 31, 2016 was provided by 807 electric cooperative distribution systems and 58 power supply systems.

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(Dollars in thousands)	December 31, 2017 Debt Outstanding	% of Total	2016 Debt Outstanding	% of Total
Total long-term debt reported by members:[1]				
Distribution	$48,147,703		$47,362,415	
Power supply	47,862,984		47,853,905	
Less: Long-term debt funded by RUS	(39,180,420)		(39,273,545)	
Members' non-RUS long-term debt	$56,830,267		$55,942,775	
Funding source of members' long-term debt:				
Long-term debt funded by CFC	$22,671,264	40 %	$22,083,606	39 %
Long-term debt funded by other lenders	34,159,003	60	33,859,169	61
Members' non-RUS long-term debt	$56,830,267	100%	$55,942,775	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, 2017 and 2016 is summarized further below.

(Dollars in thousands)	December 31, 2017 Debt Outstanding	% of Total	2016 Debt Outstanding	% of Total
Distribution	$18,489,086	82 %	$17,825,633	81 %
Power supply	4,182,178	18	4,257,973	19
Long-term debt funded by CFC	$22,671,264	100%	$22,083,606	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

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trading and transaction reporting of certain OTC derivatives. In August 2013, 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. In April 2016, the CFTC issued a final rule "Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants," which 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 1,449 members and 216 associates as of May 31, 2018.

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. Associates are not eligible to vote on matters put to a vote of the membership.

CFC’s membership as of May 31, 2018 consisted of:

- 841 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 47 associates, including RTFC, as of May 31, 2018.

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 440 distribution systems, two power supply systems and five statewide associations as of May 31, 2018. All of NCSC’s members also were CFC members. CFC, however, is not a member of NCSC. In addition to members, NCSC had 165 associates as of May 31, 2018. 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, private corporations, public corporations, nonprofit 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-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 477 members as of May 31, 2018. RTFC also had five associates as of May 31, 2018. 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 254 employees as of May 31, 2018. 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 P1 from Moody's Investors Service ("Moody's"), A-1 from S&P Global Inc. ("S&P") and F-1 from

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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 "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 principal 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 fixed-rate assets that can be funded by variable-rate debt 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.

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 $25,168 million as of May 31, 2018. 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 $19 million as of May 31, 2018, 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, 2018. 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, 2018. 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 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 loan. 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, after taking into consideration master netting agreements, for all of our interest rate swaps as of May 31, 2018.

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, 2018 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 $81 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 approximately 141,000 square feet of office, meeting and storage space 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 five-year period ended May 31, 2018. 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; (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. 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

	Year Ended May 31,					Change	
(Dollars in thousands)	2018	2017	2016	2015	2014	2018 vs. 2017	2017 vs. 2016
Statement of operations							
Interest income	$1,077,357	$1,036,634	$1,012,636	$952,976	$957,540	4%	2%
Interest expense	(792,735)	(741,738)	(681,850)	(635,684)	(654,655)	7	9
Net interest income	284,622	294,896	330,786	317,292	302,885	(3)	(11)
Fee and other income	17,578	19,713	21,785	36,783	17,762	(11)	(10)
Total revenue	302,200	314,609	352,571	354,075	320,647	(4)	(11)
Benefit (provision) for loan losses	18,575	(5,978)	646	21,954	(3,498)	**	**
Derivative gains (losses) (1)	231,721	94,903	(309,841)	(196,999)	(34,421)	144	**
Results of operations of foreclosed assets	—	(1,749)	(6,899)	(120,148)	(13,494)	**	(75)
Operating expenses(2)	(90,884)	(86,226)	(86,343)	(76,530)	(72,566)	5	0
Other non-interest expense	(1,943)	(1,756)	(1,593)	(870)	(1,738)	11	10
Income (loss) before income taxes	459,669	313,803	(51,459)	(18,518)	194,930	46	**
Income tax expense	(2,305)	(1,704)	(57)	(409)	(2,004)	35	2,889
Net income (loss)	$457,364	$312,099	$(51,516)	$(18,927)	$192,926	47	**
Adjusted operational financial measures							
	$(867,016)	$(826,216)	$(770,608)	$(718,590)	$(728,617)	5%	7%

Adjusted interest expense(3)							
Adjusted net interest income(3)	210,341	210,418	242,028	234,386	228,923	0	(13)
Adjusted net income(3)	151,362	132,718	169,567	95,166	153,385	14	(22)
Selected ratios							
Fixed-charge coverage ratio/TIER(4)	1.58	1.42	0.92	0.97	1.29	16 bps	50 bps
Adjusted TIER(3)	1.17	1.16	1.22	1.13	1.21	1	(6)
Net interest yield(5)	1.12 %	1.20 %	1.43 %	1.47 %	1.42 %	(8)	(23)
Adjusted net interest yield(3)(6)	0.83	0.86	1.05	1.08	1.07	(3)	(19)
Net charge-off rate(7)	0.00	0.01	0.00	0.00	0.01	(1)	1

	Year Ended May 31,					Change	
(Dollars in thousands)	2018	2017	2016	2015	2014	2018 vs. 2017	2017 vs. 2016
Balance sheet							
Cash and cash equivalents	$230,999	$166,615	$204,540	$248,836	$338,715	39%	(19)%
Investment securities	608,851	92,554	87,940	84,472	55,177	558	5
Loans to members[8]	25,178,608	24,367,044	23,162,696	21,469,017	20,476,642	3	5
Allowance for loan losses	(18,801)	(37,376)	(33,258)	(33,690)	(56,429)	(50)	12
Loans to members, net	25,159,807	24,329,668	23,129,438	21,435,327	20,420,213	3	5
Total assets	26,690,204	25,205,692	24,270,200	22,846,059	22,190,685	6	4
Short-term borrowings	3,795,910	3,342,900	2,938,848	3,127,754	4,099,331	14	14
Long-term debt	18,714,960	17,955,594	17,473,603	16,244,794	14,475,635	4	3
Subordinated deferrable debt	742,410	742,274	742,212	395,699	395,627	0	0
Members' subordinated certificates	1,379,982	1,419,025	1,443,810	1,505,420	1,612,191	(3)	(2)
Total debt outstanding	24,633,262	23,459,793	22,598,473	21,273,667	20,582,784	5	4
Total liabilities	25,184,351	24,106,887	23,452,822	21,934,273	21,220,311	4	3
Total equity	1,505,853	1,098,805	817,378	911,786	970,374	37	34
Guarantees[9]	805,161	889,617	909,208	986,500	1,064,822	(9)	(2)
Selected ratios—period end							
Allowance coverage ratio[10]	0.07 %	0.15 %	0.14 %	0.16 %	0.28 %	(8) bps	1 bp
Debt-to-equity ratio[11]	16.72	21.94	28.69	24.06	21.87	(522)	(675)
Adjusted debt-to-equity ratio[3]	6.18	5.95	5.82	6.26	5.90	23	13

**Calculation of percentage change is not meaningful.

(1)Consists of interest rate swap cash settlements 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 as of 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.

(2)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.

(3)See "Non-GAAP Financial Measures" for details on the calculation of these non-GAAP adjusted measures and the reconciliation to the most comparable GAAP measures.

(4)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.

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

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

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

(8)Consists of the outstanding principal balance of member loans plus unamortized deferred loan origination costs, which totaled $11 million as of both May 31, 2018 and 2017, and $10 million as of May 31, 2016, 2015 and 2014.
(9)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 12—Guarantees” for additional information.
(10)Calculated based on the allowance for loan losses at period end divided by total outstanding loans at period end.
(11)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 National Rural Utilities Cooperative Finance Corporation ("CFC"), National Cooperative Services Corporation ("NCSC") and Rural Telephone Finance Cooperative ("RTFC"), and subsidiaries created and controlled by CFC to hold foreclosed assets. CFC did not hold, and did not have any subsidiaries or other entities that held, foreclosed assets as of May 31, 2018 or May 31, 2017. 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.

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, which we refer to as "adjusted" measures. We identify our non-GAAP adjusted measures in "Item 6. Selected Financial Data" and provide a reconciliation 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 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 and credit quality metrics. MD&A 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, 2018 and the information contained elsewhere in this report, including the risk factors discussed under "Part I—Item 1A. Risk Factors" in this report.

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 adjusted interest expense 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 spreads 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. Based on the composition of our interest rate swaps, we generally record derivative losses in earnings 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 net income of $457 million and a TIER of 1.58 for fiscal year ended May 31, 2018 ("fiscal year 2018"), compared with a net income of $312 million and a TIER of 1.42 for fiscal year 2017, and a net loss of $52 million and a TIER of 0.92 for fiscal year 2016. Our debt-to-equity ratio decreased to 16.72 as of May 31, 2018, from 21.94 as of May 31, 2017, primarily due to an increase in equity resulting from our reported net income of $457 million for fiscal year 2018, which was partially offset by patronage capital retirement of $45 million in September 2017.

The variance of $145 million between our reported net income of $457 million for fiscal year 2018 and net income of $312 million for fiscal year 2017 was driven by an increase in derivative gains of $137 million and a favorable shift in the provision for loan losses of $24 million, partially offset by a decrease in net interest income of $10 million and an increase in operating expenses of $5 million. We recognized derivative gains of $232 million in fiscal year 2018, compared with derivative gains of $95 million in the prior fiscal year, both of which were attributable to a net increase in the fair value of our pay-fixed swaps as interest rates increased across the swap curve during each period. The increase in interest rates, however, was more pronounced during fiscal year 2018, which resulted in significantly higher derivative gains relative to fiscal year 2017. We recorded a benefit for loan losses of $18 million in fiscal year 2018, compared with a provision of $6 million in fiscal year 2017. The benefit for loan losses was attributable to a reduction in our allowance for loan losses due to changes in the loss severity, or recovery rate, assumptions used in determining the collective allowance for our electric distribution and power supply loan portfolios to reflect management's current assessment of expected losses in the event of default on a loan in these portfolios. The decrease in net interest income resulted from compression in the net interest yield, which was partially offset by an increase of 3% in average interest-earning assets. The net interest yield declined by 8 basis points to 1.12%, reflecting the impact of an overall increase in our average cost of funds due to the increase in interest rates during fiscal year 2018, which resulted in a higher average cost for our short-term and variable-rate borrowings.

The variance of $364 million between our reported net income of $312 million for fiscal year 2017 and net loss of $52 million for fiscal year 2016 was driven by mark-to-market changes in the fair value of our derivatives. We recognized derivative gains of $95 million in fiscal year 2017, largely due to an overall increase in interest rates during the year. In contrast, we recognized derivative losses of $310 million in fiscal year 2016, attributable to a decline in longer-term interest rates and a flattening of the swap curve. The favorable impact of the shift of $405 million to derivative gains in fiscal year 2017 was partially offset by a reduction in net interest income of $36 million, resulting from a decrease in the net interest yield of 23 basis points to 1.20%, which was partially offset by an increase in average interest-earning assets.

Adjusted Non-GAAP Results

Our adjusted net income totaled $151 million and our adjusted TIER was 1.17 for fiscal year 2018, compared with adjusted net income of $133 million and adjusted TIER of 1.16 for fiscal year 2017, and adjusted net income of $170 million and adjusted TIER of 1.22 for fiscal year 2016. Our adjusted debt-to-equity ratio increased to 6.18 as of May 31, 2018, from 5.95 as of May 31, 2017, predominately due to an increase in debt outstanding to fund loan growth.

The increase in adjusted net income of $18 million in fiscal year 2018 from fiscal year 2017 was primarily driven by the favorable shift in the provision for loan losses of $24 million, partially offset by the increase in operating expenses of $5 million. While our adjusted net interest yield decreased by 3 basis points to 0.83%, largely due to an increase in our adjusted average cost of borrowings, adjusted net interest income of $210 million was flat because of the increase in average interest-earning assets of 3%.

The decrease in adjusted net income of $37 million in fiscal year 2017 from the prior fiscal year was primarily driven by a decrease in adjusted net interest income of $32 million, resulting from a reduction in the adjusted interest yield of 19 basis points to 0.86%, which was partially offset by the increase in average interest-earning assets of 6%.

Lending Activity

Loans to members totaled $25,179 million as of May 31, 2018, an increase of $812 million, or 3%, from May 31, 2017. The increase was primarily due to an increase in CFC distribution loans of $726 million, an increase in NCSC loans of

$173 million and an increase in RTFC loans of $9 million, which was partially offset by a decrease in CFC power supply loans of $107 million.

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. CFC had long-term fixed-rate loans totaling $904 million that were scheduled to reprice during fiscal year 2018. Of this total, $742 million repriced to a new long-term fixed rate; $157 million repriced to a long-term variable rate; and $5 million was repaid in full.

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. As total outstanding loans increased during fiscal year 2018, our debt also increased. Total debt outstanding was $24,633 million as of May 31, 2018, an increase of $1,173 million, or 5%, from May 31, 2017. The increase was primarily attributable to an increase in dealer medium-term notes of $638 million; an increase in the Federal Agricultural Mortgage Corporation (“Farmer Mac”) notes payable of $378 million; an aggregate increase in member commercial paper, select notes and daily liquidity fund notes of $230 million; and an increase in dealer commercial paper outstanding of $65 million. These increases were partially offset by a decrease in notes payable to the Federal Financing Bank and guaranteed by RUS under the Guaranteed Underwriter Program of $129 million.

We provide additional information on our financing activities below under “Consolidated Balance Sheet Analysis—Debt” and “Liquidity Risk.”

Outlook for the Next 12 Months

We currently expect that our net interest income, net interest yield, adjusted net interest income and adjusted net interest yield will increase over the next 12 months as a result of a projected decrease in our average cost of funds and an increase in average outstanding loans. We have scheduled maturities of higher-cost debt over the next 12 months, including $1,830 million in collateral trust bonds with a weighted average coupon rate of 6.98%. On July 12, 2018, we redeemed $300 million of the $1 billion aggregate principal amount of 10.375% collateral trust bonds due November 1, 2018, leaving a remaining outstanding amount of $700 million. We expect that we will be able to replace this higher-cost debt with lower-cost funding, which will reduce our aggregate weighted average cost of funds. We expect the amount of long-term loan advances to exceed anticipated loan repayments over the next 12 months, resulting in an increase in average outstanding loans.

Long-term debt scheduled to mature over the next 12 months totaled $2,745 million as of May 31, 2018. We believe we have sufficient liquidity from the combination of existing cash and cash equivalents, member loan repayments, committed bank revolving lines of credit 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, 2018, sources of liquidity available for access, which we refer to as our liquidity reserves, totaled$7,147 million, consisting of (i) $231 million in cash and cash equivalents, (ii) up to $1,225 million available under committed loan facilities under the Guaranteed Underwriter Program, (iii) up to $3,082 million available under committed bank revolving line of credit agreements, (iv) up to $200 million available under a committed revolving note purchase agreement with Farmer Mac, and (v) up to $2,409 million available under a revolving note purchase agreement with Farmer Mac, subject to market conditions.

We believe we can continue to roll over the outstanding member short-term debt of $2,632 million as of May 31, 2018, 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. Although we expect to continue accessing the dealer commercial paper market to help meet our liquidity needs, we intend 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. 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. Our adjusted debt-to-equity ratio was 6.18 as of May 31, 2018, above our targeted threshold due to the increase in debt outstanding to fund loan growth. Due to anticipated asset growth, we expect our adjusted debt-to-equity ratio to be above 6.00-to-1 over the next 12 months.

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 includes 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 decreased by $18 million to $19 million as of May 31, 2018, from $37 million as of May 31, 2017.

Collective Allowance

The collective loss reserve is calculated using an internal model to estimate probable incurred losses for segments within our loan portfolio that have similar risk characteristics. Our segments are based on member borrower type, which are further stratified into loan pools based on borrower 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. We determine the collective allowance by applying loss factors to the outstanding principal balance of each loan pool. The loss factors consist of a probability of default, or default rate, and the loss given default, or loss severity. The probability of default is based on an estimated loss emergence period of five years. We utilize third-party industry default data for estimated default rates. We utilize our historical loss experience for each borrower type to estimate loss severity, which we refer to as our recovery rates. The historical recovery rates for each borrower type 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.

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 selection of third-party proxy data to estimate the probability of default; our historical loss experience and assumptions regarding recovery rates in the event of default; and management's judgment in the selection and evaluation of qualitative factors to assess the overall current level of exposure within our loan portfolio. 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. In the fourth quarter of fiscal year 2018, we increased the recovery rate assumptions used in determining the collective allowance for our electric distribution and power supply loan portfolios to reflect management's current assessment of expected losses in the event of default on a loan in these portfolios. The increase in recovery rate assumptions for these electric utility loan portfolios was the primary driver of the $18 million reduction in our allowance for loan losses to $19 million as of May 31, 2018, from $37 million as of
May 31, 2017.

Our electric utility loan portfolio has continued to exhibit strong credit performance. In fiscal year 2018, for the fifth consecutive fiscal year, we had no payment defaults, charge-offs, delinquent loans or nonperforming loans in our electric utility loan portfolio. In addition, 93% of the loans in our total loan portfolio were secured as of May 31, 2018, up from 92% as of May 31, 2017. Although we downgraded one electric distribution cooperative and its subsidiary, which had combined total loans outstanding of $165 million, to substandard as of May 31, 2018, they are current with regard to all payments of principal and interest on their loans and we currently do not anticipate a default. Therefore, the loans outstanding to this borrower and its subsidiary were not deemed to be impaired as of May 31, 2018. In the event of a default, we currently expect to collect substantially all of the outstanding amount based on our historical average recovery rate for the electric distribution and power supply loan portfolios.

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, 2018.

- 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 $22 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 additional information on the methodology for determining the allowance for loan losses in "Note 1—Summary of Significant Accounting Policies" and changes in our allowance for loan losses in "Note 4—Loans." Also refer to "Note 4—Loans" for information on the credit 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 available-for-sale investment 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 financial instruments, including available-for-sale investment securities, deferred compensation investments and derivatives, represented 1% of our total assets as of both May 31, 2018 and 2017, and 1% and 2%, respectively, of total liabilities as of May 31, 2018 and 2017. 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, 2018 and 2017.

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 13—Fair Value Measurement.”

RECENT ACCOUNTING CHANGES AND OTHER DEVELOPMENTS

See “Note 1—Summary of Significant Accounting Policies” for information on recently issued accounting standards 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.

CONSOLIDATED RESULTS OF OPERATIONS

The section below provides a comparative discussion of our consolidated results of operations between fiscal year 2018 and 2017 and between fiscal year 2017 and 2016. Following this section, we provide a comparative analysis of our consolidated balance sheets as of May 31, 2018 and 2017. 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.

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 our average balance sheets for fiscal years 2018, 2017 and 2016, 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 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

	Year Ended May 31,								
(Dollars in thousands)	2018			2017			2016		
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]	$22,570,209	$1,000,492	4.43%	$21,896,200	$980,173	4.48%	$20,734,387	$959,701	4.63%
Long-term variable-rate loans	925,910	27,152	2.93	799,412	19,902	2.49	708,801	19,858	2.80
Line of credit loans	1,402,555	38,195	2.72	1,124,471	25,389	2.26	1,031,548	24,864	2.41
TDR loans [2]	12,885	889	6.90	14,349	905	6.31	12,947	512	3.95
Nonperforming loans	—	—	—	—	—	—	3,164	142	4.49
Other income, net[3]	—	(1,185)	—	—	(1,082)	—	—	(1,088)	—
Total loans	24,911,559	1,065,543	4.28	23,834,432	1,025,287	4.30	22,490,847	1,003,989	4.46
Cash, time deposits and investment securities	512,517	11,814	2.31	734,095	11,347	1.55	639,060	8,647	1.35
Total interest-earning assets	$25,424,076	$1,077,357	4.24%	$24,568,527	$1,036,634	4.22%	$23,129,907	$1,012,636	4.38%
Other assets, less allowance for loan losses	644,563			574,682			808,479		
Total assets	$26,068,639			$25,143,209			$23,938,386		
Liabilities:									
Short-term borrowings	$3,294,573	$50,616	1.54%	$3,185,084	$26,684	0.84%	$2,995,530	$14,728	0.49%
Medium-term notes	3,361,484	111,814	3.33	3,345,410	99,022	2.96	3,412,061	86,270	2.53
Collateral trust bonds	7,625,182	336,079	4.41	7,293,251	340,854	4.67	6,917,265	333,338	4.82
Guaranteed Underwriter Program notes payable	4,956,417	140,551	2.84	4,873,520	142,661	2.93	4,649,532	143,240	3.08
Farmer Mac notes payable	2,578,793	56,004	2.17	2,355,324	33,488	1.42	2,124,552	20,529	0.97
Other notes payable	33,742	1,509	4.47	39,314	1,780	4.53	44,621	2,051	4.60
Subordinated deferrable debt	742,336	37,661	5.07	742,203	37,657	5.07	435,488	21,245	4.88
	1,396,449	58,501	4.19	1,433,657	59,592	4.16	1,458,376	60,449	4.14

Subordinated certificates									
Total interest-bearing liabilities	$23,988,976	$792,735	3.30%	$23,267,763	$741,738	3.19%	$22,037,425	$681,850	3.09%
Other liabilities	822,745			921,749			1,036,907		
Total liabilities	24,811,721			24,189,512			23,074,332		
Total equity	1,256,918			953,697			864,054		
Total liabilities and equity	$26,068,639			$25,143,209			$23,938,386		
Net interest spread(4)			0.94%			1.03%			1.29%
Impact of non-interest bearing funding(5)			0.18			0.17			0.14
Net interest income/net interest yield(6)		$284,622	1.12%		$294,896	1.20%		$330,786	1.43%
Adjusted net interest income/adjusted net interest yield:									
Interest income		$1,077,357	4.24%		$1,036,634	4.22%		$1,012,636	4.38%
Interest expense		792,735	3.30		741,738	3.19		681,850	3.09
Add: Net accrued periodic derivative cash settlement(7)		74,281	0.69		84,478	0.80		88,758	0.89
Adjusted interest expense/adjusted average cost(8)		$867,016	3.61%		$826,216	3.55%		$770,608	3.50%
Adjusted net interest spread(4)			0.63%			0.67%			0.88%
Impact of non-interest bearing funding			0.20			0.19			0.17
Adjusted net interest income/adjusted net interest yield(9)		$210,341	0.83%		$210,418	0.86%		$242,028	1.05%

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(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 interest-earning assets and the average cost of interest-bearing liabilities. Adjusted net interest spread represents the difference between the average yield on total interest-earning assets and the adjusted average cost of total 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, which 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 $10,816 million, $10,590 million and $9,993 million for fiscal year 2018, 2017 and 2016, respectively.
(8)Adjusted interest expense represents interest expense plus net accrued periodic interest rate swap settlements 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. Because of the numerous simultaneous volume and rate changes during any period, it is not possible to precisely allocate such changes between volume and rate. 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

	2018 vs. 2017			2017 vs. 2016		
	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	$20,319	$30,172	$(9,853)	$20,472	$53,775	$(33,303)
Long-term variable-rate loans	7,250	3,149	4,101	44	2,539	(2,495)
Line of credit loans	12,806	6,279	6,527	525	2,240	(1,715)
Restructured loans	(16)	(92)	76	393	55	338
Nonperforming loans	—	—	—	(142)	(142)	—
Other income, net	(103)	—	(103)	6	—	6
Total loans	40,256	39,508	748	21,298	58,467	(37,169)
Cash, time deposits and investment securities	467	(3,425)	3,892	2,700	1,286	1,414
Interest income	$40,723	$36,083	$4,640	$23,998	$59,753	$(35,755)
Interest expense:						
Short-term borrowings	$23,932	$917	$23,015	$11,956	$932	$11,024
Medium-term notes	12,792	476	12,316	12,752	(1,685)	14,437
Collateral trust bonds	(4,775)	15,513	(20,288)	7,516	18,118	(10,602)
Guaranteed Underwriter Program notes payable	(2,110)	2,427	(4,537)	(579)	6,900	(7,479)
Farmer Mac notes payable	22,516	3,177	19,339	12,959	2,230	10,729
Other notes payable	(271)	(252)	(19)	(271)	(244)	(27)
Subordinated deferrable debt	4	7	(3)	16,412	14,963	1,449
Subordinated certificates	(1,091)	(1,547)	456	(857)	(1,025)	168
Interest expense	50,997	20,718	30,279	59,888	40,189	19,699
Net interest income	$(10,274)	$15,365	$(25,639)	$(35,890)	$19,564	$(55,454)
Adjusted net interest income:						
Interest income	$40,723	$36,083	$4,640	$23,998	$59,753	$(35,755)
Interest expense	50,997	20,718	30,279	59,888	40,189	19,699
Net accrued periodic derivative cash settlements[2]	(10,197)	1,802	(11,999)	(4,280)	5,304	(9,584)
Adjusted interest expense[3]	40,800	22,520	18,280	55,608	45,493	10,115
Adjusted net interest income	$(77)	$13,563	$(13,640)	$(31,610)	$14,260	$(45,870)

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[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.

Net interest income of $285 million for fiscal year 2018 decreased by $10 million, or 3%, from fiscal year 2017, driven by a decrease in the net interest yield of 7% (8 basis points) to 1.12%, which was partially offset by an increase in average interest-earning assets of 3%.

- Net Interest Yield: The decrease in the net interest yield in fiscal year 2018 was primarily due to an increase in our average cos cost of funds increased by 11 basis points to 3.30% for fiscal year 2018, largely due to increases in the cost of our short-term ar (“LIBOR”) was 2.32% as of May 31, 2018, an increase of 111 basis points from May 31, 2017, while the federal funds target r points to 4.24%, largely due to increases in rates on variable rate loans and a higher yield on time deposits and investment secu

- Average Interest-Earning Assets: The increase in average interest-earning assets during fiscal year 2018 was primarily attributable to growth in average total loans of $1,077 million, or 5%, over the prior fiscal year, as members obtained advances to fund capital investments and refinanced with us loans made by other lenders.

Net interest income of $295 million in fiscal year 2017 decreased by $36 million, or 11%, from fiscal year 2016, driven by a decrease in the net interest yield of 16% (23 basis points) to 1.20%, which was partially offset by an increase in average interest-earning assets of 6%.

- Net Interest Yield: The decrease in the net interest yield in fiscal year 2017 reflected the combined impact of a decline in the average yield on interest-earning assets and an increase in our average cost of funds. The average yield on interest-earning assets decreased by 16 basis points to 4.22% in fiscal year 2017. The decrease resulted from repayments on existing long-term loans with higher weighted-average fixed rates than the weighted average fixed rates on new long-term loan advances, coupled with the repricing of higher-rate loans to lower fixed rates. Our average cost of funds increased by 10 basis points in fiscal year 2017 to 3.19%, largely due to an increase in short-term interest rates during the fiscal year.

- Average Interest-Earning Assets: The increase in average interest-earning assets during fiscal year 2017 was primarily attributable to growth in average total loans of $1,344 million, or 6%, over the prior fiscal year, as members obtained advances to fund capital investments and refinanced with us loans made by other lenders.

Adjusted net interest income of $210 million in fiscal year 2018 was flat compared to fiscal year 2017, as the decrease in the adjusted net interest yield of 3% (3 basis points) to 0.83% was offset by the increase in average interest-earning assets of 3%. The decrease in the adjusted net interest yield was driven by an increase in the adjusted average cost of funds of 6 basis points to 3.61%, attributable to the increase in short-term interest rates that resulted in a higher average cost for our short-term and variable-rate borrowings.

Adjusted net interest income of $210 million in fiscal year 2017 decreased by $32 million, or 13%, from fiscal year 2016, driven by a decrease in the adjusted net interest yield of 18% (19 basis points) to 0.86%, which was partially offset by the increase in average interest-earning assets of 6%. The decrease in the adjusted net interest yield was attributable to the combined impact of the decline in the average yield on interest-earning assets and an increase in our adjusted average cost of funds.

Our adjusted net interest income and adjusted net interest yield include the impact of net accrued periodic derivative cash settlements during the year. We recorded net periodic derivative cash settlement expense of $74 million in fiscal year 2018 compared with $84 million and $89 million in fiscal years 2017 and 2016, respectively. See “Non-GAAP Financial Measures” for additional information on our adjusted 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.

We recorded a benefit for loan losses of $18 million in fiscal year 2018, compared with a provision for loan losses of $6 million in fiscal year 2017 and a benefit for loan losses of $1 million in fiscal year 2016. The benefit for loan losses of $18 million in fiscal year 2018 was due to the $18 million reduction in our allowance for loan losses to $19 million as of May 31, 2018, from $37 million as of May 31, 2017. In the fourth quarter of fiscal year 2018, we increased the recovery rate assumptions used in determining the collective allowance for our electric distribution and power supply loan portfolios to reflect management's current assessment of expected losses in the event of default on a loan in these portfolios. In fiscal year 2018, for the fifth consecutive fiscal year, we had no payment defaults, charge-offs, delinquent loans or nonperforming loans in our electric utility loan portfolio. The increase in recovery rate assumptions was the primary driver of the $18 million reduction in our allowance for loan losses.

The unfavorable shift of $7 million in the provision for loan losses in fiscal year 2017 from the prior fiscal year was primarily attributable to an increase in total loans outstanding coupled with an increase in default rates for loans with higher risk, which was partially offset by a decrease in default rates for loans with lower risk and a reduction in the specific allowance for individually impaired loans.

For additional information on our allowance methodology and our allowance for loan losses, see "Critical Accounting Policies and Estimates" and "Credit Risk—Allowance for Loan Losses" of MD&A. Also refer to "Note 1—Summary of Significant Accounting Policies" and "Note 4—Loans" 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 recorded in our consolidated results of operations for fiscal years 2018, 2017 and 2016.

Table 3: Non-Interest Income

	Year Ended May 31,		
(Dollars in thousands)	2018	2017	2016
Non-interest income:			
Fee and other income	$17,578	$19,713	$21,785
Derivative gains (losses)	231,721	94,903	(309,841)
Results of operations of foreclosed assets	—	(1,749)	(6,899)
Total non-interest income	$249,299	$112,867	$(294,955)

The significant variances in non-interest income 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 consolidated statements of operations under derivative gains (losses). However, we typically designate treasury locks as cash flow hedges. We entered into one treasury lock agreement, which was designated as a cash flow hedge of a forecasted transaction, during fiscal year 2018. We did not have any derivatives designated as accounting hedges during fiscal year 2017 or 2016.

We currently use two types of interest rate swap agreements: (i) we pay a fixed rate and receive a variable rate ("pay-fixed swaps"); and (ii) we pay a variable rate and receive a fixed rate ("receive-fixed swaps"). The benchmark variable rate for the substantial majority of the floating-rate payments under our swap agreements is 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 2018, 2017 and 2016. As indicated in Table 4, our interest rate swap portfolio currently 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,								
	2018			2017			2016		
(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	$7,007,207	2.82 %	1.58 %	$6,675,617	2.89 %	0.90 %	$6,322,338	3.03 %	0.45 %
Receive-fixed swaps	3,808,794	2.16	2.60	3,914,479	1.34	2.71	3,670,585	0.88	2.97
Total	$10,816,001	2.58 %	1.94 %	$10,590,096	2.32 %	1.57 %	$9,992,923	2.24 %	1.38 %

The average remaining maturity of our pay-fixed and receive-fixed swaps was 19 years and five years, respectively, as of May 31, 2018. In comparison, the average remaining maturity of our pay-fixed and receive-fixed swaps was 19 years and four years, respectively, as of May 31, 2017 and 18 years and three years, respectively, as of May 31, 2016.

Pay-fixed swaps generally decrease in value as interest rates decline and increase in value as interest rates rise. In contrast, receive-fixed swaps generally increase in value as interest rates decline and decrease in value as interest rates 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 result in differences in the fair value of our derivatives. The chart below provides comparative swap curves as of May 31, 2018, 2017, 2016 and 2015.

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 represent the net periodic contractual interest amount for our interest-rate swaps for the

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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)	2018	2017	2016
Derivative gains (losses) attributable to:			
Derivative cash settlements	$(74,281)	$(84,478)	$(88,758)
Derivative forward value gains (losses)	306,002	179,381	(221,083)
Derivative gains (losses)	$231,721	$94,903	$(309,841)

The net derivative gains of $232 million in fiscal year 2018 were largely attributable to a net increase in the fair value of our pay-fixed swaps as interest rates increased across the swap curve, as depicted by the May 31, 2018 swap curve presented in the above chart. As depicted in the comparative swap curves, the general level of market interest rates as of the end of fiscal year 2018 was higher relative to the general level of market rates as of the end of fiscal year 2017, resulting in the recognition of significantly higher net derivative gain amounts.

The net derivative gains of $95 million in fiscal year 2017 were primarily attributable to a net increase in the fair value of our swaps due to an overall increase in interest rates across the swap curve, as depicted by the May 31, 2017 swap curve presented in the above chart.

The derivative losses of $310 million in fiscal year 2016 were primarily attributable to a net decrease in the fair value of our swaps due to a flattening of the swap curve resulting from an increase in short-term interest rates and a decline in long-term interest rates, as depicted by the comparative swap curves as of May 31, 2016 and 2015 in the above chart.

See "Note 1—Summary of Significant Accounting Policies—Derivative Instruments" and "Note 9—Derivative Instruments an Hedging Activities" for additional information on our derivative instruments. Also refer to "Note 13—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, 2018 and 2017.

We recorded charges of $2 million in fiscal year 2017 and $7 million in fiscal year 2016 related to foreclosed assets. The charge of $2 million in fiscal year 2017 represented the combined impact of adjustments recorded at the closing date of the sale of CAH, post-closing purchase price adjustments and certain legal costs incurred pertaining to CAH. The charge of $7 million in fiscal year 2016 was attributable to impairment of our investment in CAH due to a reduction in the fair value less estimated cost to sell.

In connection with the sale of CAH, $16 million of the sale proceeds was deposited into escrow to fund potential indemnification claims following the closing. Of this amount, $14.5 million was designated to cover general indemnification claims and has been released back to us. The remaining $1.5 million was designated to cover indemnification of certain tax liens and remains in escrow. We continue to be liable for certain indemnification obligations, if raised and substantiated, regardless of whether amounts are held in escrow.

Non-Interest Expense

Non-interest expense consists of salaries and employee benefit expense, general and administrative expenses, 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 2018, 2017 and 2016.

Table 6: Non-Interest Expense

	Year Ended May 31,		
(Dollars in thousands)	2018	2017	2016
Non-interest expense:			
Salaries and employee benefits	$(51,422)	$(47,769)	$(44,590)
Other general and administrative expenses	(39,462)	(38,457)	(41,753)
Gains (losses) on early extinguishment of debt	—	192	(333)
Other non-interest expense	(1,943)	(1,948)	(1,260)
Total non-interest expense	$(92,827)	$(87,982)	$(87,936)

Non-interest expense of $93 million for fiscal year 2018 increased by $5 million, or 6%, from fiscal year 2017, primarily due to an increase in salaries and employee benefits expenses. Non-interest expenses of $88 million in fiscal year 2017 was relatively unchanged from fiscal year 2016, as an increase in salaries and employee benefits expenses was largely offset by a decrease in other general and administrative expenses.

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 income attributable to noncontrolling interests of $2 million in fiscal year 2018, compared with net income of $2 million in fiscal year 2017 and a net loss of $2 million in fiscal year 2016.

CONSOLIDATED BALANCE SHEET ANALYSIS

Total assets of $26,690 million as of May 31, 2018 increased by $1,485 million, or 6%, from May 31, 2017, primarily due to growth in our loan portfolio. Total liabilities of $25,184 million as of May 31, 2018 increased by $1,077 million, or 4%, from May 31, 2017, largely due to debt issuances to fund loan growth. Total equity increased by $407 million during fiscal year 2018 to $1,506 million as of May 31, 2018, attributable to our reported net income of $457 million, which was partially offset by patronage capital retirement of $45 million in September 2017.

Following is a discussion of changes in the major components of our assets and liabilities during fiscal year 2018. 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 fixed- and variable-rate loans and line of credit variable-rate loans. The substantial majority of loans in our portfolio represent advances under secured long-term facilities with terms up to 35 years. Borrowers have the option of selecting a fixed or variable interest rate for each advance for periods ranging from one year to the final maturity of the facility. Line of credit loans are typically revolving facilities and are generally unsecured. We also offer a conversion option to members with long-term loan agreements, which allows borrowers to change the rate and term prior to the repricing date. Borrowers are generally charged a conversion fee when converting from a fixed to a variable rate, or a fixed rate to another fixed rate.

Loans Outstanding

Table 7 summarizes loans to members, by loan type and by member class, for the five-year period ended May 31, 2018. As indicated in Table 7, long-term fixed-rate loans accounted for 90% and 91% of loans to members as of May 31, 2018 and 2017, respectively.

Table 7: Loans Outstanding by Type and Member Class

	May 31,									
(Dollars in millions)	2018		2017		2016		2015		2014	
Loans by type:	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
Long-term loans:										
Fixed-rate	$22,696	90 %	$22,137	91 %	$21,391	93 %	$19,722	92 %	$18,360	89 %
Variable-rate	1,040	4	847	3	757	3	699	3	772	4
Total long-term loans	23,736	94	22,984	94	22,148	96	20,421	95	19,132	93
Lines of credit	1,432	6	1,372	6	1,005	4	1,038	5	1,335	7
Total loans outstanding	$25,168	100%	$24,356	100 %	$23,153	100%	$21,459	100%	$20,467	100%
Deferred loan origination costs	11	—	11	—	10	—	10	—	10	—
Loans to members	$25,179	100%	$24,367	100 %	$23,163	100%	$21,469	100%	$20,477	100%
Loans by member class:										
CFC:										
Distribution	$19,552	78 %	$18,825	77 %	$17,674	77 %	$16,095	75 %	$15,035	74 %
Power supply	4,397	18	4,505	19	4,401	19	4,181	20	4,086	20
Statewide and associate	70	—	58	—	55	—	65	—	68	—
CFC total	24,019	96	23,388	96	22,130	96	20,341	95	19,189	94
NCSC	786	3	614	3	681	3	732	3	828	4
RTFC	363	1	354	1	342	1	386	2	450	2
Total loans outstanding	$25,168	100%	$24,356	100 %	$23,153	100%	$21,459	100%	$20,467	100%
Deferred loan origination costs	11		11		10	—	10	—	10	—
Loans to members	$25,179	100%	$24,367	100 %	$23,163	100%	$21,469	100%	$20,477	100%

Loans to members totaled $25,179 million as of May 31, 2018, an increase of $812 million, or 3%, from May 31, 2017. The increase was primarily due to an increase in CFC distribution loans of $726 million, an increase in NCSC loans of
$173 million and an increase in RTFC loans of $9 million, which was partially offset by a decrease in CFC power supply loans of $107 million. 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.

We provide additional information on our loan product types in “Item 1. Business—Loan Programs” and “Note 4—Loans.” Se “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 98% over the last three fiscal years.

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

	May 31, 2018		2017		2016	
(Dollars in thousands)	Amount	% of Total	Amount	% of Total	Amount	% of Total
Loans retained:						
Long-term fixed rate selected	$741,792	82 %	$824,415	84 %	$1,001,118	93 %
Long-term variable rate selected	157,539	17	137,835	14	54,796	5
Total loans retained by CFC	899,331	99	962,250	98	1,055,914	98
Loans repaid[2]	4,637	1	25,076	2	22,415	2
Total	$903,968	100%	$987,326	100%	$1,078,329	100%

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[1] Does not include NCSC and RTFC loans.
[2] Includes loans totaling $1 million, $1 million and $4 million as of May 31, 2018, 2017 and 2016, respectively, 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, 2018, for each of the five fiscal years subsequent to May 31, 2018 and thereafter.

Table 9: Long-Term Loan Scheduled Principal Payments

	Fixed Rate		Variable Rate	
(Dollars in thousands)	Scheduled Principal Payments	Weighted-Average Interest Rate	Scheduled Principal Payments	Total Scheduled Principal Payments
Fiscal year:				
2019	$1,131,941	4.33 %	$94,966	$1,226,907
2020	1,168,011	4.40	77,192	1,245,203
2021	1,168,748	4.43	53,445	1,222,193
2022	1,148,220	4.48	49,092	1,197,312
2023	1,157,297	4.54	43,467	1,200,764
Thereafter	16,921,968	4.66	721,329	17,643,297
Total	$22,696,185	4.60	$1,039,491	$23,735,676

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 30 years	Capital markets	Unsecured
Members' subordinated certificates[6]	Up to 100 years	Members	Unsecured
Revolving credit agreements	3 to 5 years	Bank institutions	Unsecured

[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. 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.
[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, 2018, 2017 and 2016. 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

(Dollars in thousands)	May 31, 2018 Outstanding Amount	Weighted-Average Interest Rate		2017 Outstanding Amount	Weighted-Average Interest Rate		2016 Outstanding Amount	Weighted-Average Interest Rate	
Debt product type:									
Commercial paper:									
Members, at par	$1,202,105	1.89	%	$928,158	0.95	%	$848,007	0.45	%
Dealer, net of discounts	1,064,266	1.87		999,691	0.93		659,935	0.43	
Total commercial paper	2,266,371	1.88		1,927,849	0.94		1,507,942	0.44	
Select notes to members	780,472	2.04		696,889	1.12		701,849	0.62	
Daily liquidity fund notes to members	400,635	1.50		527,990	0.80		525,959	0.34	
Medium-term notes:									
Members, at par	643,821	2.31		612,951	1.97		654,058	1.66	
Dealer, net of discounts	3,002,979	3.51		2,364,671	3.48		2,648,369	3.02	
Total medium-term notes	3,646,800	3.30		2,977,622	3.17		3,302,427	2.75	
Collateral trust bonds	7,639,093	3.89		7,634,048	4.08		7,253,096	4.28	
Guaranteed Underwriter Program notes payable	4,856,143	2.85		4,985,484	2.83		4,777,111	2.98	
Farmer Mac notes payable	2,891,496	2.88		2,513,389	1.71		2,303,123	1.15	
Other notes payable	29,860	3.42		35,223	3.55		40,944	3.61	
Subordinated deferrable debt	742,410	4.98		742,274	4.98		742,212	4.98	
Members' subordinated certificates:									
Membership subordinated certificates	630,448	4.94		630,098	4.94		630,063	4.94	
Loan and guarantee subordinated certificates	528,386	2.93		567,830	3.02		593,701	2.99	
Member capital securities	221,148	5.00		221,097	5.00		220,046	5.00	
Total members' subordinated certificates	1,379,982	4.18		1,419,025	4.18		1,443,810	4.14	
Total debt outstanding	$24,633,262	3.25	%	$23,459,793	3.07	%	$22,598,473	3.03	%
Security type:									
Unsecured debt	37	%		35	%		37	%	
Secured debt	63			65			63		
Total	100	%		100	%		100	%	
Funding source:									
Members	18	%		18	%		18	%	
Private placement:									
Guaranteed Underwriter Program notes payable	20			21			21		
Farmer Mac notes payable	12			11			10		
Other	—			—			1		
Total private placement	32			32			32		
Capital markets	50			50			50		
Total	100	%		100	%		100	%	

Interest rate type:						
Fixed-rate debt	74	%	74	%	74	%
Variable-rate debt	26		26		26	
Total	100	%	100	%	100	%
Interest rate type including the impact of swaps:						
Fixed-rate debt[1]	87	%	87	%	88	%
Variable-rate debt[2]	13		13		12	
Total	100	%	100	%	100	%
Maturity classification:[3]						
Short-term borrowings	15	%	14	%	13	%
Long-term and subordinated debt[4]	85		86		87	
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, 2018, our debt volume also increased. Total debt outstanding of $24,633 million as of May 31, 2018, increased by $1,173 million, or 5%, from May 31, 2017. The increase was primarily attributable to an increase in dealer medium-term notes of $638 million; an increase in Farmer Mac notes payable of $378 million; an aggregate increase in member commercial paper, select notes and daily liquidity fund notes of $230 million; and an increase in dealer commercial paper outstanding of $65 million. These increases were partially offset by a decrease in Guaranteed Underwriter Program notes payable of $129 million.

Below is a summary of significant financing activities during fiscal year 2018.

- On November 9, 2017, we closed a $750 million committed loan facility ("Series M") from the Federal Financing Bank under the Guaranteed Underwriter Program.

- On November 20, 2017, we amended and restated the three-year and five-year committed bank revolving line of credit agreements to extend the maturity dates to November 20, 2020 and November 20, 2022, respectively, and to terminate certain third-party bank commitments.

- On January 16, 2018, we redeemed $325 million of notes payable outstanding, with an effective interest rate of 2.10% and an original maturity of April 15, 2026, under the Guaranteed Underwriter Program.

- On February 26, 2018, we amended the revolving note purchase agreement with Farmer Mac, dated March 24, 2011 to increase the facility amount from $4,800 million to $5,200 million. Under the amended agreement, we currently can borrow, subject to market conditions, up to $5,200 million at any time through January 11, 2022.

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, 2018 and 2017.

Table 12: Member Investments

	May 31, 2018		2017		
(Dollars in thousands)	Amount	% of Total (1)	Amount	% of Total (1)	Increase/(Decrease)
Commercial paper	$1,202,105	53 %	$928,158	48 %	$ 273,947

Select notes	780,472	100	696,889	100	83,583
Daily liquidity fund notes	400,635	100	527,990	100	(127,355)
Medium-term notes	643,821	18	612,951	20	30,870
Members' subordinated certificates	1,379,982	100	1,419,025	100	(39,043)
Total outstanding member debt	$4,407,015		$4,185,013		$ 222,002
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, 2018 and 2017. Over the last three fiscal years, outstanding member investments have averaged $4,328 million on a quarterly basis.

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 $3,796 million and accounted for 15% of total debt outstanding as of May 31, 2018, compared with $3,343 million, or 14%, of total debt outstanding as of May 31, 2017. See Table 32: Short-Term Borrowings below under “Liquidity Risk” and “Note 5—Short-Term Borrowings” for detail 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 $20,837 million and accounted for 85% of total debt outstanding as of May 31, 2018, compared with $20,117 million, or 86%, of total debt outstanding as of May 31, 2017. 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 33: Issuances and Repayments of Long-Term and Subordinated Debt below under “Liquidity Risk” for a summary of long-term subordinated debt issuances and repayments for the year ended May 31, 2018.

Collateral Pledged

We are required to pledge loans or other collateral in borrowing 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, we typically maintain pledged collateral in excess of the required percentage to ensure that required collateral levels are maintained and to facilitate the timely execution of debt issuances by reducing or eliminating the lead time to pledge additional collateral. 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, 2018 and 2017 for the debt agreements noted above that require us to pledge collateral.

Table 13: Collateral Pledged

Debt Agreement	Requirement/Limit		Actual[(1)]	
	Debt Indenture Minimum	Committed Bank Revolving Line of	May 31, 2018	2017

		Credit Agreements Maximum		
Collateral trust bonds 1994 indenture	100 %	150 %	111%	117%
Collateral trust bonds 2007 indenture	100	150	114	115
Guaranteed Underwriter Program notes payable	100	150	119	117
Farmer Mac notes payable	100	150	115	117
Clean Renewable Energy Bonds Series 2009A	100	150	109	113

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

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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. In comparison, of our total debt outstanding of $23,460 million as of May 31, 2017, $15,146 million, or 65%, was secured by pledged loans totaling $17,941 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, 2018 and 2017.

Table 14: Unencumbered Loans

	May 31,	
(Dollars in thousands)	2018	2017
Total loans outstanding[1]	$25,167,494	$24,356,330
Less: Loans required to be pledged for secured debt [2]	(15,677,138)	(15,435,062)
Loans pledged in excess of requirement[2][3]	(2,467,444)	(2,505,804)
Total pledged loans	$(18,144,582)	$(17,940,866)
Unencumbered loans	$7,022,912	$6,415,464
Unencumbered loans as a percentage of total loans	28 %	26 %

[1]Reflects unpaid principal balance. Excludes unamortized deferred loan origination costs of $11 million as of both May 31, 2018 and 2017.
[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 $2,467 million and $2,506 million as of May 31, 2018 and 2017, 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 5—Short-Term Borrowings”, “Note 6—Long-Term Debt”, “Note 7—Subordinated Deferrable Debt” and “Note 8—Members’ Subordinated Certificates” for a more detailed description of each of our debt types.

Equity

Table 15 presents the components of total CFC equity, total equity and total members’ equity as of May 31, 2018 and 2017. As displayed in Table 15, total members’ equity excludes the impact of cumulative unrealized derivative forward value gains (losses) recorded in earnings.

Table 15: Equity

(Dollars in thousands)	May 31, 2018	2017	Change
Membership fees and education fund:			
Membership fees	$969	$971	$(2)
Educational fund	1,976	1,929	47
Total membership fees and educational fund	2,945	2,900	45
Patronage capital allocated	811,493	761,701	49,792
Members' capital reserve	687,785	630,305	57,480
Unallocated net loss:			
Prior year-end cumulative derivative forward value losses	(332,525)	(507,904)	175,379
Current year derivative forward value gains[1]	301,694	175,379	126,315
Current year-end cumulative derivative forward value losses	(30,831)	(332,525)	301,694
Other unallocated net loss	(5,603)	(5,603)	—
Unallocated net loss	(36,434)	(338,128)	301,694
CFC retained equity	1,465,789	1,056,778	409,011
Accumulated other comprehensive income (loss)	8,544	13,175	(4,631)
Total CFC equity	1,474,333	1,069,953	404,380
Noncontrolling interests	31,520	28,852	2,668
Total equity	$1,505,853	$1,098,805	$407,048
Members' equity:			
Total CFC equity	$1,474,333	$1,069,953	$404,380
Excludes:			
Accumulated other comprehensive income	8,544	13,175	(4,631)
Current year-end cumulative derivative forward value losses	(30,831)	(332,525)	301,694
Subtotal	(22,287)	(319,350)	297,063
Total members' equity[2]	$1,496,620	$1,389,303	$107,317

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[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 14—Business Segments" for the statements of operations for CFC.
[2] See "Non-GAAP Financial Measures" for details on the calculation of this non-GAAP measure and the reconciliation to the most comparable GAAP measures.

Total equity increased by $407 million during fiscal year 2018 to $1,506 million as of May 31, 2018, attributable to our reported net income of $457 million, which was partially offset by patronage capital retirement of $45 million in September 2017.

In July 2018, the CFC Board of Directors authorized the allocation of fiscal year 2018 adjusted net income 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. 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). See "Non-GAAP Financial Measures" for information on adjusted net income.

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. We expect to return this amount to members in cash in the first quarter of fiscal year 2019. 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.

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In July 2017, the CFC Board of Directors authorized the retirement of allocated net earnings totaling $45 million, which represented 50% of the patronage capital amount of $90 million allocated to members for fiscal year 2017. The $45 million was returned to members in cash in September 2017.

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 38 of the last 39 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, 2018 and 2017.

Table 16: Guarantees Outstanding

(Dollars in thousands)	May 31, 2018	2017	Increase/ (Decrease)
Guarantee type:			
Long-term tax-exempt bonds	$316,985	$468,145	$(151,160)
Letters of credit	343,970	307,321	36,649
Other guarantees	144,206	114,151	30,055
Total	$805,161	$889,617	$(84,456)
Company:			
CFC	$793,156	$874,920	$(81,764)
NCSC	10,431	13,123	(2,692)
RTFC	1,574	1,574	—
Total	$805,161	$889,617	$(84,456)

Of the total notional amount of our outstanding guarantee obligations of $805 million and $890 million as of May 31, 2018 and 2017, respectively, 57% and 67%, respectively, were secured by a mortgage lien on substantially all of the assets and future revenue of the borrowers.

In addition to providing a guarantee on long-term tax-exempt bonds issued by member cooperatives totaling $317 million as of May 31, 2018, we also were the liquidity provider on $250 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

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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 2018 or 2017.

We had outstanding letters of credit for the benefit of our members totaling $344 million as of May 31, 2018. 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 $67 million as of May 31, 2018. All of our master letter of credit facilities as of May 31, 2018 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 $805 million as of May 31, 2018.

Table 17: Maturities of Guarantee Obligations

	Outstanding	Maturities of Guarantee Obligations					
(Dollars in thousands)	Amount	2019	2020	2021	2022	2023	Thereafter
Guarantees	$ 805,161	$265,684	$66,142	$121,700	$27,515	$160,541	$163,579

We recorded a guarantee liability of $11 million and $15 million as of May 31, 2018 and 2017, respectively, for our guarantee and liquidity obligations associated with our members' debt. We provide additional information about our guarantee obligations in "Note 12—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, 2018 and 2017.

Table 18: Unadvanced Loan Commitments

	May 31, 2018		2017		Increase/
(Dollars in thousands)	Amount	% of Total	Amount	% of Total	(Decrease)
Line of credit commitments:					
Conditional[1]	$4,835,434	38 %	$5,170,393	41 %	$(334,959)
Unconditional[2]	2,857,350	23	2,602,262	21	255,088
Total line of credit unadvanced commitments	7,692,784	61	7,772,655	62	(79,871)
Total long-term loan unadvanced commitments[1]	4,952,834	39	4,802,319	38	150,515
Total unadvanced loan commitments	$12,645,618	100%	$12,574,974	100%	$70,644

(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, 2018 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

	Available	Notional Maturities of Unadvanced Loan Commitments					
(Dollars in thousands)	Balance	2019	2020	2021	2022	2023	Thereafter
Line of credit	$7,692,784	$4,168,751	$710,763	$805,508	$770,971	$1,211,791	$ 25,000
Long-term loans	4,952,834	883,840	586,005	652,499	1,714,338	1,104,185	11,967
Total	$12,645,618	$5,052,591	$1,296,768	$1,458,007	$2,485,309	$2,315,976	$ 36,967

Unadvanced line of credit commitments accounted for 61% of total unadvanced loan commitments as of May 31, 2018, while unadvanced long-term loan commitments accounted for 39% 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 $4,953 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 $12,646 million as of May 31, 2018 is not necessarily representative of our future funding 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 $9,789 million and $9,973 million as of May 31, 2018 and 2017, respectively, and accounted for 77% and 79% of the combined total of unadvanced line of credit and long-term loan commitments as of May 31, 2018 and 2017, 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 $2,857 million and $2,602 million as of May 31, 2018 and 2017, 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 86% of unconditional line of credit commitments as of May 31, 2018. The remaining 14% 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, 2018.

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				
		2019	2020	2021	2022	2023
Committed lines of credit	$2,857,350	$279,285	$435,151	$444,326	$644,178	$1,054,410

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 in 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, Asset Liability Committee, Investment Management Committee, Corporate Compliance group, 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 and guarantees.

Loan and Guarantee Portfolio Credit Risk

Below we provide information on the credit risk profile of our loan portfolio and guarantees, 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, 2018 and 2017. Of our total loans outstanding, 93% were secured and 7% were unsecured as of May 31, 2018. Of our total loans outstanding, 92% were secured and 8% were unsecured as of May 31, 2017.

Table 21 : Loan Portfolio Security Profile[1]

	May 31, 2018				
(Dollars in thousands)	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

	May 31, 2017				
(Dollars in thousands)	Secured	% of Total	Unsecured	% of Total	Total
Loan type:					
Long-term loans:					
Long-term fixed-rate loans	$21,503,871	97 %	$632,819	3 %	$22,136,690
Long-term variable-rate loans	795,326	94	52,093	6	847,419
Total long-term loans	22,299,197	97	684,912	3	22,984,109
Line of credit loans	54,258	4	1,317,963	96	1,372,221
Total loans outstanding	$22,353,455	92	$2,002,875	8	$24,356,330
Company:					
CFC	$21,591,723	92 %	$1,796,264	8 %	$23,387,987
NCSC	424,636	69	189,288	31	613,924
RTFC	337,096	95	17,323	5	354,419
Total loans outstanding	$22,353,455	92	$2,002,875	8	$24,356,330

[1]Excludes deferred loan origination costs of $11 million as of both May 31, 2018 and 2017.

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 $660 million as of May 31, 2018, compared with $843 million as of May 31, 2017. 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 $161 million and $167 million as of May 31, 2018 and 2017, 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

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supply systems and related facilities. As a result of lending primarily to our rural electric utility cooperative members, we have a loan portfolio subject to single-industry and single-obligor concentrations. Outstanding loans to electric utility organizations represented approximately 99% of the total outstanding loan portfolio as of May 31, 2018, unchanged from May 31, 2017. Although our organizational structure and mission results in single-industry concentration, we serve a geographically diverse group of electric and telecommunications borrowers throughout the United States and its territories, including all 50 states, the District of Columbia, American Samoa and Guam. Our consolidated membership totaled 1,449 members and 216 associates as of May 31, 2018. Despite our credit concentrations, we historically have experienced limited defaults and very low credit losses in our electric loan portfolio. In fiscal year 2018, for the fifth consecutive fiscal year, we had no payment defaults, charge-offs, delinquent loans or nonperforming loans in our electric utility loan portfolio.

Geographic Concentration

We currently have loans outstanding to borrowers in 48 states and the District of Columbia. 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, 2018 and 2017, respectively, and also the largest concentration of borrowers, with 70 borrowers as of May 31, 2018 and 73 borrowers as of May 31, 2017. 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, 2018.

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, 2018 and 2017.

Table 22: Loan Geographic Concentration

	May 31,					
	2018			2017		
U.S. State/Territory	Number of Borrowers	% of Total Loans Outstanding		Number of Borrowers	% of Total Loans Outstanding	
Texas	70	15.11	%	73	14.86	%
Georgia	48	5.83		44	5.77	
Missouri	48	5.43		48	5.27	
Colorado	26	5.41		26	5.27	
Kansas	30	4.77		31	4.57	
Alaska	17	3.79		16	3.61	
Florida	17	3.70		17	3.17	
Illinois	29	3.65		27	3.43	
North Dakota	18	3.42		18	3.62	
South Carolina	23	3.05		23	3.12	
North Carolina	28	3.01		28	3.17	
Indiana	37	2.89		38	3.04	
Kentucky	25	2.86		24	3.02	
Oklahoma	26	2.86		26	2.95	
Minnesota	53	2.84		54	2.98	
Alabama	27	2.28		27	2.26	
Arkansas	20	2.26		21	2.36	
Ohio	28	2.10		28	2.14	
Pennsylvania	17	2.04		17	2.02	
Iowa	39	2.00		39	1.90	
Wisconsin	24	1.91		24	1.68	
Maryland	2	1.67		2	2.06	
Mississippi	19	1.58		18	1.56	
Oregon	22	1.42		22	1.43	
Utah	6	1.39		6	1.61	
Washington	11	1.34		11	1.32	
Virginia	19	1.25		18	1.42	
Louisiana	10	1.25		10	1.21	
Nevada	6	1.00		5	1.35	
Wyoming	13	0.99		15	1.09	
Michigan	13	0.92		14	0.62	
South Dakota	31	0.86		32	0.93	
Montana	25	0.78		25	0.71	
Arizona	11	0.73		11	0.81	
Hawaii	2	0.52		2	0.60	
Idaho	12	0.51		12	0.56	
Tennessee	18	0.51		17	0.36	
Delaware	3	0.44		3	0.48	
New Hampshire	1	0.36		1	0.37	
New Mexico	16	0.27		16	0.29	
Massachusetts	1	0.24		1	0.25	
Vermont	5	0.21		4	0.19	
California	4	0.13		4	0.14	
Nebraska	13	0.12		16	0.13	

New York	7	0.12		6	0.12	
New Jersey	2	0.07		2	0.07	
West Virginia	2	0.06		2	0.06	
Maine	3	0.04		3	0.04	
District of Columbia	1	0.01		1	0.01	
Total	928	100.00	%	928	100.00	%

Single-Obligor Concentration

Table 23 displays the combined exposure of loans and guarantees outstanding of the 20 largest borrowers, by exposure type and by company, as of May 31, 2018 and 2017. The 20 borrowers with the largest exposure consisted of nine distribution systems, 10 power supply systems and one NCSC associate member as of May 31, 2018. The 20 borrowers with the largest exposure consisted of 10 distribution systems, nine power supply systems and one NCSC associate member as of May 31, 2017. The largest exposure to a single borrower or controlled group represented approximately 2% of total loans and guarantees outstanding as of both May 31, 2018 and 2017.

Table 23: Credit Exposure to 20 Largest Borrowers

(Dollars in thousands)	May 31, 2018 Amount	% of Total	2017 Amount	% of Total	Change
By exposure type:					
Loans	$5,613,991	22 %	$5,749,885	23 %	$(135,894)
Guarantees	347,138	1	354,619	1	(7,481)
Total exposure to 20 largest borrowers	5,961,129	23	6,104,504	24	(143,375)
Less: Loans covered under Farmer Mac standby purchase commitment	(354,694)	(1)	(351,699)	(1)	(2,995)
Net exposure to 20 largest borrowers	$5,606,435	22 %	$5,752,805	23 %	$(146,370)
By company:					
CFC	$5,703,723	22 %	$5,899,709	23 %	$(195,986)
NCSC	257,406	1	204,795	1	52,611
Total exposure to 20 largest borrowers	5,961,129	23	6,104,504	24	(143,375)
Less: Loans covered under Farmer Mac standby purchase commitment	(354,694)	(1)	(351,699)	(1)	(2,995)
Net exposure to 20 largest borrowers	$5,606,435	22 %	$5,752,805	23 %	$(146,370)

Credit Performance

Assessing and measuring our credit risk is an ongoing process that involves tracking risk ratings, nonperforming loans, economic trends and other indications 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 risk of our loan portfolio remained low, as evidenced by our strong asset quality metrics, including senior secured positions on most of our loans and low levels of criticized exposure. As displayed in Table 21 above, 93% and 92% of our total outstanding loans were secured as of May 31, 2018 and 2017, respectively. We had no delinquent or nonperforming loans as of May 31, 2018. In addition, in fiscal year 2018, we had no loan defaults or charge-offs. As a result, we now have a sustained period of five consecutive fiscal years for which we have had no credit losses in our electric utility loan portfolio. Below we provide information on certain additional credit quality indicators, including modified loans that are considered to be troubled debt restructurings (“TDRs”), nonperforming loans, net charge-offs and borrower risk ratings.

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, 2018		2017		2016		2015		2014	
(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	$6,507	0.03%	$6,581	0.02%	$6,716	0.03%	$7,221	0.03%	$7,584	0.04%
NCSC	—	—	—	—	—	—	294	—	—	—
RTFC	6,092	0.02	6,592	0.03	10,598	0.04	4,221	0.02	—	—
Total TDR loans	$12,599	0.05%	$13,173	0.05%	$17,314	0.07%	$11,736	0.05%	$7,584	0.04%
Performance status of TDR loans:										
Performing TDR loans	$12,599	0.05%	$13,173	0.05%	$13,808	0.06%	$11,736	0.05%	$7,584	0.04%
Nonperforming TDR loans	—	—	—	—	3,506	0.01	—	—	—	—
Total TDR loans	$12,599	0.05%	$13,173	0.05%	$17,314	0.07%	$11,736	0.05%	$7,584	0.04%

As indicated in Table 24 above, we did not have any TDR loans classified as nonperforming as of May 31, 2018 or 2017.

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. Table 25 below presents nonperforming loans as of the end of each of the last five fiscal years.

Table 25: Nonperforming Loans

	May 31,									
	2018		2017		2016		2015		2014	
(Dollars in thousands)	Amount	% of Total Loans	Amount	% of Total Loans	Amount	% of Total Loans	Amount	% of Total Loans	Amount	% of Total Loans
Nonperforming loans:										
CFC	$—	—%	$ —	—%	$ —	—%	$ —	—%	$—	— %
NCSC	—	—	—	—	—	—	—	—	400	—
RTFC	—	—	—	—	—	—	—	—	1,695	0.01
Total	$—	—%	$ —	—%	$ —	—%	$ —	—%	$2,095	0.01 %

We provide additional information on the credit quality of our loan portfolio in “Note 4—Loans.”

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 26 presents charge-offs, net of recoveries, and the net charge-off rate for each of the last five fiscal years.

Table 26: Net Charge-Offs (Recoveries)

	Year Ended May 31,				
(Dollars in thousands)	2018	2017	2016	2015	2014
Charge-offs:					
RTFC	$—	$2,119	$—	$999	$1,606
Recoveries:					
CFC	—	(159)	(214)	(214)	(212)
RTFC	—	(100)	—	—	—
Total recoveries	—	(259)	(214)	(214)	(212)
Net charge-offs (recoveries)	$—	$1,860	$(214)	$785	$1,394
Average total loans outstanding	$24,911,559	$23,834,432	$22,490,847	$20,821,944	$20,412,340
Net charge-off rate[1]	0.00 %	0.01 %	0.00 %	0.00 %	0.01 %

[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 year 2018. The gross charge-offs of $5 million over the last five fiscal years were all attributable to our RTFC telecommunications loan portfolio. We now have experienced an extended period of five consecutive fiscal years for which we have had no charge-offs in our electric utility loan portfolio.

Borrower Risk Ratings

Our borrower risk ratings are aligned 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 $178 million, or 0.7%, of total loans outstanding as of May 31, 2018. Of this amount, $171 million was classified as substandard. In comparison, loans with borrowers classified as criticized totaled $120 million, or 0.5%, of total loans outstanding as of May 31, 2017. Of this amount, $8 million was classified as substandard. We did not have any loans classified as doubtful as of May 31, 2018 or 2017. See “Note 4—Loans” for a description of each of the risk rating classifications.

Historical Loss History

In its 49-year history, CFC has experienced only 16 defaults and cumulative net charge-offs totaling $86 million for the 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. Loans to electric utility cooperatives, our principal lending market, typically have a relatively low risk of default because of the business model of electric utility cooperatives. They provide essential services to end-users, the majority of which are residential customers. They tend to operate in exclusive territories, the majority of which are in states not subject to rate regulation. As such, they have the ability to pass through cost increases to their customers without first obtaining state regulatory approval. In addition, 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.

In comparison, 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 CAH.

As discussed above under “Credit Concentration,” outstanding loans to electric utility cooperatives totaled $24,804 million, or 99%, of the total outstanding loan portfolio, as of May 31, 2018, while outstanding RTFC telecommunications loans totaled $363 million, or 1%, of the total outstanding loan portfolio, as of May 31, 2018.

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 27 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 27: Allowance for Loan Losses

	Year Ended May 31,				
(Dollars in thousands)	2018	2017	2016	2015	2014
Beginning balance	$37,376	$33,258	$33,690	$56,429	$54,325
Provision (benefit) for loan losses	(18,575)	5,978	(646)	(21,954)	3,498
Net (charge-offs) recoveries	—	(1,860)	214	(785)	(1,394)
Ending balance	$18,801	$37,376	$33,258	$33,690	$56,429
Allowance for loan losses by company:					
CFC	$12,300	$29,499	$24,559	$23,716	$45,600
NCSC	2,082	2,910	3,134	5,441	6,547
RTFC	4,419	4,967	5,565	4,533	4,282
Total	$18,801	$37,376	$33,258	$33,690	$56,429
Allowance coverage ratios:					
Total loans outstanding[1]	$25,167,494	$24,356,330	$23,152,517	$21,459,220	$20,466,925
Percentage of total loans outstanding	0.07 %	0.15 %	0.14 %	0.16 %	0.28 %
Percentage of total nonperforming loans outstanding	—	—	—	—	2,693.51
Percentage of total performing TDR loans outstanding	149.23	283.73	240.86	287.07	744.05
Percentage of total nonperforming TDR loans outstanding	—	—	948.60	—	—
Percentage of loans on nonaccrual status	—	—	948.60	287.07	583.00

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[1] Excludes unamortized deferred loan origination costs of $11 million as of both May 31, 2018 and 2017, and $10 million as of May 31, 2016, 2015 and 2014.

Our allowance for loan losses decreased by $18 million to $19 million as of May 31, 2018, from $37 million as of May 31, 2017, while the allowance coverage ratio decreased to 0.07% as of May 31, 2018, from 0.15% as of May 31, 2017. In the fourth quarter of fiscal year 2018, we increased the recovery rate assumptions used in determining the collective allowance for our electric distribution and power supply loan portfolios to reflect management's current assessment of expected losses in the event of default on a loan in these portfolios. The increase in recovery rate assumptions for these portfolios was the primary driver of the $18 million reduction in the allowance for loan losses. As discussed above, our electric utility loan portfolio has continued to exhibit strong credit performance. In fiscal year 2018, for the fifth consecutive fiscal year, we had no payment defaults, charge-offs, delinquent loans or nonperforming loans in our electric utility loan portfolio. In addition, 93% of the loans in our total loan portfolio were secured as of May 31, 2018, up from 92% as of May 31, 2017.

As mentioned above under "Borrower Risk Ratings", we had an increase in loans classified as substandard of $163 million attributable to the downgrade of an electric distribution cooperative and its subsidiary as of May 31, 2018. The electric cooperative provides its customers with distribution and transmission services and is in the early stages of deploying retail broadband service. The borrower is currently experiencing financial difficulties due to recent net losses and weak cash flows. Pursuant to our risk rating guidelines, the borrower's current financial condition warranted a downgrade to a substandard rating as of May 31, 2018. The borrower and its subsidiary had loans outstanding of $165 million as of May 31, 2018, all but $7 million of which is secured under our typical collateral requirements for long-term loan advances. They are current with regard to all principal and interest payments and have never been delinquent. Because the borrower operates in a territory that is not rate-regulated, it has the ability to adjust its electric rates to cover operating costs and service debt. We currently expect to collect all principal and interest amounts due from them. Accordingly, the loans outstanding to this borrower and its subsidiary were not deemed to be impaired as of May 31, 2018.

See “MD&A—Critical Accounting Policies and Estimates—Allowance for Loan Losses” and “Note 1—Summary of Significa Accounting Policies” for information on the methodology for determining our allowance for loan losses and the key assumptions. See “Note 4—Loans” 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 requiring that derivative counterparties participate in one of our committed bank revolving line of credit agreements; 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. Our derivative counterparties had credit ratings ranging from Aa3 to Baa2 by Moody’s Investors Service (“Moody’s”) and from AA- to A- by S&P Global Inc. (“S&P”) as of May 31, 2018. Our largest counterparty exposure, based on the outstanding notional amount, represented approximately 24% and 23% of the total outstanding notional amount of derivatives as of May 31, 2018 and 2017, 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, 2018. Both Moody’s and S&P had our ratings on stable outlook as of May 31, 2018. Table 28 displays the notional amounts of our derivative contracts with rating triggers as of May 31, 2018, 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 28: 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]	$54,890	$(9,355)	$—	$ (9,355)
Falls below Baa1/BBB+	7,164,065	(60,054)	38,057	(21,997)
Falls to or below Baa2/BBB [2]	530,980	—	4,533	4,533
Falls below Baa3/BBB-	257,271	(11,625)	—	(11,625)
Total	$8,007,206	$(81,034)	$ 42,590	$ (38,444)

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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.

On March 30, 2018, the master swap agreement with one of our counterparties was amended to include a ratings trigger and early termination provision based on a downgrade of CFC's senior unsecured credit ratings below Baa3, BBB- or BBB- by Moody's, S&P or Fitch, respectively, for any future swap transaction entered into under the agreement. We have outstanding notional amount of derivatives with this counterparty subject to this rating trigger, which is not included in the above table, totaling $200 million as of May 31, 2018. These contracts were in a loss position of $1 million as of May 31, 2018.

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 $81 million as of May 31, 2018. There were no counterparties that fell below the rating trigger levels in our interest swap contracts as of May 31, 2018. 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 consider liquidity to be the ability to access funding or convert assets to cash quickly and efficiently, or to rollover or issue new debt, both under normal operating conditions and under periods of market stress, at a reasonable cost to ensure that we can meet borrower loan requests and other short-term cash obligations.

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.

Liquidity Reserve

As part of our strategy in meeting our liquidity objectives, we seek to maintain access to liquidity in the form of both on-balance sheet and off-balance sheet funding sources that are readily accessible for immediate liquidity needs. Table 29 below presents the components of our liquidity reserve and a comparison of the amounts available as of May 31, 2018 and 2017.

Table 29: Liquidity Reserve

	May 31, 2018			2017		
(Dollars in millions)	Total	Accessed	Available	Total	Accessed	Available
Cash and cash equivalents	$231	$ —	$ 231	$167	$ —	$ 167
Committed bank revolving line of credit agreements—unsecured[1]	3,085	3	3,082	3,165	1	3,164
Guaranteed Underwriter Program committed facilities—secured[2]	6,548	5,323	1,225	5,798	5,073	725
Farmer Mac revolving note purchase agreement, dated March 24, 2011, as amended—secured[3]	5,200	2,791	2,409	4,500	2,513	1,987
Farmer Mac revolving note purchase agreement, dated July 31, 2015, as amended—secured	300	100	200	300	—	300
Total	$15,364	$ 8,217	$ 7,147	$13,930	$ 7,587	$ 6,343

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[1]The accessed amount of $3 million and $1 million as of May 31, 2018 and May 31, 2017, respectively, 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.

Borrowing Capacity

In addition to cash, our liquidity reserve includes access to funds under committed revolving line of credit agreements with banks, committed loan facilities under the Guaranteed Underwriter Program and our revolving note purchase agreements with Farmer Mac. Following is a discussion of our borrowing capacity and key terms and conditions under each of these facilities.

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 $3,085 million of commitments under committed bank revolving line of credit agreements as of May 31, 2018. 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 20, 2017, we amended and restated the three-year and five-year committed bank revolving line of credit agreements to extend the maturity dates to November 20, 2020 and November 20, 2022, respectively, and to terminate certain third-party bank commitments totaling $40 million under the three-year agreement and $40 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 $1,493 million and $1,592 million, respectively, resulting in a combined total commitment amount under the two facilities of $3,085 million.

Table 30 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, 2018. We did not have any outstanding borrowings under our bank revolving line of credit agreements as of May 31, 2018.

Table 30: Committed Bank Revolving Line of Credit Agreements

	May 31, 2018				
(Dollars in millions)	Total Commitment	Letters of Credit Outstanding	Net Available for Advance	Maturity	Annual Facility Fee (1)
3-year agreement	$1,492	$ —	$ 1,492	November 20, 2020	7.5 bps
5-year agreement	1,593	3	1,590	November 20, 2022	10 bps
Total	$3,085	$ 3	$ 3,082		

(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 refinance existing indebtedness. As part of the program, we pay fees, based on outstanding borrowings, that support the USDA Rural Economic Development Loan and Grant program. The borrowings under this program are guaranteed by RUS.

On November 9, 2017, we closed on a $750 million committed loan facility ("Series M") from the Federal Financing Bank under the Guaranteed Underwriter Program. Pursuant to this facility, we may borrow any time before July 15, 2022. Each advance is subject to quarterly amortization and a final maturity not longer than 20 years from the advance date. The closing of this committed loan facility increased the amount available for access under the Guaranteed Underwriter Program to $1,225 million as of May 31, 2018. Of this amount, $100 million is available for advance through January 15, 2019, $375 million is available for advance through October 15, 2019 and $750 million is available through July 15, 2022.

We are required to pledge eligible distribution system 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 29, we have two revolving note purchase agreements with Farmer Mac, which together allow us to borrow up to $5,500 million from Farmer Mac. On February 26, 2018, we amended our first revolving note purchase agreement with Farmer Mac dated March 24, 2011. Under the amended agreement, 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 $2,791 million and $2,513 million as of May 31, 2018 and 2017, respectively, under the Farmer Mac revolving note purchase agreement of $5,200 million. The available borrowing amount totaled $2,409 million as of May 31, 2018.

Under the terms of the second revolving note purchase agreement with Farmer Mac dated July 31, 2015, we can borrow up to $300 million at any time through July 31, 2018 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. We had outstanding borrowings of $100 million as of May 31, 2018 under this revolving note purchase agreement with Farmer Mac. This advance was repaid in full subsequent to May 31, 2018. The available borrowing amount totaled $200 million as of May 31, 2018. We had no notes payable outstanding under this revolving note purchase agreement with Farmer Mac as of May 31, 2017. The second revolving note purchase agreement with Farmer Mac was amended effective July 31, 2018 to extended the maturity to December 20, 2023. Prior to the maturity date, Farmer Mac may terminate the agreement on periodic facility renewal dates set forth in the agreement upon 30 days written notice to us. We may terminate the agreement upon 30 days written notice at any time.

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

We rely on short-term borrowings, which we refer to as our short-term funding portfolio, as a source to meet our daily, near-term funding needs. Our short-term funding portfolio consists 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 31 displays the composition of our short-term borrowings, by funding source, as of May 31, 2018 and 2017.

Table 31: Short-Term Borrowings—Funding Sources

	May 31, 2018		2017	
(Dollars in thousands)	Outstanding Amount	% of Total Short-Term Borrowings	Outstanding Amount	% of Total Short-Term Borrowings
Funding source:				
Members	$2,631,644	69 %	$2,343,209	70 %
Capital markets	1,164,266	31	999,691	30
Total short-term borrowings	$3,795,910	100 %	$3,342,900	100 %

Table 32 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 2018, 2017 and 2016.

Table 32: Short-Term Borrowings

	May 31, 2018				
(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	$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

	May 31, 2017				
(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	$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	696,889	1.12	43 days	840,990	726,276
Daily liquidity fund notes	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

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(Dollars in thousands)	May 31, 2016 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	$659,935	0.43	%	24 days	$ 1,639,835	$ 944,928
Commercial paper to members, at par	848,007	0.45		9 days	1,001,361	789,723
Total commercial paper	1,507,942	0.44		17 days	2,445,894	1,734,651
Select notes	701,849	0.62		43 days	845,805	709,285
Daily liquidity fund notes	525,959	0.34		1 day	740,142	551,594
Medium-term notes sold to members	203,098	1.05		161 days	213,260	199,078
Total short-term borrowings	$2,938,848	0.51		31 days		$ 3,194,608

Our short-term borrowings totaled $3,796 million and accounted for 15% of total debt outstanding as of May 31, 2018, compared with $3,343 million, or 14%, of total debt outstanding as of May 31, 2017. The weighted-average maturity and weighted-average cost of our short-term borrowings was 35 days and 1.88%, respectively, as of May 31, 2018, compared with 28 days and 0.99%, respectively, as of May 31, 2017. Of the total outstanding commercial paper, $1,064 million, or 4% of total debt outstanding, was issued to dealers as of May 31, 2018, compared with the $1,000 million, or 4% of total debt outstanding, that was issued to dealers as of May 31, 2017. 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 69% of our total short-term borrowings as of May 31, 2018, compared with 70% of total short-term borrowings as of May 31, 2017.

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.” In November 2017, we filed a new shelf registration statement for our senior and subordinated debt securities under which we can register an unlimited amount of senior and subordinated debt securities, including medium-term notes, member capital securities and subordinated deferrable debt, until November 2020. 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 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 $20,837 million and accounted for 85% of total debt outstanding as of May 31, 2018, compared with $20,117 million, or 86%, of total debt outstanding as of May 31, 2017. 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 33 summarizes long-term and subordinated debt issuances and repayments during fiscal year 2018.

Table 33: Issuances and Repayments of Long-Term and Subordinated Debt[1]

	Year Ended May 31, 2018		
(Dollars in thousands)	Issuances	Repayments [1]	Increase/(Decrease)
Long-term and subordinated debt activity:[2]			
Collateral trust bonds	$700,000	$705,000	$ (5,000)
Guaranteed Underwriter Program notes payable	250,000	379,374	(129,374)
Farmer Mac notes payable	325,000	46,893	278,107
Medium-term notes sold to members	230,130	257,520	(27,390)
Medium-term notes sold to dealers	856,166	216,650	639,516
Other notes payable	—	5,565	(5,565)
Members' subordinated certificates	6,136	45,180	(39,044)
Total	$2,367,432	$1,656,182	$ 711,250

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[1]Repayments include principal maturities, scheduled amortization payments, repurchases and redemptions.
[2]Amounts exclude unamortized debt issuance costs and discounts.

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 6—Long-Term Debt", "Note 7—Subordinated Deferrable Debt" and "Note 8—Members' Subordinated Certificates".

Investment Portfolio

In addition to our primary sources of liquidity discussed above, we have an investment portfolio, composed of time deposits, available-for-sale investment securities and held-to-maturity investment securities, which totaled $710 million and $319 million as of May 31, 2018 and 2017, respectively. We intend for our investment portfolio to remain adequately liquid to serve as a contingent supplemental source of liquidity for unanticipated liquidity needs.

During the second quarter of fiscal year 2018, we commenced the purchase of additional investment securities, consisting primarily of certificates of deposit, commercial paper, corporate debt securities, commercial mortgage-backed securities and other asset-backed securities. Pursuant to our investment policy and guidelines, all fixed-income 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, 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 available-for-sale and held-to-maturity investment securities held in our investment portfolio 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, short-term borrowings, our liquidity reserve and the issuance of long-term and subordinated debt, as well as loan principal and interest payments.

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 34 below displays our projected sources and uses of cash, by quarter, over the next six quarters through the quarter ended November 30, 2019. 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, 2018, 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 34: Projected Sources and Uses of Liquidity[(1)]

(Dollars in millions)	Projected Sources of Liquidity				Projected Uses of Liquidity				
	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 2019	$635	$ 395	$ —	$ 1,030	$466	$ 522	$ 95	$ 1,083	$ (53)
2Q FY 2019	1,350	317	55	1,722	1,301	446	—	1,747	38
3Q FY 2019	1,250	291	—	1,541	780	586	—	1,366	(77)
4Q FY 2019	400	320	—	720	477	304	—	781	(52)
1Q FY 2020	195	312	—	507	167	408	—	575	65
2Q FY 2020	700	281	55	1,036	678	396	—	1,074	24
Total	$4,530	$ 1,916	$ 110	$ 6,556	$3,869	$ 2,662	$ 95	$ 6,626	$ (55)

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(1) The dates presented represent the end of each quarterly period through the quarter ended November 30, 2019.
(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 includes 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 34, we currently project long-term advances of $1,858 million over the next 12 months, which we anticipate will exceed anticipated loan repayments over the same period by approximately $535 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 35 displays aggregated information about the listed categories of our contractual obligations as of May 31, 2018. 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 35: Contractual Obligations[1]

(Dollars in millions)	2019	2020	2021	2022	2023	Thereafter	Total
Short-term borrowings	$3,796	$—	$—	$—	$—	$ —	$3,796
Long-term debt	2,745	1,463	1,737	1,577	1,128	10,065	18,715
Subordinated deferrable debt	—	—	—	—	—	742	742
Members' subordinated certificates[2]	10	13	43	15	31	1,268	1,380
Total long-term and subordinated debt	2,755	1,476	1,780	1,592	1,159	12,075	20,837
Contractual interest on long-term debt[3]	642	565	524	484	439	4,767	7,421
Total specified contractual obligations	$7,193	$2,041	$2,304	$2,076	$1,598	$ 16,842	$32,054

[1] Callable debt is included in this table at its contractual maturity.
[2] Excludes $0.3 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 $274 million are amortizing annually based on the unpaid principal balance of the related loan. Amortization payments on these certificates totaled $16 million in fiscal year 2018 and represented 6% 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, 2018, 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, 2018 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 36 displays our credit ratings as of May 31, 2018, which were unchanged as of the date of the filing of this Report.

Table 36: Credit Ratings

	May 31, 2018		
	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.

During fiscal year 2018, Moody's, S&P and Fitch affirmed our ratings and outlook. 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 decreased to 16.72-to-1 as of May 31, 2018, from 21.94-to-1 as of May 31, 2017, primarily due to an increase in equity resulting from our reported net income of $457 million for the year ended May 31, 2018, which was partially offset by patronage capital retirement of $45 million in September 2017.

Our adjusted debt-to-equity ratio increased to 6.18-to-1 as of May 31, 2018, from 5.95-to-1 as of May 31, 2017, largely due to an increase in debt outstanding to fund loan portfolio growth. 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, 2018.

As discussed above in "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."

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 due to contractual maturities, re-pricing characteristics and prepayments and the liabilities funding those assets.

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

To monitor and mitigate interest rate risk in the funding of fixed-rate loans, we perform a monthly interest rate gap analysis that provides a comparison between fixed-rate assets repricing or maturing by year and fixed-rate liabilities and members' equity maturing by year.

We maintain an unmatched position on our fixed-rate assets within a targeted range of adjusted total assets. The limited unmatched position is intended to provide flexibility to ensure that we are able to match the current maturing portion of long-term fixed-rate loans based on maturity date and the opportunity in the current low interest rate environment to increase the gross yield on our fixed-rate assets without taking what we would consider to be excessive risk.

Table 37 displays the scheduled amortization and repricing of fixed-rate assets and liabilities outstanding as of May 31, 2018. 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 10% and 9% of our total loan portfolio as of May 31, 2018 and 2017, 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 since it is used to match fund the variable-rate loan pool. 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 37: Interest Rate Gap Analysis

(Dollars in millions)	Prior to 5/31/19	Two Years 6/1/19 to 5/31/21	Two Years 6/1/21 to 5/31/23	Five Years 6/1/23 to 5/31/28	10 Years 6/1/28 to 5/31/38	6/1/38 and Thereafter	Total
Asset amortization and repricing	$1,870	$3,239	$2,958	$5,531	$6,549	$ 2,937	$23,084
Liabilities and members' equity:							
Long-term debt [1]	$2,500	$3,107	$2,421	$5,610	$4,523	$ 1,147	$19,308
Subordinated certificates	16	52	48	977	154	578	1,825
Members' equity[2]	48	23	24	105	293	875	1,368
Total liabilities and members' equity[3]	$2,564	$3,182	$2,493	$6,692	$4,970	$ 2,600	$22,501
Gap [4]	$(694)	$57	$465	$(1,161)	$1,579	$ 337	$583
Cumulative gap	(694)	(637)	(172)	(1,333)	246	583	
Cumulative gap as a % of total assets	(2.60)%	(2.39)%	(0.64)%	(4.99)%	0.92 %	2.18 %	
Cumulative gap as a % of adjusted total assets [5]	(2.62)	(2.41)	(0.65)	(5.04)	0.93	2.20	

[1]Includes long-term fixed-rate debt and net fixed-rate swaps.
[2]Includes the portion of the allowance for loan losses and subordinated deferrable debt allocated to fund fixed-rate assets and excludes noncash adjustments from the accounting for derivative financial instruments.
[3] Debt is presented based on call date.
[4]Calculated based on the amount of assets amortizing and repricing less total liabilities and members' equity.

(5)Adjusted total assets represents total assets reported in our consolidated balance sheets less derivative assets.

The difference, or interest rate gap, of $583 million between the fixed-rate loans scheduled for amortization or repricing of $23,084 million and the fixed-rate liabilities and equity funding the loans of $22,501 million presented in Table 37 reflects the amount of fixed-rate assets that are funded with short-term and variable-rate debt as of May 31, 2018. The gap of $583 million represented 2.18% of total assets and 2.20% of adjusted total assets (total assets excluding derivative assets) as of

May 31, 2018. As discussed above, we manage this gap within a prescribed range because funding long-term, fixed-rate loans with short-term and variable-rate debt may expose us to higher interest rate and liquidity risk.

Financial Instruments

Table 38 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 9—Derivative Instruments and Hedging Activities." All of our financial instruments as of May 31, 2018 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, 2018.

Table 38: Financial Instruments

			Principal Amortization and Maturities					
(Dollars in millions)	Outstanding Balance	Fair Value	2019	2020	2021	2022	2023	Remaining Years
Assets:								
Time deposits	$101	$101	$101	$—	$—	$—	$—	$—
Investment securities, available for sale	$89	$89	$—	$—	$—	$—	$—	$89
Investment securities, held to maturity	$520	$516	$23	$59	$101	$113	$141	$83
Average rate	2.91 %		1.81 %	2.43 %	2.79 %	2.96 %	2.96 %	3.56 %
Long-term fixed-rate loans [1]	$22,696	$21,714	$1,132	$1,168	$1,169	$1,148	$1,157	$16,922
Average rate	4.60 %		4.33 %	4.40 %	4.43 %	4.48 %	4.54 %	4.66 %
Long-term variable-rate loans	$1,039	$1,039	$95	$77	$53	$49	$43	$722
Average rate	3.39 %		—	—	—	—	—	—
Line of credit loans	$1,432	$1,432	$1,432	$—	$—	$—	$—	$—
Average rate	3.09 %		3.09 %	—	—	—	—	—
Liabilities and equity:								
Short-term borrowings [2]	$3,796	$3,796	$3,796	$—	$—	$—	$—	$—
Average rate	1.88 %		1.88 %	—	—	—	—	—
Long-term debt	$18,715	$18,909	$2,745	$1,463	$1,737	$1,577	$1,128	$10,065
Average rate	3.39 %		5.47 %	2.24 %	2.64 %	2.79 %	2.67 %	3.30 %
Subordinated deferrable debt	$742	$766	$—	$—	$—	$—	$—	$742
Average rate	4.98 %		—	—	—	—	—	4.98 %
Members' subordinated certificates [3]	$1,380	$1,380	$10	$13	$43	$15	$31	$1,268
Average rate	4.18 %		2.82 %	2.85 %	3.64 %	2.92 %	2.70 %	4.27 %

[1] The principal amount of fixed-rate loans is the total of scheduled principal amortizations without consideration for loans that reprice. Includes $13 million in TDR loans that were on accrual status as of May 31, 2018.
[2] Short-term borrowings includes 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 $0.3 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 $274 million are amortizing annually based on the unpaid principal balance of the related loan. Amortization payments on these certificates totaled $16 million in fiscal year 2018 and amortization represented 6% of amortizing loan subordinated certificates outstanding.

Loan Repricing

Table 39 shows long-term fixed-rate loans outstanding as of May 31, 2018, 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 39: Loan Repricing

(Dollars in thousands)	Repricing Amount	Weighted-Average Interest Rate
2019	$756,283	4.48 %
2020	521,833	4.66
2021	430,680	4.43
2022	393,109	4.66
2023	328,004	4.93
Thereafter	1,346,704	5.07
Total	$3,776,613	

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. Our Corporate Compliance group monitors compliance with established procedures 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. Our Internal Audit group 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. At each regularly scheduled board of directors meeting, 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 to the interest expense and to remove the derivative forward value gains (losses) and foreign currency adjustments from total net income. Adding cash settlements 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 represent 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. 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 represents our total cost of funding for the period. TIER calculated by adding the derivative cash settlements 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 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, 2018 and 2017, 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 40 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 fiscal years 2018, 2017, 2016, 2015 and 2014.

Table 40: Adjusted Financial Measures — Income Statement

	Year Ended May 31,				
(Dollars in thousands)	2018	2017	2016	2015	2014
Interest expense	$(792,735)	$(741,738)	$(681,850)	$(635,684)	$(654,655)
Include: Derivative cash settlements	(74,281)	(84,478)	(88,758)	(82,906)	(73,962)
Adjusted interest expense	$(867,016)	$(826,216)	$(770,608)	$(718,590)	$(728,617)
Net interest income	$284,622	$294,896	$330,786	$317,292	$302,885
Include: Derivative cash settlements	(74,281)	(84,478)	(88,758)	(82,906)	(73,962)
Adjusted net interest income	$210,341	$210,418	$242,028	$234,386	$228,923
Net income (loss)	$457,364	$312,099	$(51,516)	$(18,927)	$192,926
Exclude: Derivative forward value gains (losses)	306,002	179,381	(221,083)	(114,093)	39,541
Adjusted net income	$151,362	$132,718	$169,567	$95,166	$153,385

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 in our adjusted interest expense and exclude the unrealized forward value of derivatives from our adjusted net income.

TIER and Adjusted TIER

Table 41 presents our TIER and adjusted TIER for the years ended May 2018, 2017, 2016, 2015 and 2014.

Table 41: TIER and Adjusted TIER

	Year Ended May 31,				
	2018	2017	2016	2015	2014
TIER [1]	1.58	1.42	0.92	0.97	1.29
Adjusted TIER [2]	1.17	1.16	1.22	1.13	1.21

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[1] TIER is calculated based on net income plus interest expense for the period divided by interest expense for the period.
[2] Adjusted TIER is calculated based on adjusted net income 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. For computing 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 42 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 May 31, 2018, 2017, 2016, 2015 and 2014. As indicated in the table below, subordinated debt is treated in the same manner as equity in calculating our adjusted-debt-to-equity ratio.

Table 42: Adjusted Financial Measures — Balance Sheet

	May 31,				
(Dollars in thousands)	2018	2017	2016	2015	2014
Total liabilities	$25,184,351	$24,106,887	$23,452,822	$21,934,273	$21,220,311
Exclude:					
Derivative liabilities	275,932	385,337	594,820	408,382	388,208
Debt used to fund loans guaranteed by RUS	160,865	167,395	173,514	179,241	201,863
Subordinated deferrable debt	742,410	742,274	742,212	395,699	395,627
Subordinated certificates	1,379,982	1,419,025	1,443,810	1,505,420	1,612,191
Adjusted total liabilities	$22,625,162	$21,392,856	$20,498,466	$19,445,531	$18,622,422
Total equity	$1,505,853	$1,098,805	$817,378	$911,786	$970,374
Exclude:					
Prior-year cumulative derivative forward value losses	(340,976)	(520,357)	(299,274)	(185,181)	(224,722)
Current-year cumulative derivative forward value (gains) losses	306,002	179,381	(221,083)	(114,093)	39,541
Accumulated other comprehensive income [(1)]	1,980	3,702	4,487	5,371	6,320
Include:					
Subordinated certificates	1,379,982	1,419,025	1,443,810	1,505,420	1,612,191

Subordinated deferrable debt	742,410	742,274	742,212	395,699	395,627
Adjusted total equity	$3,661,239	$3,597,378	$3,519,270	$3,106,808	$3,157,053

(1) Represents AOCI related to derivatives. See “Note 10—Equity” for a breakout of our AOCI components.

Table 43 displays the calculations of our debt-to-equity and adjusted debt-to-equity ratios as of the years ended May 31, 2018, 2017, 2016, 2015 and 2014.

Table 43: Debt-to-Equity Ratio

	May 31,				
	2018	2017	2016	2015	2014
Debt-to-equity ratio (1)	16.72	21.94	28.69	24.06	21.87
Adjusted debt-to-equity ratio (2)	6.18	5.95	5.82	6.26	5.90

(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 at period end.

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 10—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. We therefore exclude from total CFC equity the cumulative impact of changes in derivative forward value gains (losses) and foreign currency adjustments and accumulated other comprehensive income because these amounts have not been realized to reflect what management considers to be equity available to members.

Table 44 provides a reconciliation of members' equity to total CFC equity as of May 31, 2018 and 2017.

Table 44: Members' Equity

	May 31,	
(Dollars in thousands)	2018	2017
Members' equity:		
Total CFC equity	$1,474,333	$1,069,953
Excludes:		
Accumulated other comprehensive income	8,544	13,175
Current year-end cumulative derivative forward value losses	(30,831)	(332,525)
Subtotal	(22,287)	(319,350)
Members' equity	$1,496,620	$1,389,303

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 9—Derivative Instruments and Hedging Activities.”

Item 8. Financial Statements and Supplementary Data

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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, 2018 and 2017, 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, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three year period ended May 31, 2018, 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, 2018

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended May 31,		
(Dollars in thousands)	2018	2017	2016
Interest income	$1,077,357	$1,036,634	$1,012,636
Interest expense	(792,735)	(741,738)	(681,850)
Net interest income	284,622	294,896	330,786
Benefit (provision) for loan losses	18,575	(5,978)	646
Net interest income after benefit (provision) for loan losses	303,197	288,918	331,432
Non-interest income:			
Fee and other income	17,578	19,713	21,785
Derivative gains (losses)	231,721	94,903	(309,841)
Results of operations of foreclosed assets	—	(1,749)	(6,899)
Total non-interest income	249,299	112,867	(294,955)
Non-interest expense:			
Salaries and employee benefits	(51,422)	(47,769)	(44,590)
Other general and administrative expenses	(39,462)	(38,457)	(41,753)
Gains (losses) on early extinguishment of debt	—	192	(333)
Other non-interest expense	(1,943)	(1,948)	(1,260)
Total non-interest expense	(92,827)	(87,982)	(87,936)
Income (loss) before income taxes	459,669	313,803	(51,459)
Income tax expense	(2,305)	(1,704)	(57)
Net income (loss)	457,364	312,099	(51,516)
Less: Net (income) loss attributable to noncontrolling interests	(2,178)	(2,193)	1,863
Net income (loss) attributable to CFC	$455,186	$309,906	$(49,653)

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)	2018	2017	2016
Net income (loss)	$457,364	$312,099	$(51,516)
Other comprehensive income (loss):			
Unrealized gains (losses) on available-for-sale investment securities	(3,222)	4,614	3,468
Unrealized losses on foreclosed assets	—	—	(5,575)
Unrealized losses on cash flow hedges	(1,059)	—	—
Reclassification of losses on foreclosed assets to net income	—	9,823	—
Reclassification of derivative gains to net income	(663)	(785)	(888)
Defined benefit plan adjustments	313	(1,535)	(31)
Other comprehensive income (loss)	(4,631)	12,117	(3,026)
Total comprehensive income (loss)	452,733	324,216	(54,542)
Less: Total comprehensive (income) loss attributable to noncontrolling interests	(2,178)	(2,193)	1,867
Total comprehensive income (loss) attributable to CFC	$450,555	$322,023	$(52,675)

See accompanying notes to consolidated financial statements.

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
CONSOLIDATED BALANCE SHEETS

	May 31,	
(Dollars in thousands)	2018	2017
Assets:		
Cash and cash equivalents	$230,999	$166,615
Restricted cash	7,825	21,806
Time deposits	101,000	226,000
Investment securities:		
Available for sale, at fair value	89,332	92,554
Held to maturity, at amortized cost	519,519	—
Total investment securities	608,851	92,554
Loans to members	25,178,608	24,367,044
Less: Allowance for loan losses	(18,801)	(37,376)
Loans to members, net	25,159,807	24,329,668
Accrued interest receivable	127,442	111,493
Other receivables	39,220	45,469
Fixed assets, net	116,031	122,260
Derivative assets	244,526	49,481
Other assets	54,503	40,346
Total assets	$26,690,204	$25,205,692
Liabilities:		
Accrued interest payable	$149,284	$137,476
Debt outstanding:		
Short-term borrowings	3,795,910	3,342,900
Long-term debt	18,714,960	17,955,594
Subordinated deferrable debt	742,410	742,274
Members’ subordinated certificates:		
Membership subordinated certificates	630,448	630,098
Loan and guarantee subordinated certificates	528,386	567,830
Member capital securities	221,148	221,097
Total members’ subordinated certificates	1,379,982	1,419,025
Total debt outstanding	24,633,262	23,459,793
Deferred income	65,922	73,972
Derivative liabilities	275,932	385,337
Other liabilities	59,951	50,309
Total liabilities	25,184,351	24,106,887
Commitments and contingencies		
Equity:		
CFC equity:		
Retained equity	1,465,789	1,056,778
Accumulated other comprehensive income	8,544	13,175
Total CFC equity	1,474,333	1,069,953
Noncontrolling interests	31,520	28,852

Total equity	1,505,853	1,098,805
Total liabilities and equity	$26,690,204	$25,205,692

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, 2015	$2,743	$668,980	$501,731	$(293,212)	$880,242	$4,080	$884,322	$27,464	$911,786
Net income (loss)	1,000	84,257	85,917	(220,827)	(49,653)	—	(49,653)	(1,863)	(51,516)
Other comprehensive loss	—	—	—	—	—	(3,022)	(3,022)	(4)	(3,026)
Patronage capital retirement	—	(39,384)	—	—	(39,384)	—	(39,384)	—	(39,384)
Other	(971)	—	(429)	429	(971)	—	(971)	489	(482)
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

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)	2018	2017	2016
Cash flows from operating activities:			
Net income (loss)	$457,364	$312,099	$(51,516)
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of deferred loan fees	(11,296)	(14,072)	(18,751)
Amortization of debt issuance costs and deferred charges	10,456	9,484	8,478
Amortization of discount on long-term debt	10,164	9,501	8,693
Amortization of issuance costs for bank revolving lines of credit	5,346	5,531	5,535
Depreciation and amortization	7,931	7,173	7,327
Provision (benefit) for loan losses	(18,575)	5,978	(646)
Results of operations of foreclosed assets	—	1,749	6,899
Derivative forward value (gains) losses	(306,002)	(179,381)	221,083
Changes in operating assets and liabilities:			
Accrued interest receivable	(15,949)	1,778	(6,225)
Accrued interest payable	11,808	4,480	9,299
Deferred income	3,246	9,393	21,822
Other	741	5,855	15,560
Net cash provided by operating activities	155,234	179,568	227,558
Cash flows from investing activities:			
Advances on loans, net	(811,164)	(1,145,673)	(1,693,084)
Investment in fixed assets	(15,194)	(17,793)	(9,806)
Net cash proceeds from sale of foreclosed assets	—	51,042	5,414
Proceeds from foreclosed assets	—	—	(4,349)
Net proceeds from time deposits	125,000	114,000	145,000
Purchases of held-to-maturity investments	(510,598)	—	—
Proceeds from maturities of held-to-maturity investments	1,394	—	—
Change in restricted cash	13,981	(17,178)	(4,143)
Net cash used in investing activities	(1,196,581)	(1,015,602)	(1,560,968)
Cash flows from financing activities:			
Proceeds from (repayments of) short-term borrowings, net	126,211	409,871	(154,072)
Proceeds from short-term borrowings with original maturity greater than 90 days	1,331,910	1,003,185	890,242
Repayments of short term-debt with original maturity greater than 90 days	(1,005,111)	(1,009,004)	(925,076)
Payments for issuance costs for revolving bank lines of credit	(2,441)	(2,548)	(3,009)
Proceeds from issuance of long-term debt, net of discount and issuance costs	2,349,885	2,923,868	2,920,669
Payments for retirement of long-term debt	(1,611,002)	(2,460,730)	(1,709,283)
Payments for issuance costs for subordinated deferrable debt	—	(68)	—
Proceeds from issuance of subordinated debt	—	—	346,433
Proceeds from issuance of members' subordinated certificates	6,136	3,626	5,654
Payments for retirement of members' subordinated certificates	(45,180)	(28,220)	(43,596)
Payments for retirement of patronage capital	(44,667)	(41,871)	(38,848)
Repayments for membership fees, net	(10)	—	—
Net cash provided by financing activities	1,105,731	798,109	1,289,114
Net increase (decrease) in cash and cash equivalents	64,384	(37,925)	(44,296)
Beginning cash and cash equivalents	166,615	204,540	248,836
Ending cash and cash equivalents	$230,999	$166,615	$204,540

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)	2018	2017	2016
Supplemental disclosure of cash flow information:			
Cash paid for interest	$766,059	$712,742	$649,845
Cash paid for income taxes	321	407	72
Noncash financing and investing activities:			
Loan provided in connection with the sale of foreclosed assets	$—	$60,000	$—

See accompanying notes to consolidated financial statements.

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NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION
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, 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. The most significant estimates and assumptions involve determining the allowance for loan losses and the fair value of financial assets and liabilities. While management makes its best judgment, actual amounts or results could differ from these estimates. Certain reclassifications have been made to previously reported amounts to conform to the current-period 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, 2018 or May 31, 2017. 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.

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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 totaled $8 million and $22 million as of May 31, 2018 and 2017, respectively. On July 1, 2016, CFC completed the sale of Caribbean Asset Holdings, LLC ("CAH"), an entity that held foreclosed assets, to ATN VI Holdings, LLC. In connection with the sale, $16 million of the sale proceeds was deposited into escrow to fund potential indemnification claims following the closing. Of this amount, $14.5 million was designated to cover general indemnification claims and has been released back to us. The remaining $1.5 million was designated to cover indemnification of certain tax liens and remains in escrow. We continue to be liable for certain indemnification obligations, if raised and substantiated, regardless of whether amounts are held in escrow.

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 record purchases and sales of securities on a trade-date basis. We currently classify and account for our investment securities as either available for sale ("AFS") or held to maturity ("HTM") based on our investment strategy and management's assessment of our intent and ability to hold the securities until maturity. 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 are classified as AFS. Securities that we have the positive intent and ability to hold until maturity are classified as HTM.

Our investment securities classified as AFS 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. AFS securities are carried at fair value on our consolidated balance sheets with unrealized gains and losses recorded as a component of accumulated other comprehensive income.

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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 have the positive intent and ability to hold these securities to maturity. As such, we have classified them as HTM on our consolidated balance sheet. HTM securities are carried at amortized cost on our consolidated balance sheets. Interest income on fixed-income securities, 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 to members are classified as held for investment and reported at amortized cost, which is measured based on the outstanding principal balance net of unamortized deferred loan origination costs. 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.

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

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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

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.
The allowance for loan losses is reported separately on the consolidated balance sheet, and the provision for loan losses is separately reported on our consolidated statement of operations.

We review the estimates and assumptions used in the calculations of the allowance for loan losses on a quarterly basis. The estimate of the allowance for loan losses is based on a review of the composition of the loan portfolio, past loss experience, specific problem loans, current economic conditions, available market data and/or projection of future cash flows and other pertinent factors that in management's judgment may contribute to incurred losses. The allowance is based on estimates and, accordingly, actual losses may differ from the allowance amount. The methodology used to calculate the allowance for loan losses is summarized below.

Collective Allowance

The collective loss reserve is calculated using an internal model to estimate incurred losses for segments within our loan portfolio that have similar risk characteristics. The segments reflect each of our consolidated entities: CFC, NCSC and RTFC. Our segments are further stratified into loan pools based on member borrower type—distribution, power supply, and statewide and associates—and borrower risk ratings. We then apply loss factors to the outstanding principal balance of each of these loan pools to determine the collective allowance for loan losses. The loss factors reflect the probability of default, or default rate, and the loss severity, or loss given default, for each loan pool. We derive the total quantitative 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. The risk ratings are based on the following quantitative and qualitative factors:

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, or the time it takes from when a loss-triggering event happens in the loan portfolio until it is identified and a problem loan is charged off, repaid or otherwise resolved, is based on CFC’s historical average loss emergence experience.
- Default rates: Because we have limited default history from which to develop default estimates, we utilize third-party industry default data to estimate default rates. We currently obtain this information from the U.S. utility default rate table published annually by S&P Global Inc. (“S&P”). This table provides historical expected default rates for the utility sector based on credit rating levels and remaining maturity. We correlate our internal risk ratings to the S&P credit

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ratings provided in the utility default rate table and apply the S&P default rates for our estimated loss emergence period to our loan pools.

- Recovery rates. To estimate our loss severity in the event of default, we utilize our historical charge-off experience for each borrower type, which is subject to adjustment based on management's quantitative and qualitative assessment of current conditions.

Specific Allowance

We generally measure impairment for individually impaired loans based on the difference between the recorded investment of 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 impairment based upon the fair value of the underlying collateral, which we determine 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.

In calculating the impairment on a loan, the estimates of the expected future cash flows or collateral value are the key estimates made by management. Changes in the estimated future cash flows or collateral value affect the amount of the calculated impairment. The change in cash flows required to make the change in the calculated impairment material will be different for each borrower and depend on the period covered, the effective interest rate at the time the loan became impaired and the amount of the loan outstanding. Estimates are not used to determine our investment in the receivables or the discount rate since, in all cases, the investment is equal to the loan balance outstanding at the reporting date, and the discount rate is equal to the effective interest rate on the loan at the time the loan became impaired.

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.

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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 $8 million, $7 million and $7 million in fiscal year 2018, 2017 and 2016, respectively. The table below 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)	2018	2017
Building and building equipment	$50,210	$50,236
Furniture and fixtures	6,080	5,852
Computer software and hardware	45,389	40,469
Other	1,006	1,034
Depreciable fixed assets	102,685	97,591
Less: Accumulated depreciation	(47,705)	(41,274)
Net depreciable fixed assets	54,980	56,317
Land	23,796	37,847
Software development	37,255	28,096
Fixed assets, net	$116,031	$122,260

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.

In 2007, CFC purchased a parcel of land, consisting of approximately 28 acres, located in Loudoun County, Virginia as a potential site to construct a new facility for our headquarters. We subsequently identified another site in Loudoun County for our headquarters, purchased the land and built our headquarters facility at that location. On March 14, 2018, CFC entered into a purchase and sale agreement (“the agreement”), subsequently amended on April 23, 2018, for the sale of this real estate property in excess of its carrying value of $14 million, subject to certain terms and conditions. Although we currently believe the disposition of this property is probable within the next 12 months, there can be no assurance that the disposition will be consummated in accordance with the terms of the agreement.

The property was previously included in fixed assets, net on our consolidated balance sheet. In the third quarter of fiscal year 2018, we designated the property as held for sale fiscal year 2018 and reclassified it from fixed assets, net to other assets on our consolidated balance sheet. Based on the estimated sale proceeds less cost to sell, we expect to record a gain 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, 2018 or May 31, 2017.

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 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 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.

At 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, we recorded a transition adjustment net loss in AOCI. The transition adjustment net loss is being reclassified into earnings and reported as a component of derivative gains (losses) in our consolidated statements of operations. We expect to continue to reclassify the remaining balance of the transition adjustment to earnings through 2029.

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 available-for-sale investment 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, categorized by loan and investment type, for fiscal years 2018, 2017 and 2016.

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	Year Ended May 31,		
(Dollars in thousands)	2018	2017	2016
Interest income by interest-earning asset type:			
Long-term fixed-rate loans[1]	$1,000,492	$980,173	$959,701
Long-term variable-rate loans	27,152	19,902	19,858
Line of credit loans	38,195	25,389	24,864
TDR loans[2]	889	905	512
Nonperforming loans	—	—	142
Other income, net[3]	(1,185)	(1,082)	(1,088)
Total loans	1,065,543	1,025,287	1,003,989
Cash, time deposits and investment securities	11,814	11,347	8,647
Total interest income	$1,077,357	$1,036,634	$1,012,636

[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 and net amortization of deferred loan fees and loan origination costs.

Deferred income of $66 million and $74 million as of May 31, 2018 and 2017, respectively, consists primarily of deferred loan conversion fees totaling $60 million and $68 million, respectively. These fees are presented as deferred income on our consolidated balance sheets and recognized in interest income using the effective interest method.

Interest Expense

The following table presents interest expense, by debt product type, for fiscal years 2018, 2017 and 2016.

	Year Ended May 31,		
(Dollars in thousands)	2018	2017	2016
Interest expense by debt product type:[1][2]			
Short-term borrowings	$50,616	$26,684	$14,728
Medium-term notes	111,814	99,022	86,270
Collateral trust bonds	336,079	340,854	333,338
Guaranteed Underwriter Program notes payable	140,551	142,661	143,240
Farmer Mac notes payable	56,004	33,488	20,529
Other notes payable	1,509	1,780	2,051
Subordinated deferrable debt	37,661	37,657	21,245
Subordinated certificates	58,501	59,592	60,449
Total interest expense	$792,735	$741,738	$681,850

(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.

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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.

On December 22, 2017, the president of the United States signed and enacted into law H.R. 1, the Tax Cuts and Jobs Act (“The Act”), which, except for certain provisions, is effective for tax years beginning on or after January 1, 2018. The Act significantly changed existing U.S. tax law and included numerous provisions that affect businesses. One of the primary changes is a reduction in the federal statutory corporate U.S. income tax rate to 21% percent from 35% and other changes that impact business-related exclusions, deductions and credits. CFC is exempt from federal income tax under Section 501(c)(4) of the Internal Revenue Code. NCSC and RTFC are subject to federal income tax; however, their annual taxable income and federal income tax is not material to our consolidated results of operations, financial condition or liquidity. RTFC’s deduction of the allocation of patronage capital to its members historically has resulted in a significant reduction in its annual taxable income and federal income tax.

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 statutory tax rate for NCSC and RTFC was 34% and 35%, respectively, for fiscal year 2018. The statutory tax rate for NCSC and RTFC was 38% and 40%, respectively, for fiscal year 2017 and the statutory tax rate for both NCSC and RTFC was 38% for fiscal year 2016. 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 and $4 million as of May 31, 2018 and 2017, respectively, 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

Derivatives and Hedging—Targeted Improvements to Accounting for Hedging Activities

In August 2017, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2017-12, Derivatives and Hedging—Targeted Improvements to Accounting for Hedging Activities, 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. If we continue to elect not to apply hedge accounting to our interest rate swaps, the adoption of the new guidance will not have a material impact on our consolidated financial statements.

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Receivables—Nonrefundable Fees and Other Cost

In March 2017, 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 beginning 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. We do not expect that the adoption of this guidance will have a material impact on our consolidated financial statements.

Statement of Cash Flows—Restricted Cash

In November 2016, FASB issued 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 balances. We currently explain the change during the period in total of cash and cash equivalents on our consolidated statements of cash flows. The guidance is effective for public entities in fiscal years beginning after December 15, 2017, including interim periods within those fiscal years, and must be applied retrospectively. We adopted this guidance on June 1, 2018 with retrospective application. Beginning with the first quarter of fiscal year 2019, we will change the presentation of our consolidated statement of cash flows to explain the changes in cash and cash equivalents and restricted cash and revise prior- period amounts to conform to this presentation. We will also disclose the total for cash and cash equivalents and restricted cash on our consolidated balance sheets to correspond to the statement of cash flows.

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

In June 2016, FASB issued ASU 2016-13, Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments, which replaces the existing incurred loss impairment model and establishes a single allowance 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 the 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 standard is effective for fiscal years and interim periods within those fiscal years, beginning after December 15, 2019. Early application will be permitted for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. This update is effective for us beginning June 1, 2020. We do not expect to early adopt this guidance. Upon adoption, we will be required to record a cumulative-effect adjustment to retained earnings. The impact on our consolidated financial statements from the adoption of this new guidance will depend on the composition and risk profile of our loan portfolio as of the date of adoption.

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

In January 2016, 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. The main provisions include a requirement that all investments in equity securities be measured at fair value through earnings, with certain exceptions, and a requirement to present separately in other comprehensive income the portion of the total change in fair value attributable to an entity’s own credit risk for financial liabilities where the fair value option has been elected. We adopted this guidance on June 1, 2018. Upon adoption, we recorded a cumulative-effect adjustment that

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resulted in an increase in retained earnings of $9 million and a corresponding decrease in AOCI. Beginning in the first quarter of fiscal year 2019, we will record unrealized changes in the fair value of our investments in equity securities classified as available for sale in earnings. Previously, such unrealized gains and losses were reflected in other comprehensive income.

Revenue from Contracts with Customers

In May 2014, 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. Given the scope exception for financial instruments, the guidance has no impact on our recognition and measurement of interest income and excludes the vast majority of our other transactions, such as financial guarantees and derivatives. The guidance became effective for us on June 1, 2018. Adoption of the guidance did not have an impact on our consolidated financial statements.

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, 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 service organization 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 applying intercompany eliminations, as of May 31, 2018 and 2017.

	May 31,	
(Dollars in thousands)	2018	2017

Total loans outstanding	$1,149,574	$968,343
Other assets	10,280	10,157
Total assets	$1,159,854	$978,500
Long-term debt	$8,000	$10,000
Other liabilities	33,923	36,899
Total liabilities	$41,923	$46,899

The following table provides information on CFC's credit commitments to NCSC and RTFC, and its potential exposure to loss as of May 31, 2018 and 2017.

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	May 31,	
(Dollars in thousands)	2018	2017
CFC credit commitments	$5,500,000	$5,500,000
Outstanding commitments:		
Borrowings payable to CFC[1]	1,116,465	931,686
Credit enhancements:		
CFC third-party guarantees	12,005	14,697
Other credit enhancements	14,655	20,963
Total credit enhancements[2]	26,660	35,660
Total outstanding commitments	1,143,125	967,346
CFC available credit commitments	$4,356,875	$4,532,654

(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 $28 million. The maturities for obligations guaranteed by CFC extend through 2031.

NOTE 3—INVESTMENT SECURITIES

The accounting and measurement framework for investment securities differs depending on the security classification. We currently classify and account for our investment securities as either AFS or HTM based on our investment strategy and management's assessment of our intent and ability to hold the securities until maturity. See "Note 1—Summary of Significant Accounting Policies" for additional information on our investment securities.

During the second quarter of fiscal year 2018, we commenced the purchase of additional investment securities, consisting primarily of certificates of deposit with maturities greater than 90 days, commercial paper, corporate debt securities, commercial MBS and other ABS. Pursuant to our investment policy guidelines, all fixed-income 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. 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 sheets. We did not have any securities classified as HTM as of May 31, 2017.

Amortized Cost and Fair Value of Investment Securities

The following tables present the amortized cost and fair value of our investment securities and the corresponding gross unrealized gains and losses, by classification category and major security type, as of May 31, 2018 and 2017.

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	May 31, 2018			
(Dollars in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Available for sale:				
Farmer Mac—series A non-cumulative preferred stock	$30,000	$ 480	$ —	$30,480
Farmer Mac—series B non-cumulative preferred stock	25,000	1,000	—	26,000
Farmer Mac—series C non-cumulative preferred stock	25,000	872	—	25,872
Farmer Mac—class A common stock	538	6,442	—	6,980
Total investment securities, available for sale	80,538	8,794	—	89,332
Held to maturity:				
Certificates of deposit	4,148	—	—	4,148
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 investment securities, held to maturity	519,519	840	(4,813)	515,546
Total investment securities	$600,057	$ 9,634	$ (4,813)	$604,878

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

	May 31, 2017			
(Dollars in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Available for sale:				
Farmer Mac—series A non-cumulative preferred stock	$30,000	$ 1,585	$ —	$31,585
Farmer Mac—series B non-cumulative preferred stock	25,000	1,940	—	26,940
Farmer Mac—series C non-cumulative preferred stock	25,000	4,150	—	29,150
Farmer Mac—class A common stock	538	4,341	—	4,879
Total investment securities, available for sale	$80,538	$ 12,016	$ —	$92,554

For additional information on the unrealized gains (losses) losses recorded on our AFS investment securities, see “Note 10—Equity—Accumulated Other Comprehensive Income.”

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Investment Securities in Gross Unrealized Loss Position

An unrealized loss exists when the current 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 investments 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, 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. We did not have any investment securities in a gross unrealized loss position as of May 31, 2017.

	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
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[(1)]	27,012	(215)	—	—	27,012	(215)
Total investment securities	$308,602	$ (4,813)	$ —	$ —	$308,602	$ (4,813)

[(1)]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 225 as of May 31, 2018. 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 as of May 31, 2018 of our HTM investment securities. 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.

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	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	$4,148	$—	$—	$—	$4,148
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	$22,393	$413,982	$79,691	$3,453	$519,519
Fair value:					
Certificates of deposit	$4,148	$—	$—	$—	$4,148
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	$22,338	$409,707	$80,048	$3,453	$515,546
Weighted-average coupon[2]	1.81 %	2.84 %	3.60 %	2.74 %	2.91 %

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[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 four years and 2.91%, respectively, as of May 31, 2018. The average credit rating of these securities, based on the equivalent lowest credit rating by Moody’s, S&P and Fitch was A- as of May 31, 2018.

Realized Gains and Losses

We did not sell any of our investment securities during the year ended May 31, 2018 and May 31, 2017, and therefore have not recorded any realized gains or losses.

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NOTE 4—LOANS

Loans that management has the intent and ability to hold for the foreseeable future or until maturity or payoff are considered loans held for investment. The loans presented on our consolidated balance sheet are classified and accounted for as held for investment. Loans held for investment are carried at the outstanding unpaid principal balance, net of unamortized loan origination costs.

We offer fixed- and variable-rate loans and line of credit loans. Borrowers may choose between a fixed interest rate or a variable interest rate for periods of one to 35 years. When a selected fixed interest rate term expires, the borrower may select another fixed-rate term or a variable rate. We consider these fixed- and variable-rate loans, which have repricing terms, as long-term loans. 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, 2018 and 2017.

	May 31, 2018		2017	
(Dollars in thousands)	Loans Outstanding	Unadvanced Commitments (1)	Loans Outstanding	Unadvanced Commitments (1)
Loan type:				
Long-term loans:				
Fixed rate	$22,696,185	$—	$22,136,690	$—
Variable rate	1,039,491	4,952,834	847,419	4,802,319
Total long-term loans	23,735,676	4,952,834	22,984,109	4,802,319
Lines of credit	1,431,818	7,692,784	1,372,221	7,772,655
Total loans outstanding	25,167,494	12,645,618	24,356,330	12,574,974
Deferred loan origination costs	11,114	—	10,714	—
Loans to members	$25,178,608	$12,645,618	$24,367,044	$12,574,974
Member class:				
CFC:				
Distribution	$19,551,511	$8,188,376	$18,825,366	$8,295,146
Power supply	4,397,353	3,407,095	4,504,791	3,276,113
Statewide and associate	69,055	128,025	57,830	144,406
Total CFC	24,017,919	11,723,496	23,387,987	11,715,665
NCSC	786,457	624,663	613,924	584,944
RTFC	363,118	297,459	354,419	274,365
Total loans outstanding	25,167,494	12,645,618	24,356,330	12,574,974
Deferred loan origination costs	11,114	—	10,714	—

Loans to members	$25,178,608	$12,645,618	$24,367,044	$12,574,974

(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.

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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, 2018 and the related maturities, by fiscal year and thereafter, by loan type:

	Available	Notional Maturities of Unadvanced Loan Commitments					
(Dollars in thousands)	Balance	2019	2020	2021	2022	2023	Thereafter
Line of credit loans	$7,692,784	$4,168,751	$710,763	$805,508	$770,971	$1,211,791	$ 25,000
Long-term loans	4,952,834	883,840	586,005	652,499	1,714,338	1,104,185	11,967
Total	$12,645,618	$5,052,591	$1,296,768	$1,458,007	$2,485,309	$2,315,976	$ 36,967

Unadvanced line of credit commitments accounted for 61% of total unadvanced loan commitments as of May 31, 2018, while unadvanced long-term loan commitments accounted for 39% 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 $4,953 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 $12,646 million as of May 31, 2018 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 $9,789 million and $9,973 million as of May 31, 2018 and 2017, 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 $2,857 million and $2,602 million as of May 31, 2018 and 2017, 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 as of May 31, 2018, and maturities by fiscal year.

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(Dollars in thousands)	Available Balance	Notional Maturities of Unconditional Committed Lines of Credit				
		2019	2020	2021	2022	2023
Committed lines of credit	$2,857,350	$279,285	$435,151	$444,326	$644,178	$1,054,410

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 $119 million, $58 million and $99 million at par for cash in fiscal years 2018, 2017 and 2016, 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, 2018 and 2017. See “Note 5—Short-Term Borrowings” and “Note 6—Long-Term Debt” for information on our borrowings.

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	May 31,	
(Dollars in thousands)	2018	2017
Collateral trust bonds:		
2007 indenture:		
Distribution system mortgage notes	$8,643,344	$8,740,572
RUS-guaranteed loans qualifying as permitted investments	140,680	146,373
Total pledged collateral	$8,784,024	$8,886,945
Collateral trust bonds outstanding	7,697,711	7,697,711
1994 indenture:		
Distribution system mortgage notes	$243,418	$263,007
Collateral trust bonds outstanding	220,000	225,000
Farmer Mac:		
Distribution and power supply system mortgage notes	$3,331,775	$2,942,456
Notes payable outstanding	2,891,496	2,513,389
Clean Renewable Energy Bonds Series 2009A:		
Distribution and power supply system mortgage notes	$12,615	$14,943
Cash	415	481
Total pledged collateral	$13,030	$15,424
Notes payable outstanding	11,556	13,214
Federal Financing Bank:		
Distribution and power supply system mortgage notes	$5,772,750	$5,833,515
Notes payable outstanding	4,856,375	4,985,748

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, 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 1,449 members and 216 associates as of May 31, 2018. 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, 2018 and 2017. As a result of lending primarily to our rural electric utility cooperative members we have a loan portfolio subject to single-industry and single-obligor concentration risks. Despite our credit concentration risks, we historically have experienced limited defaults and very low credit losses in our electric loan portfolio.

Loans outstanding to electric utility organizations represented approximately 99% of total loans outstanding as of May 31, 2018, unchanged from May 31, 2017. The remaining loans outstanding in our portfolio were to RTFC members, affiliates and associates in the telecommunications industry. The combined exposure of loans and guarantees outstanding for our 20 largest borrowers represented 23% and 24% of our total combined exposure as of May 31, 2018 and 2017, respectively. The 20 largest borrowers consisted of nine distribution systems, 10 power supply systems and one NCSC associate member as of May 31, 2018. The 20 largest borrowers consisted of 10 distribution systems, nine power supply systems and one NCSC associate member as of May 31, 2017. The largest total loan and guarantee outstanding exposure to

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a single borrower or controlled group represented approximately 2% of total loans and guarantees outstanding as of both May 31, 2018 and 2017.

Credit Quality

We closely monitor loan performance trends to manage and evaluate our credit risk exposure. We seek to provide a balance between meeting the credit needs of our members while also ensuring the sound credit quality of our loan portfolio. Payment status and internal risk ratings are key indicators, among others, of the level of credit risk in our loan portfolio.

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.

As part of our strategy in managing our credit risk 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 $660 million and $843 million as of May 31, 2018 and 2017, 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, 2018. Also, we had long-term loans totaling $161 million and $167 million as of May 31, 2018 and 2017, respectively, guaranteed by RUS.

Payment Status of Loans

The tables below present the payment status of loans outstanding by member class as of May 31, 2018 and 2017. As indicated in the table, we did not have any past due loans as of either May 31, 2018 or May 31, 2017.

	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 %	— %

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	May 31, 2017					
(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	$18,825,366	$ —	$ —	$ —	$18,825,366	$ —
Power supply	4,504,791	—	—	—	4,504,791	—
Statewide and associate	57,830	—	—	—	57,830	—
CFC total	23,387,987	—	—	—	23,387,987	—
NCSC	613,924	—	—	—	613,924	—
RTFC	354,419	—	—	—	354,419	—
Total loans outstanding	$24,356,330	$ —	$ —	$ —	$24,356,330	$ —
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, 2018. 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, 2018 and 2017.

	May 31, 2018			2017		
(Dollars in thousands)	Loans Outstanding	% of Total Loans	Unadvanced Commitments	Loans Outstanding	% of Total Loans	Unadvanced Commitments
TDR loans:						
Performing TDR loans:						
CFC/Distribution	$6,507	0.03%	$ —	$6,581	0.02%	$ —
RTFC	6,092	0.02%	—	6,592	0.03	—
Total performing TDR loans	12,599	0.05%	—	13,173	0.05	—
Total TDR loans	$12,599	0.05%	$ —	$13,173	0.05%	$ —

We did not have any TDR loans classified as nonperforming as of May 31, 2018 or May 31, 2017. TDR loans classified as performing as of May 31, 2018 and 2017 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 a line of credit facility, restricted for fuel purchases only, totaling $6 million as of both May 31, 2018 and 2017. The outstanding amount under this facility totaled less than $1 million as of both May 31, 2018 and 2017, and was classified as performing as of each respective date.

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, 2018 or May 31, 2017.

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The following table shows foregone interest income for loans on nonaccrual status for the fiscal years ended May 31, 2018, 2017 and 2016.

	Year Ended May 31,		
(Dollars in thousands)	2018	2017	2016
Performing TDR loans	$—	$—	$166
Nonperforming TDR loans	—	31	109
Total	$—	$31	$275

Impaired Loans

The following table provides information on loans classified as individually impaired as of May 31, 2018 and 2017.

	May 31,			
	2018		2017	
(Dollars in thousands)	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
With no specific allowance recorded:				
CFC	$6,507	$ —	$6,581	$ —
With a specific allowance recorded:				
RTFC	6,092	1,198	6,592	1,640
Total impaired loans	$12,599	$ 1,198	$13,173	$ 1,640

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, 2018, 2017 and 2016.

	Average Recorded Investment			Interest Income Recognized		
(Dollars in thousands)	2018	2017	2016	2018	2017	2016
CFC	$6,524	$6,613	$6,842	$571	$562	$390
RTFC	6,361	7,736	9,823	318	343	264
Total impaired loans	$12,885	$14,349	$16,665	$889	$905	$654

Internal Risk Ratings of Loans

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 aligned 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.

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- 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, 2018 and 2017.

	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

	May 31, 2017				
(Dollars in thousands)	Pass	Special Mention	Substandard	Doubtful	Total
CFC:					
Distribution	$18,715,810	$109,556	$ —	$ —	$18,825,366
Power supply	4,504,791	—	—	—	4,504,791
Statewide and associate	56,654	1,176	—	—	57,830
CFC total	23,277,255	110,732	—	—	23,387,987
NCSC	612,592	1,332	—	—	613,924
RTFC	346,944	—	7,475	—	354,419
Total loans outstanding	$24,236,791	$112,064	$ 7,475	$ —	$24,356,330

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The increase in loans classified as substandard of $163 million was attributable to the downgrade of an electric distribution cooperative and its subsidiary as of May 31, 2018. The electric distribution cooperative provides its customers with distribution and transmission services and is in the early stages of deploying retail broadband service. The borrower is currently experiencing financial difficulties due to recent net losses and weak cash flows. Pursuant to our risk rating guidelines, the borrower's current financial condition warranted a downgrade to a substandard rating as of May 31, 2018. The borrower and its subsidiary are current with regard to all principal and interest payments and have never been delinquent. The borrower operates in a territory that is not rate-regulated and has the ability to adjust its electric rates to cover operating costs and service debt. Of the outstanding amount, all but $7 million is secured under our typical collateral requirements for long-term loan advances. We 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, 2018.

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, 2018, 2017 and 2016.

	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		