National Rural Utilities Cooperative Finance Corporation

Full Rating Report

Ratings

Long-Term IDR	A
Short-Term IDR	F1
Commercial Paper	F1
Senior Secured	A+
Subordinated Deferrable Debt	BBB+

Outlook

Long-Term IDR	Stable

Financial Data

National Rural Utilities Cooperative Finance Corporation

($ Mil.)	2/28/19	5/31/18
Nonperforming Assets/Total Loans (%)	0.0	0.0
Pre-Tax ROAA (%)	0.5	1.8
Adjusted TIER (x)	1.19	1.17
Fitch-Calculated Debt/ Equity (x)	7.47	7.31
Unsecured Debt/ Total Debt (%)	36.8	37.5

Related Research

Fitch Ratings 2019 Outlook: U.S. Public Power and Electric Cooperative Sector (December 2018)

Fitch Ratings 2019 Outlook: Global Finance and Leasing Companies (December 2018)

National Rural Utilities Cooperative Finance Corporation — Ratings Navigator (October 2018)

Fitch Affirms National Rural Utilities Cooperative Finance Corporation at ‘A’/‘F1’; Outlook Stable (October 2018)

Sector Briefing: Public Power and Electric Cooperatives (October 2018)

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Key Rating Drivers

Strong Franchise and Unique Structure: National Rural Utilities Cooperative Finance Corporation’s (CFC) ratings reflect its unique competitive position within the electric cooperative lending space, strong asset quality, sufficient liquidity, funding diversity and adequate coverage of interest expenses. The ratings are constrained by CFC’s relatively higher leverage compared to peers, its unique capital structure and inability to access the equity capital markets, and modest earnings as its business model is not profit-driven.

Demonstrated Track Record in Credit: CFC has a demonstrated track record in credit, recording very low credit losses over time. Over its entire 50-year operating history, the firm has experienced only 16 defaults and six losses in the electric utility portfolio, with net write-offs as a percentage of average loans amounting to only 0.84% since inception. As of the third fiscal quarter ended Feb. 28, 2019 (3Q19), no loans were on non-accrual status and troubled debt restructured loans were nominal.

Modest Earnings Profile: Earnings on a pre-tax ROAA basis are very low when compared to similarly rated non-bank financial institutions. Fitch Ratings places greater emphasis on the company’s adjusted times interest earned ratio (TIER), which has been consistent over time. Adjusted TIER amounted to 1.2x at 3Q19, consistent with the metric at FYE18. Given the company’s strong asset quality and ability to adjust loan pricing, Fitch expects adjusted TIER to remain in excess of the firm’s 1.1x target over time.

High Leverage: Fitch calculates debt to tangible equity leverage to be 7.5x at 3Q19, up modestly from 7.3x at FYE18, driven by loan growth. In Fitch’s view CFC’s leverage remains a rating constraint, as it is above similarly rated non-bank financial institutions. Nevertheless, Fitch views CFC’s leverage as reasonable given its low portfolio credit risk and track record of raising capital as needed to manage leverage (on its measure) around 6.0x.

Sufficient Liquidity: As of Feb. 28, 2019, CFC had aggregate liquidity of $9.1 billion, comprising $874 million of cash and investments, $6.7 billion of available borrowing capacity and $1.5 billion of anticipated loan repayments over the next 12 months. Fitch believes CFC has sufficient liquidity to address its $5.6 billion of debt maturities over the next 12 months.

Rating Sensitivities

Lower Leverage a Positive Driver: Fitch does not anticipate upward rating momentum in the near term. However, positive momentum could develop over time from leverage approaching 5.0x on a Fitch-calculated basis, which is more consistent with the agency’s investment-grade benchmark ratios for finance and leasing companies. Enhanced funding flexibility, evidenced by the lengthening of CFC’s debt maturity profile, would also be viewed positively.

Drift in Focus Viewed Negatively: Ratings could be adversely impacted by a perceived drift in focus, evidenced by increased lending to sectors outside of the firm’s rural electric member base, a spike in nonperforming loans due to financial stress within the sector indicating an inability to adapt to new legislation or an inability to pass cost increases to end-users, an increase in leverage approaching 9.0x, and/or deterioration in the firm’s liquidity profile.

Operating Environment

Sovereign Rating: CFC operates in the U.S., which is characterized by a strong operating environment, stable economy, developed and transparent regulatory framework and robust financial markets. On April 2, 2019, Fitch affirmed the U.S.'s Long-Term Foreign and Local Currency Issuer Default Ratings (IDRs) at 'AAA'. The Rating Outlook is Stable.

Economic and Business Environment: CFC's primary exposure is to the U.S. electric cooperative sector. According to the agency's report, "Fitch Ratings 2019 Outlook: U.S. Public Power and Electric Cooperative Sector," dated December 2018, strong affordability and a favorable operating environment support a stable ratings and sector outlook in 2019.

The fundamental strengths of the sector include autonomous rate-making authority, the essential nature of electric service, mandates to serve well-defined areas with monopolistic characteristics, a relative cost-of-capital advantage over investor-owned utilities and reliable cash flow.

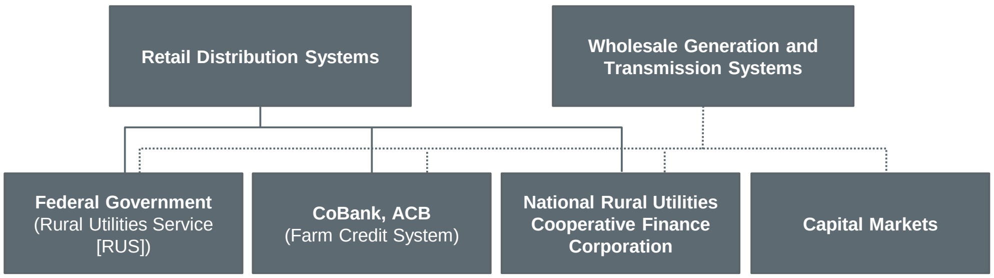
Financial Market Development: CFC has accessed the private and public capital markets in the U.S., which is home to the world's deepest and most liquid capital markets.

Regulatory and Legal Framework: CFC is an unregulated entity, and thus there is no prudential oversight over lending and funding activities. However, Fitch notes that CFC is Sarbanes-Oxley compliant and an SEC-filer in order to remain transparent to the investor community.

Company Profile

Franchise: CFC was formed in 1969 by its members, primarily rural cooperative electric distributors and generation and transmission (G&T) systems. The company was organized to provide its members with a source of financing to supplement the Rural Utilities Service's (RUS) lending program. Members at the time felt they needed more capital than the RUS could provide given continued population expansion in the rural U.S.

Annual Financing Needs to Electric Co-Ops



Source: Fitch Ratings.

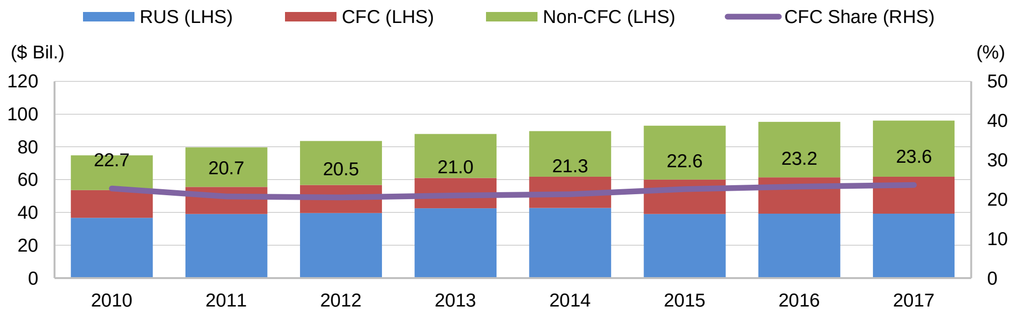
Fitch notes that within the electric cooperative lending space, there are just three primary players: the U.S. government (through the RUS), the Farm Credit System (through CoBank, ACB [IDR of 'AA–' by Fitch]) and CFC, as shown above. Large G&T cooperatives can also access the capital markets for financing needs.

Related Criteria

Non-Bank Financial Institutions Rating Criteria (October 2018)

Corporate Hybrids Treatment and Notching Criteria (November 2018)

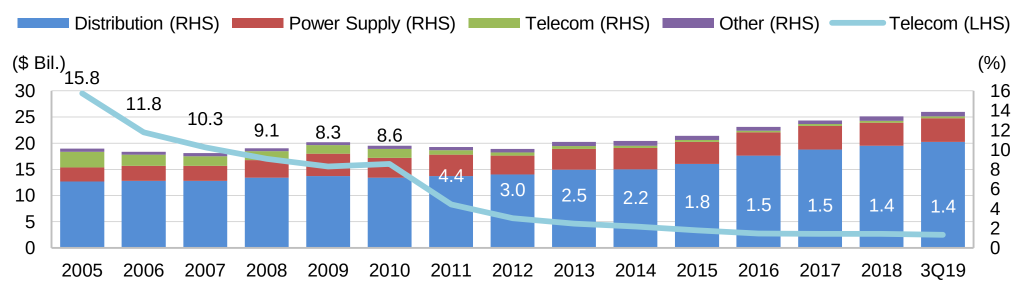
Electric Cooperative Financing Market Share



Source: National Rural Utilities Cooperative Finance Corporation, annual filings.

Fitch believes CFC has meaningful and unique franchise strengths within the electric cooperative lending space that support its high franchise score. Fitch estimates that CFC consistently garners approximately 20% of the electric cooperative lending market. Moreover, CFC continues to strengthen its franchise, demonstrated by the number of borrowers that exclusively use CFC for financing. The company disclosed that 100% borrowers have grown to 235 as of FYE May 31, 2018 (FYE18), up from 224 at FYE17 and 221 at FYE16.

Loans Outstanding by Member Class
(Years Ended May 31)



3Q19 – Third quarter ended February 28, 2019.
Source: Fitch Ratings, National Rural Utilities Cooperative Finance Corporation.

Business Model: CFC had consolidated membership of 1,449 and 215 associates, as of 3Q19. The loan portfolio is primarily linked to the electric cooperative space, both on the G&T and distribution side. While this industry concentration is significant, Fitch views loans to rural electric utilities (REU) as low risk, evidenced by very low net charge-offs (NCOs) over time, as well as a low level of nonperforming loans to REUs.

As a cooperative, CFC's internal equity generation is limited to two options: retaining more earnings or by requesting members to provide more membership subordinated debt capital. Fitch treats members' subordinated certificates as equity due to its deep subordination, which Fitch views to be loss absorbing. However, earnings retention is not generally a material source of capital as the mission of CFC is to help members meet their financial needs and not to maximize profits. A portion of earnings has historically been returned to members over time in the form of patronage capital.

In Fitch's view, CFC's inability to access the capital markets for external equity capital is considered a rating constraint. However, the company has shown an ability and willingness to access the external capital markets through the issuance of subordinated deferrable debt (SDD) which Fitch also counts as equity, evidenced by the firm's issuance of $400 million of 4.75% notes due 2043 in April 2013; $350 million of 5.25% notes due 2046, in April 2016 and most recently, $250 million of 5.5% notes due 2064, in May 2019.

For a detailed analysis of CFC's equity base and Fitch's treatment, please see page 9 and the Appendix on pages 15–16 of this report.

Organizational Structure: The company's principal operations are organized into three business segments including CFC; National Cooperative Services Corporation (NCSC); and Rural Telephone Finance Cooperative (RTFC). In Fitch's view, CFC's organizational structure is standard and does not impact its ratings.

Management and Strategy

Management Quality: Management quality is viewed favorably and Fitch believes CFC has a strong leadership team with good degree of depth, stability and experience. The senior management team has significant experience at CFC and/or in the electric cooperative utility sector.

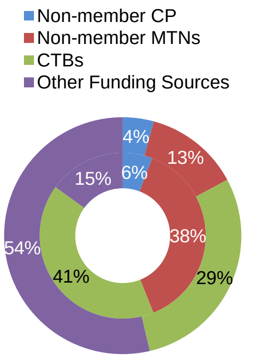
Corporate Governance: CFC's board is comprised of 23 members, representing 10 geographically defined districts; a member from the cooperative network's trade association, the National Rural Electric Cooperative Association (NRECA); and an at-large director. The at-large director fills the role of the 'financial expert' in the Audit Committee. This person can be a director, CEO or CFO of a member electric system. Members are elected for three-year terms and can serve two consecutive terms.

Strategic Objectives: CFC's strategic objective is to focus on lending to electric utility cooperatives and striving to maintain diversified funding sources beyond capital markets offerings of debt securities. If there is a perceived drift in focus, evidenced by an increased level of lending to sectors outside of its rural electric member base, negative rating action would be likely.

Execution: Fitch expects CFC to maintain its strategic focus on core members, which represented approximately 99% of the total portfolio as of 3Q19. Management has significantly reduced the exposure to telecommunication entities in recent years, which had been the cause of most of CFC's historical credit losses, and now represent just 1.4% of the total portfolio.

CFC has been able to diversify its funding sources over time. Private funding programs with the Federal Financing Bank (FFB), under a guarantee from the Rural Utilities Service, and the Federal Agricultural Mortgage Corporation have become more prominent sources of funding in recent years given their reliability, flexibility and cost. As of Feb. 28, 2019, capital markets funding (collateral trust bonds, non-member commercial paper, and medium-term notes; and SDD) represented 46% of total funding, compared to 85% in FY03. Fitch views CFC's economic access to diversified funding sources favorably.

Capital Markets Sources

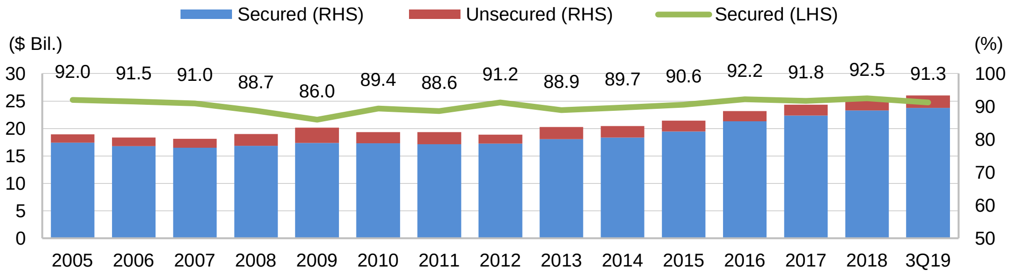


Inner Ring – 2003, Outer Ring – 3Q19.
Source: National Rural Utilities Cooperative Finance Corporation.

Risk Appetite

Underwriting Standards: Fitch considers the underwriting process to be appropriate and consistent with the risk profile of the borrowers to which CFC lends. This is evidenced by very low loss rates over the course of the company's operating history. The long-term view of CFC's borrower relationships also helps to keep loss rates low because the firm has the ability to restructure credits in a way that is mutually beneficial to CFC and the borrower. Moreover, the lack of a prudential regulator, which would typically encourage a lender to work out problem credits in a quicker manner, also benefits CFC's ability to work with its borrowers to minimize losses, in Fitch's view.

Loan Security Profile
(Years Ended May 31)

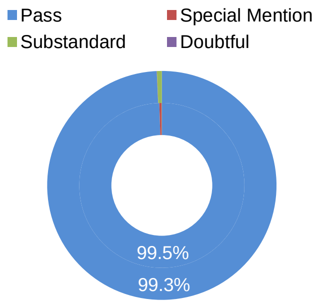


3Q19 – Third quarter ended February 28, 2019.
Source: National Rural Utilities Cooperative Finance Corporation.

Strong recovery rates are supported by CFC's largely secured portfolio, which provides a lien on all hard assets of the borrower as well as revenues. CFC is typically, if not always, in the senior-most position, on parity with the RUS. The substantial majority of the loans in the portfolio represent advances under secured long-term facilities with terms up to 35 years. Borrowers have the option to select a fixed- or floating-rate loan with advances ranging from one-year to the final maturity of the facility. Loans made to borrowers on an unsecured basis are typically short-term revolving lines of credit and are re-underwritten frequently.

Risk Controls: The company manages portfolio and borrower credit risk consistent with credit policies established by the board and through credit underwriting, approval processes and practices adopted by management. The board-established credit policies include guidelines regarding the type of credit products offered, limits on credits extended to individual borrowers, approval authorities delegated to management, and use of syndications and loan sales.

Portfolio Strata by Internal Risk Rating



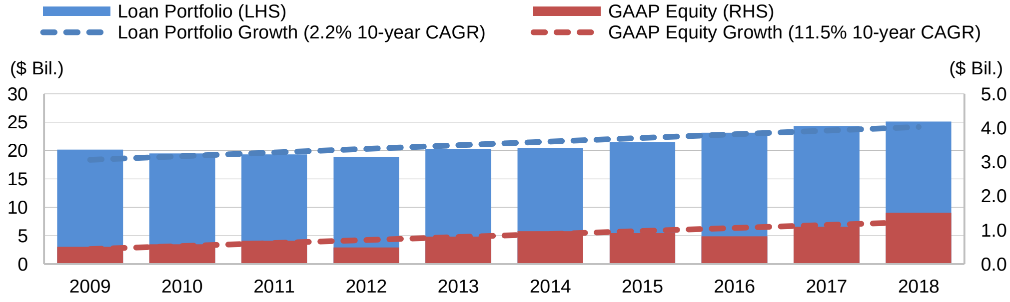
Inner Ring – 2017, Outer Ring – 3Q19.
Source: National Rural Utilities Cooperative Finance Corporation.

CFC maintains an internal credit risk rating system in which the firm assigns a credit rating to each borrower and credit facility. The internal risk ratings are based on a determination of a borrower's risk of default utilizing both quantitative and qualitative measurements. Borrower risk ratings fall into four categories:

- **Pass:** borrowers that are not experiencing difficulty and/or not showing potential or well-defined credit weakness.
- **Special Mention:** borrowers that may be characterized by a potential credit weakness or deteriorating financial condition that is not sufficiently serious to warrant a classification of substandard or doubtful.
- **Substandard:** borrowers that display a well-defined credit weakness that may jeopardize the full collection of principal and interest.
- **Doubtful:** borrowers that have a well-defined weakness and the full collection of principal and interest is questionable or improbable.

The risk ratings for each borrower are reviewed and updated at least annually following the receipt of financial statements. Assigned risk ratings inform the firm's credit approval, borrower monitoring, and portfolio review process. The Corporate Credit Committee approves individual credit actions within its own authority and together with the 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 the loan portfolios and guarantees. Fitch deems CFC's overall risk control framework to be solid.

Growth
(Years Ended May 31)



Source: National Rural Utilities Cooperative Finance Corporation.

Growth: Growth is considered reasonable relative to CFC's risk profile and capital generation. Management indicated that CFC needs to fund more than $1 billion of loans each year to stay flat from a loan portfolio balance perspective.

Growth continued into FY18, with management attributing this to further market share taken from RUS. Fitch believes that a portion of the growth came from borrowers refinancing with CFC from RUS, which are typically lower risk borrowers that have already amortized debt down by a meaningful amount. CFC has raised equity, as necessary, to support loan growth and keep leverage below its target.

Market Risk: CFC typically aggregates long-term, fixed-rate loans until the level reaches a point where it makes sense from an economic standpoint to issue long-term debt to match-fund the loans. Therefore, CFC is exposed to interest rate risk for a period of time. At 3Q19, fixed rate loans funded with variable-rate debt (namely member/non-member CP) was in a prefunded position of negative $753 million, or roughly 2.8% of total assets, which was within management's targets.

In order to minimize interest rate risk, CFC utilizes plain vanilla swaps. Over the past few years, swap usage has mainly consisted of pay fixed/receive floating of longer tenors given the prolonged rate environment and the desire of CFC's borrowers to lock in long-term fixed rates.

Outstanding Notional of Derivatives

($ Mil.)	2018			3Q19		
	Notional	WA Rate Paid (%)	WA Rate Received (%)	Notional	WA Rate Paid (%)	WA Rate Received (%)
Pay Fixed/Receive Float	6,988	2.83	2.30	7,448	2.84	2.75
Pay Float/Receive Fixed	3,824	2.93	2.50	3,399	3.40	2.56
Total Interest Rate Swaps	**10,812**	**2.86**	**2.37**	**10,847**	**3.01**	**2.69**
Forward Pay Fixed/Receive Float	256	—	—	65	—	—
Total Outstanding	**11,068**	**—**	**—**	**10,912**	**—**	**—**
Cash Settlements (Paid)/Received	(74)	—	—	(34)	—	—
Forward (Losses)/Gains	306	—	—	(27)	—	—
Derivative Gains/(Losses)	**232**	**—**	**—**	**(62)**	**—**	**—**

Source: National Rural Utilities Cooperative Finance Corporation.

CFC records all derivatives as either assets or liabilities and measures the fair value of the instruments each quarter-end with cash settlements included in interest expense when adjusted performance ratios are calculated. CFC had negative mark-to-market valuations on its swaps due to the interest rate environment in 3Q19. Fitch notes that in a rising interest rate environment, CFC will likely have positive net mark-to-market valuations and receive cash settlements each quarter. For analytical purposes, Fitch treats these payments (or receipts) as part of CFC's cost of funds.

Financial Profile

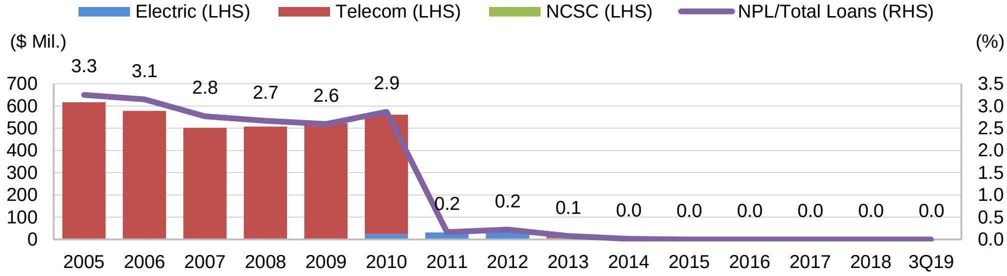
Asset Quality

Concentrations: Given the business model, the portfolio is concentrated within the public power and electric cooperative sector. However, this is somewhat mitigated by the relative diversity of the underlying customer base from an obligor and geographic perspective.

CFC serves its members throughout the U.S. and its territories, including 49 states, the District of Columbia, American Samoa and Guam, with Texas representing the largest exposure, at 15% of total loans as of 3Q19. Geographic concentrations have remained relatively stable over time. The consolidated membership included 1,449 members and 215 associates, with the 20 largest exposures representing 22% of total loans and no single borrower (or controlled group) representing greater than 2% of total loans as of 3Q19. The 20 largest borrowers consisted of 10 distribution systems; nine power supply systems; and one associate member, as of the same date.

Management has reduced overall concentrations related to the electric cooperative portfolio through a loan sale program and a long-term standby purchase agreement with Farmer Mac, as well as through the development of a meaningful syndication program. Fitch views these programs favorably, as it gives CFC the flexibility to manage single obligor and credit risks over time.

Nonperforming Loans
(Years Ended May 31)

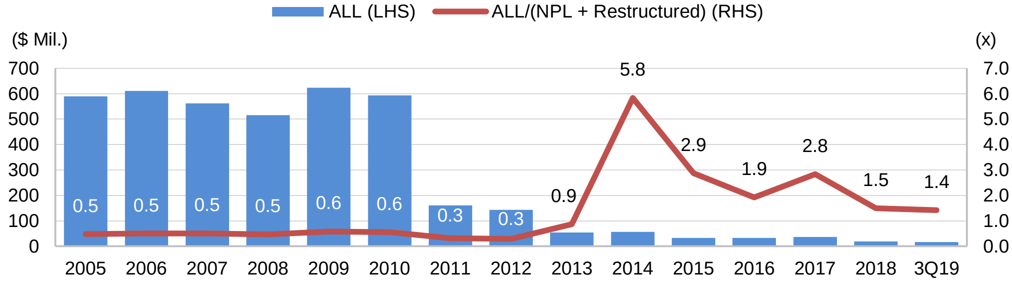


NCSC – National Cooperative Services Corporation. 3Q19 – Third quarter ended February 28, 2019.
Source: National Rural Utilities Cooperative Finance Corporation.

Nonperforming Loans: At 3Q19, there were no nonperforming loans and nominal amount of accrued troubled debt restructured loans, reflective of strong member borrowers. A loan is deemed nonperforming when interest and principal payments are greater than 90 days delinquent; due to court proceedings, the collection of interest and principal based on the original terms are not expected; or the full and timely payment of interest or principal is otherwise uncertain. The recent low loss performance is evidenced by a return to CFC's core lending competency. Where the company experienced the greatest level of credit loss historically has been loans to telecommunications companies, which CFC had reduced to just 1.4% of the loan portfolio at 3Q19.

Allowance levels are considered adequate, providing coverage of 1.4x nonperforming and restructured loans, at Feb. 28, 2019.

Reserve Coverage Trends
(Years Ended May 31)

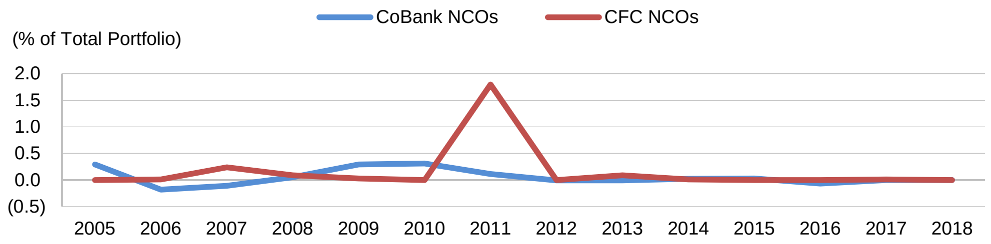


3Q19 – Third quarter ended February 28, 2019. ALL – Allowance for Loan Losses.
Source: National Rural Utilities Cooperative Finance Corporation.

Net Charge-off Rate: CFC has a demonstrated track record in credit risk management, having recorded very low credit losses over time. Over its 50-year operating history, the company has only experienced 16 defaults and six losses in the electric utility portfolio, with net write-offs totaling $86 million, or 0.84% of average loans since inception ($10.2 billion), evidencing a strong and stable lending space, as well as solid credit risk management.

By way of comparison, Fitch assessed CFC's NCO experience relative to Co-Bank, ACB's rural infrastructure portfolio. As shown in the chart above, average loss rates for both entities have been very low over a long period of time, but CFC's loss rate spiked in 2011 due to the write-off of nonperforming telecommunication loans.

Utilities Net Charge-Off Rate

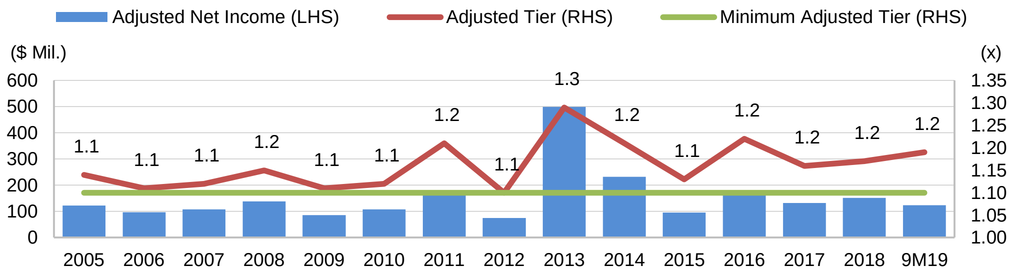


NCOs – Net charge-offs. Note: CoBank's Rural Infrastructure loan portfolio includes other types of borrowers (water treatment and others) that CFC does not lend. However, Fitch was not able to specify CoBank's losses to just electric cooperatives. Therefore, the above analysis should be viewed as a general proxy for loan losses related to the broad utility space and not just distribution, generation and telecom.
Source: National Rural Utilities Cooperative Finance Corporation.

Earnings and Profitability

CFC's earnings and profitability metrics are very low, when compared to similarly rated non-bank financial institutions, with pre-tax income as a percentage of average assets averaging 0.7% from 2015-2018. Still, Fitch believes CFC's earnings have a lower influence on CFC's ratings given its mission (and members' expectation) is not to generate large profits, but instead to cover its cost of funding, cost of operations, and its loan losses.

Operating Metrics
(Years Ended May 31)

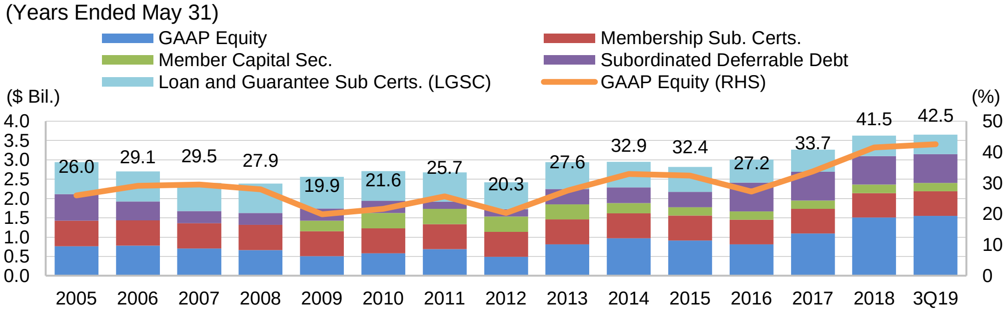


9M19 – Nine months ended February 28, 2019.
Source: National Rural Utilities Cooperative Finance Corporation.

In its analysis of earnings, Fitch places a greater emphasis on the company's adjusted net income, and adjusted TIER metrics. These measures have been adequate and consistent with Fitch's expectations. CFC's adjusted TIER excludes the impact of unrealized derivative forward value gains and losses, and includes periodic cash derivative settlements in adjusted interest expense. Adjusted TIER amount to 1.2x in 9M19, consistent with the metric for 2018. Given the company's strong credit quality and ability to adjust loan pricing, Fitch expects adjusted TIER to remain in excess of its 1.1x target over time.

Capitalization and Leverage

Capitalization Trends
(Years Ended May 31)



3Q19 – Third quarter ended February 28, 2019.
Source: National Rural Utilities Cooperative Finance Corporation.

Capitalization: CFC's capital base is unique given its ability to grow equity is limited to its ability to source hybrid equity from its members, issue sub debt in the capital markets (both of which qualify as 50% equity) and retain earnings. CFC's capital is comprised of GAAP equity (retained earnings), member subordinated certificates, member capital securities and SDD. Management has taken steps to build equity by changing its patronage capital payout policy in 2009, which increased the level of retained earnings and the length of time excess earnings are retained on the balance sheet before being returned to CFC's members. At 3Q19, GAAP equity represented 42.5% of CFC's total capital of $3.2 billion, compared to 19.9% at YE09. Fitch views the growth in GAAP equity favorably.

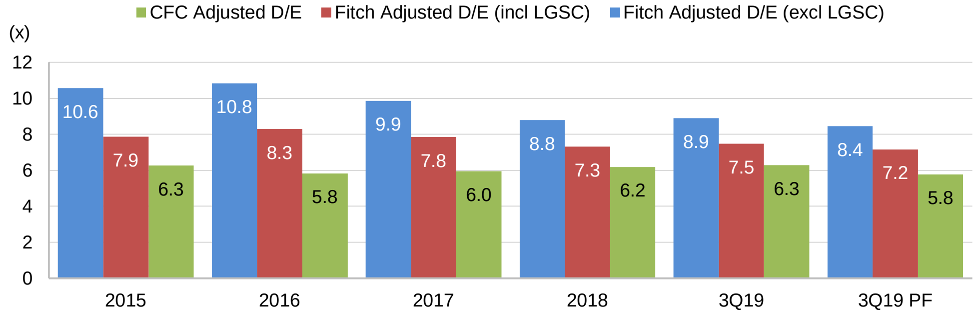
Leverage: CFC's leverage was 7.5x at 3Q19, based on Fitch's calculations; up from 7.3x at YE18, due to an increase in debt outstanding to fund loan growth. In May 2019, CFC issued $250 million in 5.5% SDD due 2064, which subsequently reduced leverage to 7.2x, pro forma based on Fitch's calculations.

Fitch's Analysis of CFC Equity Base

($ Mil.)	3Q19	Equity Credit (%)	Fitch Adj. Equity
GAAP Equity	1,553	100	1,553
Member Subordinated Sec.	630	100	630
Subordinated Def. Debt	743	50	371
Member Capital Sec.	221	50	111
Total Equity	**3,147**	**—**	**2,665**
Loan and Guarantee Cert.	506	100	506
Total Fitch Adj. Equity	**—**	**—**	**3,171**

Note: Based on Fitch's 'Corporate Hybrids Treatment and Notching Criteria'.
Source: Fitch Ratings, National Rural Utilities Cooperative Finance Corporation.

Leverage Trends
(Years Ended May 31)



PF – Pro forma. Note: Fitch Adjusted D/E (excl LGSCs) is calculated in following manner: nonmember debt obligations + member CP and MTNs + 50% of SDD + 50% of MCS divided by equity + MSCs + 50% SDD + 50% MCS. Fitch Adjusted D/E (incl LGSCs) calculated in following manner: nonmember debt obligations + member CP and MTNs + 50% of SDD + 50% of MCS divided by equity + MSCs + 50% SDD + 50% MCS + LGSCs. CFC Adjusted D/E calculated in the following manner: total liabilities - derivative liabilities - debt used to fund RUS-guaranteed loans - SDD - MCS - MSC - LGSC divided by total equity - prior year derivative forward value adjustment - current YTD derivative forward value (gains) losses - AOCI + MCS + MSC + LGSC.
Source: Fitch Ratings, National Rural Utilities Cooperative Finance Corporation.

In Fitch's view, CFC's leverage remains a rating constraint, and above similarly rated non-bank financial institutions. Fitch's leverage calculation makes adjustments based on the 'Corporate Hybrids Treatment and Notching Criteria', dated Nov. 9, 2018 (hybrids criteria). Specifically, the agency gives CFC's subordinate deferrable debt and member capital securities 50% equity credit due to the instruments' deep subordination and the cumulative nature of the coupon in the event of a deferral. Fitch also affords CFC's loan and guarantee subordinated certificates (LGSC) 100% equity credit given the instruments' deep subordination and the ability to absorb loan losses. However, the treatment of the LGSC as equity is considered a variation to the hybrids criteria because the LGSC have a contractual or implied maturity associated with a member's long-term loan, more akin to a hybrid instrument.

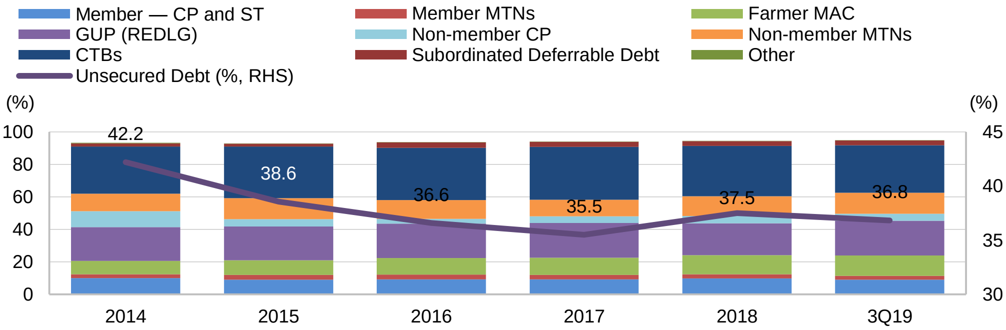
CFC's internal leverage calculation strips out derivative fair value changes and treats all member-held capital, member-held debt, and SDD as 100% equity. Based on this treatment, CFC's reported leverage metric was 6.3x at 3Q19, consistent with YE18. Pro forma for the $250 million SDD issuance, leverage was 5.8x.

While CFC's leverage is higher than similarly rated non-bank financial institutions, Fitch deems leverage to be reasonable given the firm's low portfolio credit risk and its ability and willingness to access subordinated debt markets (which receive 50% equity credit) to support growth.

Funding, Liquidity and Coverage

Funding: Fitch believes CFC has been able to maintain appropriate funding sources through various interest rate and credit cycles and has successfully diversified its funding base over time. Still, CFC remains reliant on wholesale funding sources. Unsecured debt as a percentage of total debt was 36.8% at 3Q19, which, while stable, is well below similarly rated non-bank financial institutions.

Funding Trends
(Years Ended May 31)



CP – Commercial paper. ST – Short-term.
Source: Fitch Ratings, National Rural Utilities Cooperative Finance Corporation.

Collateral Trust Bonds: CFC continues to rely heavily on collateral trust bonds (CTB) as part of its funding, which represented $7.4 billion, or 29.2% of total funding at 3Q19. Consistent with the historical average, Fitch expects CTB funding to remain around 30% of total funding. These instruments have been a cost-effective source of funding given the strength of the collateral backing these bonds. The one-notch uplift afforded the CTB relative to the long-term IDR reflects the expectation of good recoveries, even in a stressed scenario. Covenants under the 1994 CTB indenture require CFC to maintain leverage below 20.0x (6.7x at 3Q19). The company reported that it was in compliance with the financial covenant at 3Q19.

Guaranteed Underwriter Program: Prior to the financial crisis, CFC established several private funding programs, such as the Guaranteed Underwriter Program (GUP). Under this agreement, CFC borrows from the FFB, under a guarantee from the RUS. Funds available from the program are appropriated each year by Congress. This provides CFC with a reliable, low-cost source of long-dated funds. The company can draw on these funds anywhere on the Treasury curve up to 20 years at a fixed rate, plus 42.5–55 basis points.

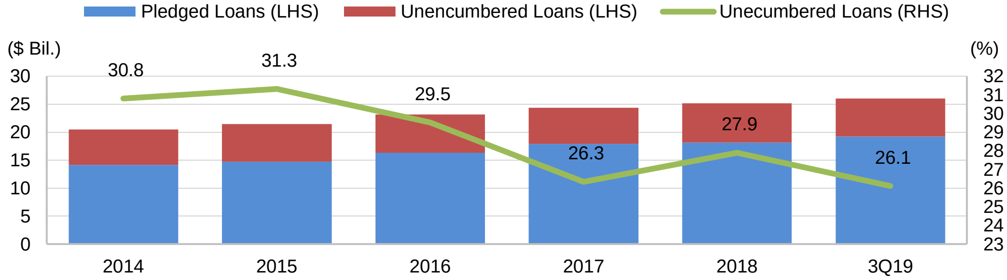
On Nov. 15, 2018, CFC closed a $750 million committed loan facility from the FFB under the GUP. CFC can borrow under this facility at any time until July 15, 2023, with each advance not to exceed a final maturity longer than 20 years from the date of advance. As of Feb. 28, 2019, the amount available under the GUP was $1.35 billion. Outstanding amounts under the GUP totaled $5.4 billion, or 21.5% of total funding at 3Q19. GUP continues to represent a prominent source of funding for CFC given its reliability, flexibility and cost.

Short-Term Borrowings: CFC relies on short-term borrowings to meet daily, near-term borrowing needs. These include commercial paper (CP), select notes, daily liquidity fund notes, and a portion of the member medium-term notes. In aggregate, short-term borrowings amounted to $3.7 billion, or 14.4% of total funding at 3Q19. Fitch considers member and non-member CP to be relatively high, at around 9% of total debt at 3Q19, however, this level has improved from YE06 when CP represented around 17% of total debt. CFC manages its short-term wholesale non-member CP within a range of $1 billion to $1.25 billion.

Federal Agricultural Mortgage Corporation: A second source of non-member, non-capital markets funding is through the Federal Agricultural Mortgage Corporation (Farmer Mac). CFC has two revolving note purchase agreements in place, which provides up to $5.5 billion of borrowing capacity, in aggregate. On Feb. 26, 2018, CFC amended the $5.2 billion revolving note purchase agreement, extending the maturity through Jan. 11, 2022. Borrowings under the Farmer Mac facilities are based upon a pricing agreement. As of 3Q19, CFC had outstanding notes payable of $3.2 billion, or 12.5% of total funding. Under the terms of the $300 million note purchase agreement with Farmer Mac, CFC can borrow at any time through Dec. 20, 2023 at a fixed spread over LIBOR. There were $100 million of borrowings outstanding under this facility at 3Q19.

Committed Credit Facilities: At 3Q19, CFC had a three-year and five-year, committed, unsecured revolving line of credit provided by a syndicate of banks with maturity dates of Nov. 28, 2021 and Nov. 28, 2023, respectively. The aggregate commitment amount of the three-year revolver was $1.44 billion, while the five-year revolver had a commitment amount of $1.535 billion, for an aggregate of $2.975 billion of commitments. The credit facilities are considered contingent liquidity and serve as a backstop to member and non-member CP. At 3Q19, there was $3 million drawn under the facilities to issue letters of credit. Covenants under the facility include: minimum average adjusted TIER over the most recent six quarters of 1.025x (1.2x); and maximum ratio of adjusted senior debt to total equity of 10.0x (6.0x). At Feb. 28, 2019, CFC reported that it was in compliance with the financial covenants.

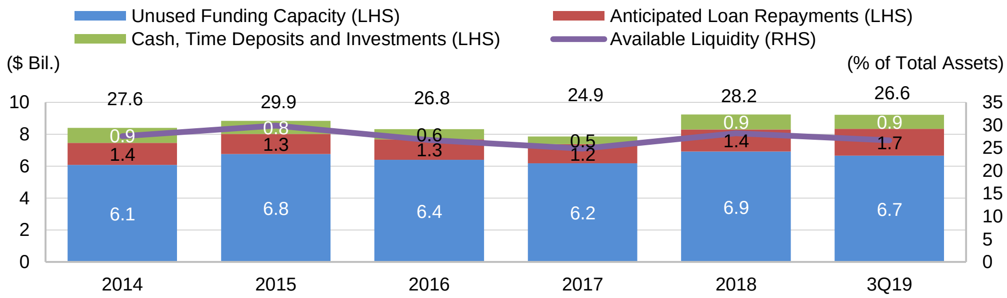
Unencumbered Loans
(Years Ended May 31)



3Q19 – Third quarter ended Feb. 28, 2019.
Source: National Rural Utilities Cooperative Finance Corporation.

Unencumbered Assets: CFC is required to pledge loans or other collateral when borrowing under the note purchase agreements with Farmer Mac and bond agreements under the GUP and issuing CTB. This further increases the level of secured debt on the balance sheet. At Feb. 28, 2019, 63% of total debt was secured by pledged loans of $19.2 billion. Nevertheless, Fitch notes that CFC still has 26.1% of its loan portfolio unencumbered at 3Q19, which should provide the flexibility to access additional secured funding, if needed.

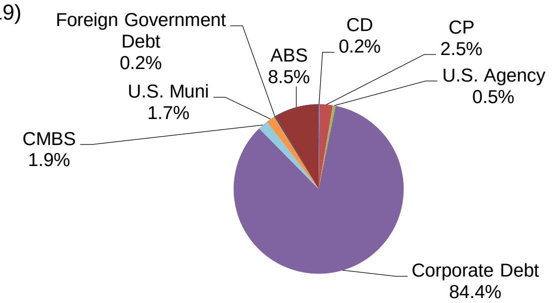
Liquidity Trends
(Years Ended May 31)



3Q19 – Third quarter ended February 28, 2019.
Source: National Rural Utilities Cooperative Finance Corporation.

Liquidity: Fitch's analysis of CFC is heavily influenced by the firm's ability to maintain adequate liquidity to meet short- and long-term funding needs. As of Feb. 28, 2019, CFC had aggregate liquidity of $9.1 billion, comprising $874 million of cash and investments and $6.7 billion of available borrowing capacity on various credit facilities. Additionally, CFC has $1.5 billion of anticipated loan repayments over the next 12 months. Fitch believes CFC has sufficient liquidity to address its $5.6 billion of debt maturities over the next 12 months.

Investment Portfolio, at Cost
(As of Feb. 28, 2019)

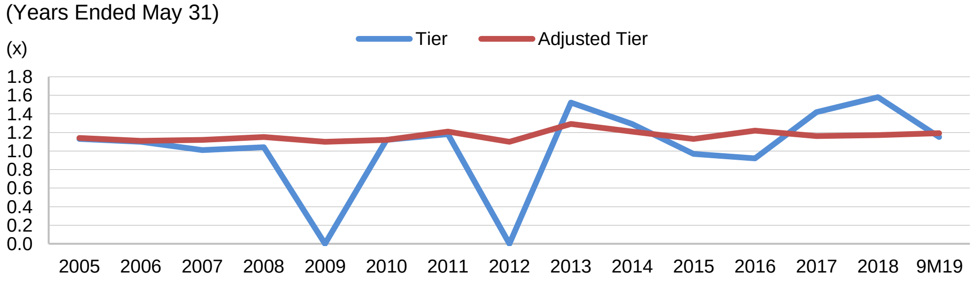


CD – Certificates of deposit. CP – Commercial paper. CMBS – Agency and non-agency commercial mortgage-backed securities. U.S. Muni – State and municipalty securities. ABS – Asset-backed securities backed by auto loans, equipment loans and credit card loans.
Source: National Rural Utilities Cooperative Finance Corporation.

Investment Portfolio: In addition to available borrowing capacity, CFC has an investment portfolio for liquidity purposes comprised of time deposits and debt securities held-to-maturity, which totaled $561.4 million, as of 3Q19. CFC intends for the investment portfolio to remain adequately liquid to serve as a contingent, supplemental source of liquidity for unanticipated liquidity needs, which is viewed favorably by Fitch.

CFC's investment policy is to invest in investment grade (rated 'BBB–' or higher), fixed-income securities, rated by at least two nationally recognized statistical rating organizations (NRSROs). The portfolio is unencumbered and constructed such that the securities have an active secondary market under normal market conditions. At 3Q19, approximately 73% of the investment portfolio was comprised of corporate debt.

Coverage Metrics
(Years Ended May 31)



9M19 – Nine months ended Febrruary 28, 2019. Note: In FY09 and FY12 CFC did not generate sufficient earnings (net income) to cover interest expenses.
Source: National Rural Utilities Cooperative Finance Corporation.

Coverage: CFC's coverage metrics, defined as adjusted TIER and fixed-charge coverage (TIER), were 1.2x, respectively, for 9M19. Adjusted TIER, which excludes the impact of unrealized derivative forward fair value gains and losses, and includes periodic cash derivative settlements in adjusted interest expense, has been relatively stable over time. Given the company's strong credit quality and ability to adjust loan pricing, Fitch expects adjusted TIER to remain in excess of the 1.1x target over time.

Debt Ratings

The CP rating of 'F1' is equalized with the Short-Term IDR of 'F1'. The CP rating is sensitive to changes in the firm's Short-Term IDR and would be expected to move in tandem.

The senior secured debt ratings benefit from a one-notch uplift from the Long-Term IDR given the collateral coverage backing such notes and the good recovery prospects for debtholders under a stress scenario. CFC's CTB are backed by mortgage notes with good, stable underlying hard assets and substitution requirements in the event of collateral underperformance.

The senior unsecured debt ratings are equalized with CFC's Long-Term IDR, reflecting their subordination to secured debt and average recovery prospects for debtholders in a stress scenario. Medium-term notes represent unsecured obligations that may be issued through dealers in the capital markets or directly to CFC's members.

The subordinate deferrable debt ratings are two notches below the Long-Term IDR due to the poor recovery prospects for debtholders in a stress scenario given their deep subordination to senior secured and senior unsecured debt. Nevertheless, Fitch believes these instruments would have higher recovery prospects than bank-issued debt, thus warranting narrower notching (two notches) than a traditional hybrid instrument (up to three notches).

CFC's senior debt and hybrid debt ratings are sensitive to changes in CFC's Long-Term IDR. In addition, the senior debt ratings are sensitive to the funding mix and availability of collateral and/or unencumbered assets for each class of debt.

Appendix

Discussion of Debt Instruments

As a cooperative, CFC's capital generation is primarily derived from its members, through member-owned investment vehicles, and retained earnings, a rating constraint in Fitch's view. This is especially important given CFC's earnings are low due to its mission-oriented business model. Still, management and the board have shown the willingness to improve earnings retention in order to improve the quality of CFC's capital and lower its leverage by adjusting the company's patronage capital policy in 2009.

In assessing the equity credit treatment given to CFC's various instruments (and thus determining capital adequacy), Fitch has applied its "Corporate Hybrids Treatment and Notching Criteria." The assessment is laid out over the following pages.

It is important to note that all of CFC's capital instruments are held by system members, except for the outstanding SDD. Most of these instruments held by system members are subordinated, meaning they would take first loss before all other non-member instruments.

Membership Subordinated Certificates

These instruments represent the company's initial capitalization and were required to be purchased as a condition of membership. They are interest-bearing (weighted-average rate of 4.9%) with an initial maturity of 100 years and are cumulative. Fitch believes membership subordinated certificates resemble perpetual preferred stock and gives them 100% equity credit.

Member Capital Securities

The member capital securities program is an initiative started at the end of 2008 to raise additional capital from CFC's members and further entrench membership. These are interest-bearing (weighted-average rate of 5.0%), with a maturity of 35 years from issuance. Payments, which are cumulative, can be deferred for up to five years. As mentioned above, these have full offset rights in the event that a borrower defaults. According to Fitch's criteria, they are given 50% equity credit given the instrument's deep subordination and the cumulative nature of the interest in the event of a deferral.

SDD

In order to supplement CFC's capital base, management has made the decision over the years to issue non-member SSD with the following attributes: subordinated to all senior debt; senior to all member-held subordinated instruments; at least a 30-year maturity from issuance; ability to defer interest up to 40 quarters (10 years), similar to member capital securities. During the deferral, interest continues to accrue on a cumulative basis. Based on Fitch's criteria, these securities are given 50% equity credit given the instrument's deep subordination and the cumulative nature of the interest in the event of a deferral.

LGSD

Borrowers that receive long-term funding, certain short-term loans, or guarantees from CFC are sometimes required to purchase additional LGSD with CFC based on the member's debt to equity ratio. These instruments are also subordinated to all other debt of CFC. The maturity of the LGSDs match that of the financing the borrower is receiving but some also amortize annually based on the outstanding balance, and paid back as the borrower repays the loan.

LGSDs are included in capital without limitation under CFC's covenant calculations for leverage. Given the tenor of the certificates are not publicly disclosed, Fitch believes that it is difficult to assign pure equity credit to them. Instead, Fitch views them as a quasi-loan loss reserve. LGSDs have the ability to offset any losses on loans to members, which have been proven out in the past, before any other capital instrument.

Fitch affords CFC's LGSD 100% equity credit given the instruments' deep subordination and ability to absorb loan losses. However, the treatment of the LGSC as equity is considered a variation to the hybrids criteria because the LGSC have a contractual or implied maturity, more akin to a hybrid instrument.

National Rural Utilities Cooperative Finance Corp. — Financial Summary

($000, FYE 12-Months)	5/31/15	5/31/16	5/31/17	5/31/18	5/28/19
Balance Sheet					
Assets					
Cash, Cash Equivalents and Restricted Cash	249,321	209,168	188,421	238,824	230,628
Time Deposits	485,000	340,000	226,000	100,000	—
Investment Securities	84,472	87,940	92,554	609,851	650,532
Loans to Members, Net of Allowance	21,435,327	23,129,438	24,329,668	25,159,807	26,000,593
Accrued Interest Receivable	107,047	113,272	111,493	127,442	130,670
Other Receivables	90,781	51,478	45,469	39,220	36,103
Fixed Assets, Net of Accumulated Depreciation	110,540	112,563	122,260	116,031	118,999
Derivative Assets	115,276	80,095	49,481	244,526	185,449
Other Assets	168,295	146,246	40,346	54,503	57,087
Total Assets	**22,846,059**	**24,270,200**	**25,205,692**	**26,690,204**	**27,410,061**
Liabilities					
Accrued Interest Payable	123,697	132,996	137,476	149,284	190,511
Short-term Debt Borrowings	3,127,754	2,938,848	3,342,900	3,795,910	3,651,941
Long-term Debt Borrowings	16,244,794	17,473,603	17,955,594	18,714,960	19,564,933
Subordinate Deferrable Debt	395,699	742,212	742,274	742,410	742,516
Membership Subordinated Certificates	645,035	630,063	630,098	630,448	630,467
Loan and Guarantee Subordinated Certificates	640,889	593,701	567,830	528,386	505,782
Member Capital Securities	219,496	220,046	221,097	221,148	221,170
Deferred Income	75,579	78,651	73,972	65,922	60,623
Derivative Liabilities	408,382	594,820	385,337	275,932	243,365
Other Liabilities	52,948	47,882	50,309	59,951	46,141
Total Liabilities	**21,934,273**	**23,452,822**	**24,106,887**	**25,184,351**	**25,857,449**
Equity					
Retained Equity	880,242	790,234	1,056,778	1,465,789	1,523,543
Accumulated Other Comprehensive Income (Loss)	4,080	1,058	13,175	8,544	847
Noncontrolling Interest	27,464	26,086	28,852	31,520	29,069
Total Equity	**911,786**	**817,378**	**1,098,805**	**1,505,853**	**1,552,612**
Total Liabilities and Equity	**22,846,059**	**24,270,200**	**25,205,692**	**26,690,204**	**27,410,061**
Income Statement					
Interest Income	952,976	1,012,636	1,036,634	1,077,357	845,310
Interest Expense	(635,684)	(681,850)	(741,738)	(792,735)	(621,732)
Net Interest Income	**317,292**	**330,786**	**294,896**	**284,622**	**223,578**
Benefit (Provision) for Loan Losses	21,954	646	(5,978)	18,575	1,715
Net Interest Income After Benefit for Loan Losses	339,246	331,432	288,918	303,197	225,293
Fee and Other Income	36,783	21,785	19,713	17,578	11,220
Derivative Gains (Losses)	(196,999)	(309,841)	94,903	231,721	(61,648)
Results of Operations of Foreclosed Assets	(120,148)	(6,899)	(1,749)	—	—
Total Non-interest Income	**(280,364)**	**(294,955)**	**112,867**	**249,299**	**(50,428)**
Salaries and Employee Benefits	(43,845)	(44,590)	(47,769)	(51,422)	(38,094)
Other General and Administrative Expenses	(32,685)	(41,753)	(38,457)	(39,462)	(31,979)
Gains (Losses) on Early Extinguishment of Debt	(703)	(333)	192	—	(7,100)
Other Non-interest Expense	(167)	(1,260)	(1,948)	(1,943)	(1,305)
Total Non-interest Expense	**(77,400)**	**(87,936)**	**(87,982)**	**(92,827)**	**(78,478)**
Income (Loss) before Taxes	(18,518)	(51,459)	313,803	459,669	96,387
Income Tax Expense	(409)	(57)	(1,704)	(2,305)	(154)
Net Income	**(18,927)**	**(51,516)**	**312,099**	**457,364**	**96,233**
Net (Income) Loss Attributable to Noncontrolling Interests	(105)	1,863	(2,193)	(2,178)	60
Net Income (Loss) Attributable to CFC	**(19,032)**	**(49,653)**	**309,906**	**455,186**	**96,239**

Source: Fitch Ratings, National Rural Utilities Cooperative Finance Corp.

The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.