FARM CREDIT

2019 ANNUAL INFORMATION STATEMENT OF THE FARM CREDIT SYSTEM

Federal Farm Credit Banks Funding Corporation
101 Hudson Street, Suite 3505 • Jersey City, New Jersey 07302 • 201-200-8000

FEBRUARY 28, 2020

This annual information statement provides important information for investors in the debt securities jointly issued by the four Farm Credit System Banks — AgFirst Farm Credit Bank, AgriBank, FCB, CoBank, ACB and Farm Credit Bank of Texas (collectively, the Banks). These debt securities, which we refer to as Systemwide Debt Securities, include:

- Federal Farm Credit Banks Consolidated Systemwide Bonds,
- Federal Farm Credit Banks Consolidated Systemwide Discount Notes,
- Federal Farm Credit Banks Consolidated Systemwide Medium-Term Notes, and
- any other debt securities that the Farm Credit System Banks may jointly issue from time to time.

This annual information statement does not constitute an offer to sell or a solicitation of an offer to buy Systemwide Debt Securities. Systemwide Debt Securities are offered by the Federal Farm Credit Banks Funding Corporation (Funding Corporation) on behalf of the Banks pursuant to offering circulars for each type of debt offering. The relevant offering circular as of this date is the Federal Farm Credit Banks Consolidated Systemwide Bonds and Discount Notes Offering Circular dated December 8, 2014, as amended by the supplements dated October 2, 2017 and September 17, 2018.

The offering circular may be amended or supplemented from time to time and a new offering circular may be issued. Before purchasing Systemwide Debt Securities, you should carefully read the relevant offering circular and related supplements, the most recent annual and quarterly information statements and other current information released by the Funding Corporation regarding the Banks and/or Systemwide Debt Securities. At this time, no Systemwide Debt Securities are being offered under the Federal Farm Credit Banks Consolidated Systemwide Medium-Term Notes Offering Circular dated July 19, 1993, as amended by supplements dated February 26, 1997 and June 11, 1999.

Systemwide Debt Securities are the joint and several obligations of the Banks and are not obligations of or guaranteed by the United States government. Systemwide Debt Securities are not required to be registered and have not been registered under the Securities Act of 1933. In addition, the Banks are not required to file and do not file periodic reports under the Securities Exchange Act of 1934. Systemwide Debt Securities have not been recommended by any federal or state securities commission or regulatory authority. Furthermore, these authorities have not confirmed the accuracy or determined the adequacy of any offering material.

Certification

The undersigned certify that (1) we have reviewed this annual information statement, (2) this annual information statement has been prepared in accordance with all applicable statutory or regulatory requirements, and (3) the information contained in this annual information statement is true, accurate, and complete to the best of the signatories' knowledge and belief.

Matthew D. Walther
Chairman of the Board

Theresa E. McCabe
President and CEO

Karen R. Brenner
Managing Director — Financial Management Division

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WHERE YOU CAN FIND ADDITIONAL INFORMATION

Farm Credit System quarterly and annual information statements and press releases relating to financial results or other developments affecting the System issued by the Funding Corporation for the current fiscal year and the two preceding fiscal years, as well as offering circulars relating to Systemwide Debt Securities and links to each Bank's website, are available on the Funding Corporation's website located at www.farmcreditfunding.com. Other information regarding the System can be found at www.farmcredit.com.

Copies of quarterly and annual reports of each Bank may be obtained, by request, from each respective Bank. In addition, reports of each Bank combined with its affiliated Associations may be obtained from each individual Bank. Bank addresses and telephone numbers are listed on page S-27 of this annual information statement. These documents and further information on each Bank or each Bank combined with its affiliated Associations and links to a Bank's affiliated Associations' websites are also available on each Bank's website as follows:

- AgFirst Farm Credit Bank — www.agfirst.com
- AgriBank, FCB — www.agribank.com
- CoBank, ACB — www.cobank.com
- Farm Credit Bank of Texas — www.farmcreditbank.com

Information contained on these websites is not incorporated by reference into this annual information statement and you should not consider information contained on these websites to be part of this annual information statement.

FIVE-YEAR SUMMARY OF SELECTED COMBINED FINANCIAL DATA AND KEY FINANCIAL RATIOS

The following selected combined financial data as of and for each of the five years in the period ended December 31, 2019 has been derived from the audited combined financial statements of the Farm Credit System. The selected combined financial data and combined financial statements of the Farm Credit System combine the financial condition and operating results of each of the Banks, their affiliated Associations, the Funding Corporation, and the Farm Credit Insurance Fund, and reflect the investments in, and allocated earnings of, certain service organizations owned by the Banks or Associations. All significant intra-System transactions and balances have been eliminated in combination. Because System entities are financially and operationally interdependent, we believe providing the combined financial information is more meaningful to investors in Systemwide Debt Securities than financial information relating to the Banks on a stand-alone basis (i.e., without the Associations).

While this annual information statement reports on the combined financial condition and results of operations of the Banks, Associations, and other System entities specified above, only the Banks are jointly and severally liable for payments on Systemwide Debt Securities. Note 21 to the accompanying combined financial statements provides combining Bank-only financial condition and results of operations information. Copies of quarterly and annual reports of each Bank are available on its respective website; see page 2 for a listing of the websites.

The combined statement of condition at December 31, 2019 and 2018 and the related combined statements of income, of comprehensive income, of changes in capital, and of cash flows for each of the three years in the period ended December 31, 2019 and related notes appear elsewhere in this annual information statement.

	2019	2018	2017	2016	2015
			(in millions)		
Combined Statement of Condition Data					
Loans	$286,964	$273,378	$259,888	$249,791	$236,750
Allowance for loan losses	(1,806)	(1,713)	(1,596)	(1,506)	(1,280)
Net loans	285,158	271,665	258,292	248,285	235,470
Cash, Federal funds sold and investments	68,266	66,471	60,673	61,552	58,518
Accrued interest receivable	2,864	2,732	2,354	2,140	1,973
Other property owned	72	84	55	75	96
Total assets	365,359	348,992	329,518	319,915	303,503
Systemwide bonds and medium-term notes	274,540	258,877	239,662	228,254	211,053
Systemwide discount notes	18,998	22,582	25,507	29,528	32,282
Subordinated debt				499	1,550
Other bonds	1,961	1,817	1,950	2,431	2,879
Total liabilities	303,629	290,548	274,136	267,604	254,669
Capital	61,730	58,444	55,382	52,311	48,834
Combined Statement of Income Data					
Net interest income	$ 8,266	$ 7,976	$ 7,712	$ 7,447	$ 7,015
Provision for loan losses	(169)	(194)	(197)	(266)	(106)
Net noninterest expense	(2,548)	(2,324)	(2,288)	(2,158)	(2,024)
Income before income taxes	5,549	5,458	5,227	5,023	4,885
Provision for income taxes	(103)	(126)	(38)	(175)	(197)
Net income	$ 5,446	$ 5,332	$ 5,189	$ 4,848	$ 4,688

Combined Key Financial Ratios

Certain combined key financial ratios of the System are set forth below:

	2019	2018	2017	2016	2015
Return on average assets	1.54%	1.59%	1.62%	1.56%	1.64%
Return on average capital	8.91	9.29	9.49	9.44	9.87
Net interest income as a percentage of average earning assets	2.42	2.46	2.48	2.49	2.55
Operating expense as a percentage of net interest income and noninterest income	36.2	35.2	35.1	34.6	35.0
Net loan charge-offs as a percentage of average loans	0.02	0.03	0.03	0.02	0.02
Nonperforming assets as a percentage of loans and other property owned	0.82	0.83	0.78	0.82	0.73
Allowance for loan losses as a percentage of loans outstanding at year end	0.63	0.63	0.61	0.60	0.54
Capital as a percentage of total assets at year end	16.9	16.7	16.8	16.4	16.1
Capital as a percentage of total assets at year end (excluding restricted assets and capital — Insurance Fund)	15.7	15.5	15.6	15.2	15.0
Capital and allowance for loan losses as a percentage of loans outstanding at year end	22.1	22.0	21.9	21.5	21.2
Debt to capital at year end	4.92:1	4.97:1	4.95:1	5.12:1	5.21:1

BUSINESS

Overview of the Farm Credit System

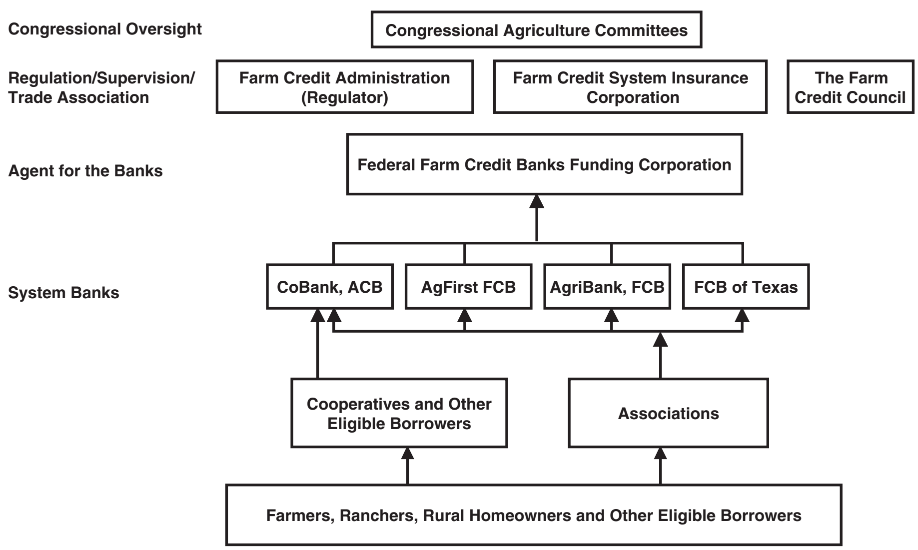
The Farm Credit System is a federally chartered network of borrower-owned lending institutions comprised of cooperatives and related service organizations. Cooperatives are organizations that are owned and controlled by their members who use the cooperatives' products or services. The U.S. Congress authorized the creation of the first System institutions in 1916. Our mission is to support rural communities and agriculture with reliable, consistent credit and financial services. We do this by making appropriately structured loans to qualified individuals and businesses at competitive rates and providing financial services and advice to those individuals and businesses.

Consistent with our mission of supporting rural America, we also make rural residential real estate loans, finance rural power, communication and water infrastructures and make loans to support agricultural exports and to finance other eligible entities.

Congress established the Farm Credit Administration as the System's independent federal regulator to examine and regulate System institutions, including their safety and soundness. System institutions are federal instrumentalities.

Structure/Ownership of the Farm Credit System

The following chart depicts the current overall structure and ownership of the System.



The Associations are cooperatives owned by their borrowers, and the Farm Credit Banks (AgFirst, AgriBank and Texas) are cooperatives primarily owned by their affiliated Associations. The Agricultural Credit Bank (CoBank) is a cooperative principally owned by cooperatives, other eligible borrowers and its affiliated Associations. The Banks and Associations each have their own board of directors and are not commonly owned. Each Bank and Association manages and controls its own business activities, operations and financial performance.

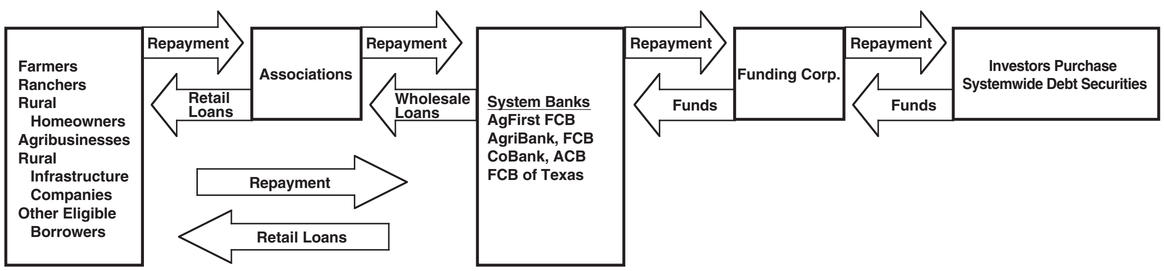
The Banks jointly own the Funding Corporation. The Funding Corporation, as agent for the Banks, issues and markets Systemwide Debt Securities in order to raise funds for the lending activities and operations of the Banks and Associations. The Funding Corporation also provides the Banks with certain accounting and financial reporting services, including the preparation of the System's quarterly and annual information statements and the System's combined financial statements contained in those information statements. As the System's financial spokesperson, the Funding Corporation is primarily responsible for financial disclosure and the release of public information concerning the financial condition and performance of the System.

Systemwide Debt Securities are the general unsecured joint and several obligations of the Banks. Systemwide Debt Securities are not obligations of and are not guaranteed by the United States government. In addition, Systemwide Debt Securities are not the direct obligations of the Associations and, as a result, the capital of the Associations may not be available to support principal or interest payments on Systemwide Debt Securities.

Our Business Model

A Bank and its affiliated Associations are financially and operationally interdependent as the Bank is statutorily required to serve as an intermediary between the financial markets and the retail lending activities of its affiliated Associations. The Banks are the primary source of funds for the Associations. Associations are not legally authorized to accept deposits and may not borrow from other financial institutions without the approval of their affiliated Bank. The Banks are not legally authorized to accept deposits and they principally obtain their funds through the issuance of Systemwide Debt Securities. Other less significant sources of funding for the Banks and the Associations include internally generated earnings and the issuance of common and preferred equities. As a result, the loans made by the Associations are primarily funded by the issuance of Systemwide Debt Securities by the Banks. The repayment of Systemwide Debt Securities is dependent upon the ability of borrowers to repay their loans from the Associations. In addition, CoBank makes retail loans and leases directly to agricultural and rural infrastructure cooperatives and businesses and other eligible entities. The Banks and Associations also purchase loan participations from other System entities and non-System lenders. Therefore, the repayment of Systemwide Debt Securities is also dependent upon the ability of these borrowers to repay their loans.

The chart below illustrates the flow of funds from investors in Systemwide Debt Securities to the System's borrowers and the ultimate repayment of funds to investors resulting from borrower loan repayments.



Overview of Our Business

As required by the Farm Credit Act, we specialize in providing financing and related services to eligible, creditworthy borrowers in the agricultural and rural sectors, to certain related entities, and to domestic or foreign parties in connection with the export of U.S. agricultural products. We make credit available in all 50 states, the Commonwealth of Puerto Rico, and, under conditions set forth in the Farm Credit Act, U.S. territories.

System institutions may also provide a variety of financially related services to their borrowers, as discussed in the "Products and Services — Financially Related Services" section.

Government-Sponsored Enterprise Status

In order to better accomplish our mission, Congress has granted the System certain attributes that result in government-sponsored enterprise status for the System. As a government-sponsored enterprise, we have traditionally been able to raise funds at competitive rates and terms, in varying economic environments. This ability to raise funds has historically allowed us to make competitively priced loans to eligible borrowers through all economic cycles and thus accomplish our mission. (See "Risk Factors" for a discussion of the uncertainty about the future of government-sponsored enterprises.)

Agricultural Industry Overview

The agricultural sector has been and remains a key economic force in the U.S. economy and is strongly affected by domestic and global economic conditions and government policies. Adverse weather events, food safety, disease, pandemics and other unfavorable conditions also directly affect the agricultural sector.

The System was created to provide support for this sector because of its significance to the well-being of the U.S. economy and the U.S. consumer. Profitability in our business is dependent on the health of the U.S. agricultural sector, which is heavily influenced by domestic and world demand for agricultural products, and impacted by government policies and support programs, including crop insurance, which is available to producers of certain agricultural commodities. (See “Risk Factors” for a discussion of potential changes in the agricultural spending policies of the U.S. government in light of the U.S. budget deficit and U.S. and global trade policies and the potential impact on the System’s borrowers.) Further, off-farm income is important to the repayment ability of many agricultural producers. Accordingly, our business also may be impacted by the health of the general U.S. economy.

System Lending Institutions

The two types of entities through which we conduct our lending business are the Banks and the Associations.

Banks

At December 31, 2019, the System had four Banks (three Farm Credit Banks and one Agricultural Credit Bank). The Banks’ lending operations include wholesale loans to their affiliated Associations and loan participations in eligible loans purchased from Associations, other Banks and non-System lenders. In addition, CoBank, as the Agricultural Credit Bank, has additional nationwide authority to make retail loans directly to agricultural and rural infrastructure cooperatives and businesses and other eligible entities.

The Banks obtain a substantial majority of funds for their lending operations through the issuance of Systemwide Debt Securities, but also obtain some of their funds from internally generated earnings and from the issuance of common and preferred equities.

Associations

As of December 31, 2019, the System had 68 Associations throughout the nation and the Commonwealth of Puerto Rico. There were 67 Agricultural Credit Associations with Production Credit Association and Federal Land Credit Association subsidiaries, and one Federal Land Credit Association. The Federal Land Credit Association makes real estate mortgage loans, including rural residential real estate loans. Agricultural Credit Associations may, directly or through their subsidiaries, make real estate mortgage loans, production and intermediate-term loans, agribusiness loans (processing and marketing loans, and certain farm-related business loans) and rural residential real estate loans. These retail loans are made to farmers, ranchers, producers or harvesters of aquatic products, farm-related businesses and rural homeowners. Associations may also purchase eligible loan participations from other System entities and non-System lenders.

The Associations obtain a substantial majority of the funds for their lending operations from borrowings from their affiliated Bank, but also obtain some of their funds from internally generated earnings and from the issuance of equities.

Districts

Each Bank combined with its affiliated Associations is referred to as a District. The following table lists the four Districts and provides information about the asset size and the loan portfolio size of each District as of December 31, 2019.

District	Assets	Loans
	(in millions)	
AgFirst	$ 40,332	$ 30,719
AgriBank	135,233	115,179
Texas	32,847	26,337
CoBank	157,192	119,995

There is substantial variation among the Districts with respect to size, number and mix of Associations. The largest Associations, those with assets over $1.5 billion, accounted for 51.3% and 50.0% of the System’s assets at December 31, 2019 and 2018 and 61.7% and 60.5% of the System’s loans at December 31, 2019 and 2018. A summary of these Associations by asset size can be found in the Supplemental Financial Information on pages F-79 and F-80.

Products and Services

Loans by Banks

The Banks lend to the Associations in their District and, to a much lesser extent, other eligible financing institutions relating to their agricultural loan portfolios (e.g., national or state banks, trust or finance companies, savings institutions or credit unions).

CoBank also may make the following types of loans:

- Agribusiness loans — primarily to finance the operations of cooperatives and other businesses in various agricultural sectors such as grain handling and marketing, farm supply, food processing, dairy, livestock, fruits, nuts, vegetables, cotton, biofuels and forest products,
- Rural power loans — primarily to finance electric generation, transmission and distribution systems supporting rural areas,
- Rural communication loans — primarily to finance rural communication companies,
- Rural water/waste water loans — primarily to finance water and waste water systems supporting rural areas, and
- Agricultural export finance loans — primarily to provide short- and medium-term trade finance to other banks to support U.S. exporters for international trade of agricultural products. The federal government guarantees a portion of these loans.

The primary products and services related to these loans, except agricultural export finance loans, include term loans, revolving lines of credit, project financing, leasing, tax-exempt bond issuances, capital markets services and cash management and investment products.

The Banks may purchase participations in loans made by the Associations, other Banks and non-System lenders to eligible borrowers or certain entities whose operations are functionally similar to those of an eligible borrower and may also participate in any loan originated or purchased by CoBank.

Loans by Associations

The Associations offer the following types of loans to their borrowers:

- Real estate mortgage loans — generally to purchase farm real estate, refinance existing mortgages, construct various facilities used in agricultural operations, or purchase other rural residential/lifestyle real estate for both full-time and part- time farmers. In addition, credit for other agricultural purposes and family needs is available to full-time and part-time farmers. Real estate mortgage loans have maturities ranging from 5 to 40 years and must be secured by first liens on the real estate. These loans may be made only in amounts up to 85% of the appraised value of the property taken as security or up to 97% of the appraised value if guaranteed by a federal, state, or other governmental agency. The actual percentage of loan-to-appraised value when loans are made is generally lower than the statutory maximum percentage.
- Production and intermediate-term loans — for operating funds, equipment and other purposes. Eligible financing needs include operating inputs (such as labor, feed, fertilizer, and repairs), livestock, family living expenses, income taxes, debt payments on machinery or equipment, and other business-related expenses. Production loans may be made on a secured or unsecured basis and are most often made for a period of time that matches the borrower's normal production and marketing cycle, which is typically 12 months. Intermediate-term loans typically finance depreciable capital assets of a farm or ranch. Examples of the uses of intermediate-term loans are to purchase or refinance farm machinery, vehicles, equipment, breeding livestock, or farm buildings, to make improvements, or to provide working capital. Intermediate-term loans are made for a specific term, generally 10 years or less. These loans may be made on a secured or unsecured basis, but are normally secured.
- Agribusiness loans — may be made on a secured or unsecured basis and include:
  - Processing and marketing loans — for operations to process or market the products produced by a farmer, rancher, or producer or harvester of aquatic products, or by a cooperative.
  - Farm-related business loans — to eligible borrowers that furnish certain farm-related business services to farmers or ranchers that are directly related to their agricultural production.
- Rural residential real estate loans — to purchase a single-family dwelling that will be the primary residence in rural areas, which may include a town or village that has a population of not more than 2,500 persons. In addition,

the loan may be to remodel, improve, or repair a rural home, or to refinance existing debt. These loans must be secured by a first lien on the property, except that it may be secured by a second lien if the System institution also holds the first lien on the property.

Associations may also purchase participations in loans made by other Associations, System Banks and non-System lenders to eligible borrowers or certain entities whose operations are functionally similar to those of an eligible borrower.

Loan Interest Rate and Prepayment Features

Depending on the purpose of the loan, its repayment terms and the creditworthiness of the borrower, several interest rate (fixed or floating) and prepayment features may be available for a loan. Indexed floating-rate loans are tied solely to an external index. The interest rate on an adjustable-rate loan may be fixed for a period of time and adjusted periodically by predetermined amounts and may have an adjustment rate cap or floor for each period as well as for the life of the loan. The interest rate on an administered-rate loan may be adjusted periodically on a basis internally determined by the lending institution. The interest rate on a fixed-rate loan will not change for the fixed-rate period of the loan.

A range of prepayment options exists on fixed- and floating-rate loans. These options range from loans with "make-whole" prepayment fee provisions (i.e., the borrower pays an additional amount when the loan is prepaid to cover the loss from the residual higher-cost funding that can occur as a result of the prepayment) to loans that may be prepaid without any prepayment fee provisions.

Investments in Rural America

In addition to making loans to accomplish the System's Congressionally mandated mission to finance agriculture and rural America, the Banks and Associations may make investments in rural America to address the diverse needs of agriculture and rural communities across the country. Examples of these investments include partnerships with agricultural and rural community lenders, investments in rural economic development and infrastructure, health care facilities, and investments in obligations and mortgage securities that increase the availability of affordable housing in rural America. The Farm Credit Administration approves these investments on a case-by-case basis.

Financially Related Services

System institutions also provide a variety of products and services to their borrowers designed to enhance their business. Products and services provided by certain System institutions include:

- credit and mortgage life or disability insurance developed specifically for System borrowers to protect the repayment of loan obligations,
- various types of crop insurance covering specific risks (e.g., hail, fire, or lightning) and multi-peril crop insurance to protect against unpredictable weather and volatile markets in a combination of yield and revenue-based products,
- livestock and dairy risk protection that provides revenue protection during unpredictable declines in the livestock and dairy industries,
- estate planning, record keeping, and tax planning and preparation,
- fee appraisal services, and
- cash management products and services and other related services to allow borrowers to more effectively manage their financial positions.

The Banks and Associations, acting as an agent or broker, make the above described insurance available through private insurers.

In addition, a subsidiary of one Bank and certain other System institutions provide leasing services to customers that include a broad spectrum of lease options tailored to the borrower's unique financial needs. These services include the leasing of equipment, vehicles and facilities used by our borrowers in their businesses.

Customers

Our borrowers consist of farmers, ranchers, producers and harvesters of aquatic products, agricultural and rural infrastructure cooperatives and businesses, rural homeowners and other eligible entities, including other eligible financing institutions (e.g., national or state banks, trust or financing companies, savings institutions or credit unions).

We make loans and provide financially related services to qualified borrowers in the agricultural and rural sectors and to certain related entities. Our loan portfolio at the System level is diversified by commodity and geographic location (with one commodity exceeding 10% of total assets). On a combined basis, loans to farmers of cash grains totaled 12.4% of the System's total assets at December 31, 2019, and 12.5% at December 31, 2018. However, due to the geographic territories served by individual Banks and Associations, most System institutions have higher concentrations of certain types of loans or commodities compared with the System as a whole.

As part of our mission, we have established policies and programs for furnishing sound and constructive credit and related services to young, beginning, and small farmers and ranchers. A summary of these activities can be found in the Supplemental Financial Information on pages F-81 and F-82.

In accordance with the Farm Credit Act, each borrower, as a condition of borrowing, is generally required to invest in capital stock or participation certificates (non-voting equity investment) of the Association or Bank that originates the loan. The initial investment requirement may vary by Association or Bank, with the minimum being the statutory minimum amount of 2% of the loan amount or $1,000, whichever is less. The different classes of capital stock and participation certificates and the manner in which capital stock and participation certificates are issued, retired and transferred are set forth in the respective Bank's or Association's bylaws. The Bank or Association generally has a first lien on the capital stock and participation certificates as collateral for the repayment of the borrower/stockholder loan. For a more detailed discussion of these requirements, see Note 12 to the System's combined financial statements contained in this annual information statement.

Loan Underwriting Standards

Credit risk arises from the potential inability of a borrower to meet a repayment obligation. This credit risk is managed at both the Association and Bank levels. Farm Credit Administration regulations establish loan-to-value limits for real estate mortgage loans and require that collateral be posted for real estate mortgage and some production loans. System institutions are required to adopt written standards for prudent lending and effective collateral evaluation.

Underwriting by Associations

The Associations manage credit risk through the use of underwriting standards, credit analysis of borrowers and portfolio management techniques. When making a loan, the Associations consider many factors about the borrower and apply certain underwriting standards to the lending process. The factors considered in the underwriting process include, but are not limited to, borrower integrity, credit history, cash flows, equity, and collateral, as well as other sources of loan repayment, loan pricing and an evaluation of management and the board of directors, if applicable. Additionally, many borrowers have off-farm sources of income that enhance their debt repayment capacity. Other factors that may influence the risk profiles of the loan portfolios of Associations include the impact of vertical integration (control over all stages of production of a commodity) and urban and recreational influences on real estate values, which tend to reduce farm income volatility at the producer level.

To mitigate credit risk, each Association establishes lending limits, which represent the maximum amount of credit that can be extended to any one borrower. Further, in some instances, portfolio risk is managed through the purchase and sale of loan participations with other lenders in order to diversify portfolio concentrations by borrower, commodity and geography.

Underwriting by Banks

The Banks also employ risk management practices when making wholesale loans to their affiliated Associations and when making or participating in loans to retail borrowers. With respect to retail lending, the Banks manage credit risk through the use of underwriting standards, credit analysis of borrowers and portfolio management techniques. Similar to the Associations, when making a loan, they consider many factors about the borrower and apply underwriting standards to the lending process. The factors considered, and underwriting standards utilized, include borrower earnings, cash flows, equity, and collateral, as well as loan pricing and an evaluation of management and the board of directors, if applicable. The Banks, similar to the Associations, also mitigate credit risk by establishing lending limits and manage the portfolio through the purchase and sale of loan participations.

In the case of wholesale loans to Associations, the assets of the Association secure the Bank's loan to the Association and the lending terms are specified in a general financing agreement between each Association and its affiliated Bank. These financing agreements typically include:

- measurable, risk-based covenants,

- collateralization of the loan by substantially all Association assets,
- the Bank's prior approval of certain loans made by an Association,
- a defined borrowing base calculation or maximum loan amount,
- a prohibition against other borrowings without the Bank's approval, and
- loan rates tied to financial performance.

Competition

The System competes with other lenders, including local, regional, national and international commercial banks, insurance companies, manufacturers and suppliers, captive finance companies of manufacturers and suppliers and non-traditional lenders. Competition varies throughout the nation. System charters and regulations impose geographic and authority limitations on System institutions that are not imposed on its competitors. Commercial banks have a broad spectrum of lines of business and financially related services they can offer and may also have access to competitively priced funds for their lending activities as these banks have the ability to accept deposits.

Competition is also a consideration in connection with the issuance of Systemwide Debt Securities. In addition to securities issued by the U.S. Treasury, we compete with Fannie Mae, Freddie Mac, the Federal Home Loan Banks, other federal government-sponsored enterprises, foreign governments and other highly rated issuers for funds raised through the issuance of unsecured debt in the debt markets. Increases in the issuance of debt by these other issuers could lead to higher interest costs on our debt securities than would otherwise be the case. (See "Risk Factors" for a discussion of how changing perceptions of government-sponsored enterprise status may intensify competition in connection with the issuance of Systemwide Debt Securities.)

Federal Farm Credit Banks Funding Corporation

As agent for the Banks, the Funding Corporation issues and markets Systemwide Debt Securities. The Funding Corporation, which was established by the Farm Credit Act, is owned by the Banks. The composition of the board of directors of the Funding Corporation is defined by statute and is comprised of nine voting members: four current or former Bank directors and three Bank chief executive officers or presidents elected by the Banks, and two additional voting members appointed by the shareholder-elected members of the board of directors after seeking recommendations from and consulting with the Secretary of the Treasury and the Chairman of the Board of Governors of the Federal Reserve System. The appointed directors cannot be affiliated with the System or our regulator and cannot be actively engaged with a member of the group of banks and securities dealers involved in selling Systemwide Debt Securities. The president of the Funding Corporation serves as a non-voting member of the Funding Corporation's board of directors.

During the year ended December 31, 2019, the Funding Corporation utilized a selling group of 30 banks and securities dealers to sell Systemwide Debt Securities. The Funding Corporation's selling group distributes Systemwide Debt Securities to investors, including, but not limited to, commercial banks, states, municipalities, pension and mutual funds, insurance companies, investment companies, corporations and foreign banks and governments. In addition, the Funding Corporation assists the Banks with respect to a variety of asset/liability management and certain specialized funding activities.

The Funding Corporation, subject to Farm Credit Administration approval, is responsible for determining the amounts, maturities, rates of interest, and terms of each issuance of Systemwide Debt Securities and for establishing conditions of participation in the issuances of Systemwide Debt Securities by the Banks. In this regard, the Funding Corporation and all of the Banks have entered into the Third Amended and Restated Market Access Agreement to establish conditions for each Bank's participation in the issuance of Systemwide Debt Securities. For a detailed discussion of the Market Access Agreement, see "Description of Systemwide Debt Securities — Repayment Protections — Agreements Among Certain System Institutions — Third Amended and Restated Market Access Agreement" below.

The Funding Corporation also provides the Banks with certain accounting and financial reporting services, including the preparation of the System's quarterly and annual information statements and the System's combined financial statements contained in those information statements. As the System's financial spokesperson, the Funding Corporation is primarily responsible for financial disclosure and the release of public information concerning the financial condition and performance of the System.

Federal Agricultural Mortgage Corporation (Farmer Mac)

Farmer Mac provides a secondary market for qualified agricultural mortgage loans, rural housing mortgage loans, rural utilities loans (to cooperative borrowers made by cooperative lenders) and the guaranteed portion of agricultural and rural development loans guaranteed by the U.S. Department of Agriculture. By statute, the Farmer Mac board of directors consists of 15 members, of which five are representatives of the System.

Some System institutions have entered into guarantee agreements with Farmer Mac that provide a credit enhancement on certain loans or to manage their capital positions. These transactions present counterparty risk should Farmer Mac fail to perform under these guarantees. However, this risk is considered "secondary" in that System institutions rely primarily on customer loan repayment capacity. These agreements are commonly referred to as long-term standby commitment to purchase agreements. System institutions may also securitize mortgage loans by exchanging the loans for Farmer Mac mortgage-backed securities. At December 31, 2019 and 2018, Farmer Mac guaranteed $2.235 billion and $2.314 billion of loans issued by System institutions and System institutions had exchanged $938 million and $945 million of loans for mortgage-backed securities issued by Farmer Mac.

The System is financially and operationally separate and distinct from Farmer Mac with no ties similar to those that bind the other System institutions. Additionally, the financial information of Farmer Mac is not included in the combined financial statements of the System. While Farmer Mac is statutorily defined as an institution of the System and is examined and regulated by the Farm Credit Administration, any reference to the System herein does not include Farmer Mac, and no System institution is liable for any debt or other obligation of Farmer Mac. Furthermore, Farmer Mac is not liable for any debt or other obligation of any other System institution except for contractual obligations arising from business transactions between Farmer Mac and certain System institutions. The assets of the Farm Credit Insurance Fund do not support any debt or other obligations of Farmer Mac nor do the System's independent credit ratings apply to Farmer Mac, which has not been rated by any Nationally Recognized Statistical Rating Organization.

The Farm Credit Council

The Farm Credit Council is a federated trade association representing the System before Congress, the Executive Branch and others. The Farm Credit Council provides the mechanism for member "grassroots" involvement in the development of System positions and policies with respect to federal legislation and government actions that impact the System. The financial information of The Farm Credit Council is not included in the combined financial statements of the System.

Governance

Boards of Directors

Each Bank and Association has its own board of directors, which is primarily comprised of directors elected by the stockholders, that oversees the management of the Bank or the Association. Farm Credit Administration regulations require each Bank and Association to have a nominating committee that is responsible for identifying, evaluating and nominating candidates for director positions. Stockholder-elected directors must constitute at least 60 percent of the members of the board of directors. Therefore, each board of directors must include outside directors appointed by the stockholder-elected directors. In addition, each Bank and each Association with assets exceeding $500 million is required to have at least two outside directors, who are independent of any System affiliation. All other Associations must have at least one outside director. Each Bank and Association board of directors must have a member who is a "financial expert," as defined in regulations issued by the Farm Credit Administration, except for those Associations with assets of $500 million or less, who may retain a financial advisor to satisfy this requirement. The boards of directors represent the interests of the stockholders of their particular institution. Each board of directors performs the following functions, among others:

- selects, compensates and evaluates the chief executive officer,
- approves the strategic plan (including capital plan) and annual operating plans and budget,
- advises management on significant issues facing the institution, and
- oversees the financial reporting process, including the adequacy of the institution's

internal controls, communications with stockholders and the institution's legal and regulatory compliance.

In addition to having a nominating committee, each Bank and Association has an audit committee and a compensation committee and may also have additional committees as determined by the board of directors of the Bank or Association. The audit committee members must be members of the board of directors and, if required to have a director as a financial expert as discussed above, the financial expert must serve on the audit committee. The audit committee is responsible for the oversight of the financial reporting process and the institution's internal controls, including those over the preparation of the financial reports, and the appointment, compensation and retention of the independent registered public accounting firm. The compensation committee is responsible for reviewing compensation policies and plans for senior officers and employees, and must approve the overall compensation program for senior officers. The Funding Corporation has a board of directors, an audit committee, a governance committee and a compensation committee that perform the same functions for the Funding Corporation. In addition, the Funding Corporation has established a System Audit Committee, as described below.

System Audit Committee

As required by regulation, the board of directors of the Funding Corporation has established a System Audit Committee and adopted a written charter for the System Audit Committee. The charter provides for a committee comprised of at least five members but not more than six members — one of the Funding Corporation's outside directors, two Bank or Association directors, one outside person who has no current affiliation with the System and is a financial expert and a second Funding Corporation's outside director or a second outside member. The second outside member must have no current affiliation with the System and be a financial expert. At the discretion of the board of directors, a sixth member of the System Audit Committee may be added for purposes of succession planning. Under the charter, the Funding Corporation's board of directors selects all members of the System Audit Committee and appoints the chairman and vice chairman. The chairman of the System Audit Committee must be a financial expert. A copy of the charter is available on the Funding Corporation's website at www.farmcreditfunding.com.

The System Audit Committee reports to the board of directors of the Funding Corporation. The responsibilities of the System Audit Committee include, among other things:

- the oversight of the Funding Corporation's system of internal controls related to the preparation of the System's quarterly and annual information statements,
- the integrity of the System's quarterly and annual information statements,
- the review and assessment of the impact of accounting and auditing developments on the System's combined financial statements,
- the review and assessment of the impact of accounting policy changes related to the preparation of the System's combined financial statements,
- the appointment, compensation, retention and oversight of the System's independent registered public accounting firm with the agreement of the Funding Corporation's board of directors,
- the pre-approval of allowable non-audit services at the System level,
- the establishment and maintenance of procedures for the receipt, retention and treatment of complaints regarding accounting, internal accounting controls or auditing matters at the System level and for the confidential, anonymous submission of concerns regarding questionable System accounting, internal accounting controls or auditing matters,
- the receipt of various reports from Funding Corporation management on internal controls, off-balance sheet arrangements, critical accounting policies, and material alternative accounting treatments that may impact the System's combined financial statements,
- the review and approval of the scope and planning of the annual audit by the System's independent registered public accounting firm,
- the approval of policies and procedures for the preparation of the System's quarterly and annual information statements,
- the review and approval of the System's quarterly and annual press releases of financial results prior to issuance, and

- the review and approval of the System's quarterly and annual information statements after discussions with management and the independent registered public accounting firm.

Internal Control Over Financial Reporting

The principal executive officer and principal financial officer, or persons performing similar functions, of each System institution are responsible for establishing and maintaining disclosure controls and procedures, as well as internal control over financial reporting for their institutions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with generally accepted accounting principles in the U.S. that will be used in reports to the Farm Credit Administration, in reports to their respective members and in the preparation of combined System financial statements.

Internal control over financial reporting is subject to inherent limitations and may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness of future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate. Managements of System institutions have used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control — Integrated Framework (2013)* to assess the effectiveness of internal control over financial reporting. Based on testing of the design and effectiveness of key internal controls, certifications and other information furnished by the principal executive officer and principal financial officer of each System institution, as well as incremental procedures performed by the Funding Corporation over the combining process, Funding Corporation management has completed an assessment of the effectiveness of the System's internal control over financial reporting as of December 31, 2019 and has included a report on the assessment on page F-2 of this annual information statement.

The System has also engaged PricewaterhouseCoopers LLP, the System's independent registered public accounting firm, to opine on the effectiveness of the System's internal control over financial reporting based on its integrated audits. Their report can be found on pages F-3 and F-4.

Each of the Banks has also engaged PricewaterhouseCoopers LLP to opine on the effectiveness of its internal control over financial reporting for 2019. Their reports can be accessed through each of their respective websites listed on page 2.

Code of Ethics

Each Bank and the Funding Corporation have adopted codes of ethics that apply to their chief executive officers, certain other executives, and finance and accounting senior professionals who are involved with the preparation of the System's financial statements and the maintenance of the financial records supporting the financial statements.

The Funding Corporation will disclose material amendments to or any waivers from a required provision of the codes of ethics for any individual covered by the Banks' or the Funding Corporation's codes of ethics by including that information in future information statements. No such amendments or waivers were made in 2019. A copy of the Funding Corporation's code of ethics related to the preparation of the System's quarterly and annual information statements can be accessed on the Funding Corporation's website at www.farmcreditfunding.com. Each Bank's code of ethics includes similar content and can be accessed through each of their respective websites listed on page 2.

Complaints Regarding Accounting, Internal Accounting Controls and Auditing Matters

Each Bank, Association and the Funding Corporation have adopted complaint procedures for accounting, financial reporting, internal accounting controls, or auditing matters. These procedures allow individuals to submit confidential, anonymous concerns regarding accounting, financial reporting, internal accounting controls, or auditing matters. Employees may submit such complaints or concerns without the fear of reprisal, retaliation or adverse action being taken against any employee who, in good faith, reports or assists in the investigation of a violation or suspected violation, or who makes an inquiry about the appropriateness of an anticipated or actual course of action. Any concerns or inquiries are addressed in accordance with these procedures.

System Committees and Work Groups

System Banks and Associations are autonomous institutions and, as such, manage and control their own business activities, operations and financial performance. However, they are financially and operationally interdependent, and thus have a common interest in working collaboratively, through various committees and work groups, in order to promote consistency on significant policies and practices.

The Presidents' Planning Committee is a standing committee comprised of select members of senior leadership drawn from the Banks, Associations, the Funding Corporation and The Farm Credit Council with its main objective to promote management coordination among System institutions. Through various subcommittees, the Presidents' Planning Committee engages in discussion on topics important to the System where common, coordinated action is warranted such as identifying systemic and reputational risks, reviewing and advising on legislative and regulatory issues and discussing new business opportunities.

The Coordinating Committee is also a standing committee comprised of select directors and chief executive officers drawn from the Banks, Associations, The Farm Credit Council and the Funding Corporation. The Coordinating Committee is called upon periodically to address issues at the national level as they arise.

The System has other committees, some standing and some ad hoc, that address specific topics with the goal of sharing information, promoting best practices, and establishing a common approach — examples include the System Disclosure Committee, the Accounting Standards Work Group, the Risk Work Group and the Reputation Risk Analysis & Planning Work Group. Depending on the committee or work group in question, the composition is comprised of management from one or more of the Banks, Associations, Funding Corporation or The Farm Credit Council, who collaborate to ensure broad communication throughout the System on their respective topics.

Employees

The number of personnel employed by the System on a full-time equivalent basis was 15,331 at December 31, 2019, up from 14,850 at December 31, 2018 and 14,379 at December 31, 2017.

Properties

AgFirst owns its corporate offices in Columbia, South Carolina. The other three Banks each lease their respective corporate offices. CoBank leases other offices throughout the United States and an office in Singapore. The Associations own or lease various offices in locations throughout the United States and the Commonwealth of Puerto Rico. The Funding Corporation leases office space in Jersey City, New Jersey.

As authorized by the Farm Credit Act, the Farm Credit Administration occupies buildings and uses land owned and leased by the Farm Credit System Building Association, an entity jointly owned by the Banks. The headquarters for the Farm Credit Administration is located in McLean, Virginia.

FEDERAL REGULATION AND SUPERVISION OF THE FARM CREDIT SYSTEM

The following summaries of certain provisions of the Farm Credit Act, the Farm Credit Administration regulations and the Farm Credit System Insurance Corporation (Insurance Corporation) regulations should not be viewed as complete and are qualified in their entirety by reference to the provisions of the Farm Credit Act and these regulations.

Farm Credit Administration

The Farm Credit Administration, an independent federal regulatory agency, has jurisdiction over System institutions. A three-member full-time board appointed by the President of the United States with the advice and consent of the Senate manages the Farm Credit Administration.

The Farm Credit Administration examines each System institution not less than once during each 18-month period. The examinations may include analyses of credit and collateral quality, capitalization, earnings, interest rate risk, liquidity, the effectiveness of management, and the application of policies in carrying out the Farm Credit Act, in adhering to the Farm Credit Administration regulations, and in supporting eligible borrowers.

Further, the Farm Credit Act authorizes the Farm Credit Administration to take specified enforcement actions to ensure the safe and sound operations of System institutions and their compliance with the Farm Credit Act and Farm Credit Administration regulations. These enforcement powers include the power to:

- issue cease and desist orders,
- suspend or remove a director or an officer of a System institution, and
- impose specified civil money penalties for certain violations of the Farm Credit Act, Farm Credit Administration regulations or certain orders of the Farm Credit Administration.

In addition, Farm Credit Administration regulations provide that, if the Farm Credit Administration determines, after consultation with the Funding Corporation, that a financial, economic, agricultural, national defense or other crisis exists that could impede the normal access of the Banks to the capital markets, the Farm Credit Administration Board shall, in its sole discretion, adopt a resolution that:

- increases the amount of eligible investments that a Bank is authorized to hold or,
- modifies or waives the liquidity reserve requirement.

Farm Credit Administration Regulations

The Farm Credit Act authorizes, and in some instances requires, the Farm Credit Administration to issue regulations governing various operations of System institutions and subjects certain actions by System institutions to the approval of the Farm Credit Administration. These regulations and approval requirements include the following areas:

Issuances of Systemwide Debt Securities

Under the Farm Credit Act, determinations by the Funding Corporation as to the amounts, maturities, rates of interest, terms, and conditions of participation by the Banks in each issuance of Systemwide Debt Securities are subject to Farm Credit Administration approval.

Lending Objective

In accordance with the Farm Credit Administration regulations, the lending objective of System institutions is to provide full credit, to the extent of creditworthiness, to borrowers whose primary business is farming, ranching, or producing or harvesting aquatic products; conservative credit to part-time farmers and to rural homeowners; and more restricted credit for other credit requirements as needed to ensure a sound credit package or to accommodate a borrower's needs as long as the total credit results in being primarily an agricultural loan. System institutions are specifically prohibited from extending credit where investment in agricultural assets is primarily for speculative purposes.

Consistent with our mission of supporting rural communities and agriculture, we also make loans to agricultural cooperatives, to finance rural power, communication and water infrastructures, to support agricultural exports and to finance other eligible entities.

Borrower Protections

The Farm Credit Act or the Farm Credit Administration regulations provide the following protections to most System institution borrowers:

- prior to loan closing, System institutions must provide borrowers with extensive disclosure-related information and copies of appraisals, if any,
- System institutions must provide borrowers with access to a Credit Review Committee hearing on an adverse action taken on a loan application or a request for loan restructuring, if requested,
- borrowers have the right of first refusal to lease or repurchase any real estate acquired from them by a System lender, and
- System institutions must protect the nonpublic personal information of their borrowers.

Bank Collateral Requirements

As a condition of a Bank's participation in the issuance of Systemwide Debt Securities, the Bank must have, and at all times thereafter maintain, free from any lien or other pledge, specified eligible assets (referred to in the Farm Credit Act as "collateral") at least equal in value to the total amount of outstanding debt securities of the Bank that are subject to the collateral requirement. These securities include Systemwide Debt Securities for which the Bank is primarily liable and investment bonds or other debt securities that the Bank has issued individually. The collateral must consist of notes and other obligations representing loans or real or personal property acquired in connection with loans made under the authority of the Farm Credit Act (valued in accordance with Farm Credit Administration regulations and directives), obligations of the United States or any agency thereof direct or fully guaranteed, other Farm Credit Administration approved Bank assets, including eligible marketable securities, or cash. These collateral requirements do not provide holders of Systemwide Debt Securities with a security interest in any assets of the Banks. The Banks may in the future issue Systemwide Debt Securities that are secured by specific assets.

Capital Adequacy

Farm Credit Administration regulations set forth capital ratio requirements for the Banks and Associations, which consist of the following ratios:

Ratio	Minimum Requirement	Minimum Requirement with Buffer
Common Equity Tier 1 Capital	4.5%	7.0%
Tier 1 Capital	6.0%	8.5%
Total Capital	8.0%	10.5%
Tier 1 Leverage	4.0%	5.0%
Unallocated Retained Earnings (URE) and URE Equivalents Leverage	1.5%	N/A
Permanent Capital	7.0%	N/A

For additional information on the regulatory capital ratios, see pages 82 and 83.

Accounting Requirements

Farm Credit Administration regulations require that each System institution prepare all financial statements in accordance with generally accepted accounting principles in the U.S. The financial statements must be audited by a qualified independent registered public accounting firm on an annual basis.

Internal Controls

Farm Credit Administration regulations require that each System institution adopt an internal control policy that provides adequate direction to the institution in establishing effective control over and accountability for operations, programs, and resources.

Disclosure Obligations

The Banks, the Associations and the Funding Corporation must prepare and file with the Farm Credit Administration quarterly and annual reports that comply with Farm Credit Administration regulations:

- Each Bank and Association must prepare and publish its annual report on its website and submit a copy to the Farm Credit Administration within 75 days of the end of its fiscal year. In addition, each Bank and Association must prepare and provide to its shareholders an annual report within 90 days of the end of its fiscal year. The annual report must include, among other things, a description of the System institution's business, properties, capital structure, risk exposures, loan portfolio and financial performance. Each Bank and Association must prepare a quarterly report within 40 days after the end of each fiscal quarter. The quarterly reports update and supplement the latest annual report, as necessary.

- The Funding Corporation must prepare and disseminate a System annual information statement for holders of Systemwide Debt Securities and other users of the annual information statement within 75 days of the end of each fiscal year and file a copy with the Farm Credit Administration. The annual information statement must include, among other things, a description of the System's business, properties, capital structure, risk exposures, loan portfolio and financial performance. The Funding Corporation must also prepare a quarterly information statement within 45 days after the end of each fiscal quarter. The quarterly information statements update and supplement the System's latest annual information statement, as necessary.
- The Banks and the Funding Corporation are responsible for disclosure of information concerning the System to investors in Systemwide Debt Securities. The Banks are required to provide specified information to the Funding Corporation so that it can prepare the System information statements. Further, the Funding Corporation is required to establish a system of internal controls sufficient to reasonably ensure that any information it releases to investors or the general public is true and accurate, and that there are no omissions of material information.
- The appropriate officers and a board member from each Bank, Association and the Funding Corporation must certify that the information contained in the quarterly and annual reports or information statements they prepare and file with the Farm Credit Administration is true, accurate and complete to the best of their knowledge and belief.

Withdrawal from the System

The Farm Credit Act permits a Bank or an Association to withdraw from the System to become chartered by a federal or state authority as a bank, savings association or other financial institution if certain restrictive requirements are met, including:

- adequate provision for the payment of all of the institution's obligations to other System entities,
- if a Bank, adequate provision for the repayment of its Systemwide Debt Securities and related interest,
- approval of the Farm Credit Administration Board,
- approval by the institution's stockholders, and
- payment by the institution to the Insurance Fund of an amount by which its total capital exceeds 6% of its assets.

Appointment of Conservator or Receiver

The Farm Credit Administration also has the exclusive authority to appoint a conservator or receiver for any System institution under circumstances specified in the Farm Credit Act and has promulgated regulations governing receiverships and conservatorships. The Farm Credit Act provides that the Insurance Corporation will serve as receiver or conservator of any System institution placed in receivership or conservatorship by the Farm Credit Administration and authorizes the Insurance Corporation to issue certain rules and regulations relating to its statutory authorities.

Farm Credit System Insurance Corporation

The Insurance Corporation is an independent U.S. government-controlled corporation and is not under the control of any System institution. The Insurance Corporation's primary purpose is to insure the timely payment of principal and interest on Systemwide Debt Securities. It also carries out various other responsibilities. A board of directors consisting of the Farm Credit Administration Board directs the Insurance Corporation. The chairman of the Insurance Corporation's board of directors must be someone other than the current chairman of the Farm Credit Administration Board.

Uses of the Farm Credit Insurance Fund

The Insurance Corporation is required to expend funds in the Insurance Fund, which can only be used for the benefit of the System, to insure the timely payment of principal and interest on Systemwide Debt Securities.

Further, subject to the provisions of the Farm Credit Act, the Insurance Corporation, in its sole discretion, is also authorized to expend funds in the Insurance Fund to pay its operating expenses, to assist a financially stressed Bank or Association, to assist qualified merging institutions, to assist an institution in conservatorship and to assist a bridge bank. The Insurance Corporation cannot provide this discretionary assistance to an institution unless the means of providing this assistance is the least costly of all possible alternatives available to the Insurance Corporation.

The Insurance Corporation may also, in its sole discretion, make loans on the security of, or may purchase, and liquidate or sell, any part of the assets of any Bank or Association that is placed in receivership because of the inability of the institution to pay the principal or interest on any of its notes, bonds, debentures, or other obligations in a timely manner.

Funding for the Farm Credit Insurance Fund

The Insurance Corporation's primary asset is the Insurance Fund and the primary sources of funds for the Insurance Fund are:

- the premiums paid by the Banks and
- earnings on assets in the Insurance Fund.

The premiums are based on each Bank's pro rata share of adjusted outstanding insured obligations, as reduced by loans and investments guaranteed by federal or state governments, with 20 basis points being the statutory maximum the Banks may be assessed. Up to an additional 10 basis points may be assessed on nonaccrual loans or investments that are other-than-temporarily impaired. The Insurance Corporation conducts a semi-annual review of insurance premium levels and adjusts the premium levels based on certain criteria. Furthermore, the Insurance Corporation, in its sole discretion, may reduce the annual premiums due from each Bank. Each Bank is authorized to assess its affiliated Associations and other financing institutions in order to pay the premiums.

Premiums are collected to maintain the Insurance Fund at the "secure base amount," which is defined in the Farm Credit Act as 2% of the aggregate outstanding insured obligations (adjusted to reflect the System's reduced risk on loans and investments guaranteed by federal or state governments) or another percentage of the aggregate outstanding insured obligations as the Insurance Corporation in its sole discretion determines to be actuarially sound. The Insurance Corporation has adopted a Policy Statement addressing the periodic determination of the secure base amount that is currently set at the 2% level.

When the Insurance Fund is at or above the secure base amount, the Insurance Corporation is required to reduce premiums, as necessary, to maintain the Insurance Fund at this level. In addition, the Insurance Corporation is required to establish Allocated Insurance Reserves Accounts for each Bank. The Insurance Corporation is statutorily required to allocate excess Insurance Fund balances above the secure base amount into these accounts. These reserve accounts remain part of the Insurance Fund, and, therefore, may be used for statutorily authorized Insurance Corporation purposes. The Insurance Corporation may also distribute all or a portion of these reserve accounts to the Banks.

For additional information with respect to the Insurance Fund, see "Description of Systemwide Debt Securities — Repayment Protections" and Note 7 to the accompanying combined financial statements.

DESCRIPTION OF SYSTEMWIDE DEBT SECURITIES

General

The System obtains funds for its lending operations primarily from the sale of Systemwide Debt Securities. Each issuance of Systemwide Debt Securities must be approved by the Farm Credit Administration and each Bank's participation is subject to: (1) the availability of specified eligible assets (referred to in the Farm Credit Act as "collateral" as previously described), (2) compliance with the conditions of participation as prescribed in the Third Amended and Restated Market Access Agreement, and (3) determinations by the Funding Corporation of the amounts, maturities, rates of interest, and terms of each issuance. Systemwide Debt Securities are issued pursuant to authorizing resolutions adopted by the boards of directors of each Bank and under the authority of the Farm Credit Act and the Farm Credit Administration regulations. The following summary descriptions of Systemwide Debt Securities should not be viewed as complete and are qualified in their entirety by reference to the offering circulars pertaining to the particular types of debt securities, the provisions of the Farm Credit Act and the Farm Credit Administration regulations.

Systemwide Debt Securities are the general unsecured joint and several obligations of the Banks. Systemwide Debt Securities are not obligations of or guaranteed by the United States government. In addition, Systemwide Debt Securities are not the direct obligations of the Associations and, as a result, the capital of the Associations may not be available to support principal or interest payments on Systemwide Debt Securities. Systemwide Debt Securities are not required to be registered and have not been registered under the Securities Act of 1933. In addition, the Banks are not required to file and do not file periodic reports under the Securities Exchange Act of 1934. Systemwide Debt Securities have not been recommended by any federal or state securities commission or regulatory authority. Furthermore, these authorities have not confirmed the accuracy or determined the adequacy of any offering material. For additional financial information with respect to the Banks, see Note 21 to the accompanying combined financial statements.

Each issuance of Systemwide Debt Securities ranks equally, in accordance with the Farm Credit Administration regulations, with the System's other unsecured Systemwide Debt Securities. Systemwide Debt Securities are not issued under an indenture and no trustee is provided with respect to these securities. Systemwide Debt Securities are not subject to acceleration prior to maturity upon the occurrence of any default or similar event.

The System may issue the types of Systemwide Debt Securities listed on page 1 of this annual information statement. For a discussion of the various risks, tax and other considerations, and terms and conditions related to each of these types of securities, see the discussions in the offering circulars listed on page 1 of this annual information statement, each of which may be amended or supplemented from time to time.

Use of Proceeds

Net proceeds from sales of Systemwide Debt Securities are used by the Banks to fund their loan and investment portfolios (which include loans to their affiliated Associations), to fund operations, to meet maturing debt obligations, and for other corporate purposes. The Banks anticipate that additional financing, including financing through various types of debt securities, will be required from time to time. The amount and nature of the financings depend on a number of factors, including the volume of the Banks' maturing debt obligations, the volume of loans made by and repaid to System institutions, and general market conditions.

Repayment Protections

General

While the repayment of Systemwide Debt Securities is the direct joint and several obligation of the Banks, there are several sources of funds in the System for the payment of interest and principal due on the securities. The underlying source of funds for the repayment of Systemwide Debt Securities is the System's borrowers, with each borrower having certain minimum levels of net worth and, in most cases, collateral posted in connection with loans made to the borrower. These borrowers make payments on their loans to the lending Bank or Association. The lending Associations in turn make payments on their wholesale loans to their affiliated lending Bank. Both the Banks, which ultimately repay Systemwide Debt Securities, and the Associations have capital as further protection and sources of support for the repayment of their outstanding debt. Each Bank's ability to participate in a particular issue of Systemwide Debt Securities is regulated and monitored by the Farm Credit Administration. Furthermore, the Banks and the Funding Corporation have entered into the Third Amended and Restated Market Access Agreement that sets forth certain conditions of participation for the Banks, as described below.

Under each Bank's bylaws, the Bank is authorized under certain circumstances to require its affiliated Associations and certain other equity holders to purchase additional Bank equities. In most cases, the Banks are limited as to the amounts of these purchases that may be required, generally with reference to a percentage of the Association's or other equity holder's direct loan from the Bank. However, the Banks also generally possess indirect access to certain financial resources of their affiliated Associations through loan-pricing provisions and through Bank-influenced District operating and financing policies.

If a Bank participated in the issuance of a Systemwide Debt Security and was unable to repay its portion of that security, the Insurance Fund would be required to make that payment. In the event the assets in the Insurance Fund were exhausted, the provisions of joint and several liability of all the Banks would be triggered, which means the financial resources of the other Banks would be called upon to repay the defaulting Bank's portion of the debt issuance.

Capital Adequacy

Farm Credit Administration regulations set minimum regulatory capital requirements that each Bank and Association must maintain. In addition, the Banks and Associations are required to develop a capital adequacy plan, as described above in "Federal Regulation and Supervision of the Farm Credit System — Farm Credit Administration Regulations — Capital Adequacy."

Agreements Among Certain System Institutions

In order to provide for mutual protection among the Banks with respect to their debt obligations, the Banks have voluntarily entered into integrated agreements that contain certain financial covenants. These integrated agreements are the Third Amended and Restated Market Access Agreement and the Amended and Restated Contractual Interbank Performance Agreement.

Third Amended and Restated Market Access Agreement (MAA) — The Banks and the Funding Corporation have entered into the MAA. The MAA is designed to provide for the identification and resolution of individual Bank financial problems in a timely manner. The MAA also discharges the Funding Corporation's statutory responsibility for determining conditions for each Bank's participation in each issuance of Systemwide Debt Securities. The MAA establishes criteria and procedures for the Banks that provide operational oversight and control over a Bank's access to System funding if the creditworthiness of the Bank declines below certain agreed-upon levels.

If a Bank fails to meet the performance criteria, it will be placed into one of three categories. Each category gives the other System Banks progressively more control over a Bank that has declining financial performance under the MAA performance criteria. A "Category I" Bank is subject to additional monitoring and reporting requirements; a "Category II" Bank's ability to participate in issuances of Systemwide Debt Securities may be limited to refinancing maturing debt obligations; and a "Category III" Bank may not be permitted to participate in issuances of Systemwide Debt Securities. No limitations on the participation in the issuances of Systemwide Debt Securities are associated with being in "Category I." A Bank exits these categories by returning to compliance with the agreed-upon performance criteria.

Under the MAA, once a Bank is placed in "Category I," a committee of representatives from the Banks and the Funding Corporation (Committee) is formed within seven days after receiving notice of non-compliance by a Bank. Within 30 days of receiving a notice, the Bank in "Category I" is required to provide to the Committee certain information including: (1) a detailed explanation of the causes of the Bank being in "Category I," (2) an action plan to improve the Bank's financial situation so that it is no longer in "Category I," (3) a timetable for achieving that result, and (4) certain financial information, such as a business plan and independent registered public accounting firm reports. In addition, periodic updates are provided to the Committee regarding certain Bank financial information and credit quality indicators as well as certain regulatory information.

For additional discussion of the criteria and standards under the MAA, and the resulting categories and restrictions if the standards are not met, see "Management's Discussion and Analysis of Financial

Condition and Results of Operations — Risk Management — Structural Risk Management." A copy of the Third Amended and Restated Market Access Agreement is available on the Funding Corporation's website located at www.farmcreditfunding.com.

Amended and Restated Contractual Interbank Performance Agreement (CIPA) — The Banks and the Funding Corporation have also entered into the CIPA. Under provisions of the CIPA, a quarterly CIPA score is calculated that measures the financial condition and performance of each District using various ratios that take into account the District's and Bank's capital, asset quality, earnings, interest-rate risk and liquidity. The rolling average of the last four quarterly CIPA scores is then compared against the agreed-upon standard of financial condition and performance in the CIPA that each District must achieve and maintain. The measurement standard established under the CIPA is intended to provide an early warning mechanism to assist in monitoring the financial condition of each District. The CIPA score is one of the performance criteria used under the MAA. A summary of the Amended and Restated Contractual Interbank Performance Agreement is available on the Funding Corporation's website located at www.farmcreditfunding.com.

Farm Credit Insurance Fund

The Insurance Corporation insures the timely payment of principal and interest on Systemwide Debt Securities. The Insurance Corporation maintains the Insurance Fund for this purpose and for certain other purposes. In the event a Bank is unable to timely pay principal or interest on any insured debt obligation for which that Bank is primarily liable, the Insurance Corporation must expend amounts in the Insurance Fund to the extent available to insure the timely payment of principal and interest on the debt obligation. The provisions of the Farm Credit Act providing for joint and several liability of the Banks on the debt obligation cannot be invoked until the Insurance Fund is exhausted. However, because of other mandatory and discretionary uses of the Insurance Fund, there is no assurance that there will be sufficient funds to pay the principal or interest on the insured debt obligation. The insurance provided through use of the Insurance Fund is not an obligation of and is not a guarantee by the U.S. government.

The System does not have a guaranteed line of credit from the U.S. Treasury or the Federal Reserve. However, the Insurance Corporation has an agreement with the Federal Financing Bank, a federal instrumentality subject to the supervision and direction of the U.S. Treasury, pursuant to which the Federal Financing Bank would advance funds to the Insurance Corporation. Under its existing statutory authority, the Insurance Corporation may use these funds to provide assistance to the System Banks in exigent market circumstances which threaten the Banks' ability to pay maturing debt obligations. The agreement provides for advances of up to $10 billion and terminates on September 30, 2020, unless otherwise renewed. The decision whether to seek funds from the Federal Financing Bank is in the discretion of the Insurance Corporation, and each funding obligation of the Federal Financing Bank is subject to various terms and conditions and, as a result, there can be no assurance that funding would be available if needed by the System.

Joint and Several Liability

The Banks are jointly and severally liable for the payment of principal and interest on Systemwide Debt Securities. If a Bank is unable to pay the principal or interest on a Systemwide Debt Security and if the amounts in the Insurance Fund have been exhausted, the Farm Credit Administration is required to make calls to satisfy the liability first on all non-defaulting Banks in proportion that each non-defaulting Bank's available collateral (collateral in excess of the aggregate of the Bank's obligations) bears to the aggregate available collateral of all non-defaulting Banks. If these calls were not sufficient to satisfy the liability, then a further call would be made in proportion to each non-defaulting Bank's remaining assets. In making a call on non-defaulting Banks with respect to a Systemwide Debt Security issued on behalf of a defaulting Bank, the Farm Credit Administration is required to appoint the Insurance Corporation as the receiver for the defaulting Bank. The receiver would be required to expeditiously liquidate the Bank.

Status in Liquidation

Farm Credit Administration regulations provide that, in the event a Bank is placed in liquidation, holders of Systemwide Debt Securities have claims against the Bank's assets, whether or not the holders file individual claims. The claims of these holders are junior to claims related to costs incurred by the receiver in connection with the administration of the receivership, claims for taxes, claims of secured creditors, and claims of holders of bonds, including investment bonds, issued by the Bank individually, to the extent the bonds are collateralized in accordance with the requirements of the Farm Credit Act. Further, claims of holders of Systemwide Debt Securities are senior to all claims of general creditors. If particular Systemwide Debt Securities were offered on a secured basis, the holders of these obligations would have the priority accorded secured creditors of the liquidating Bank. To date, the Banks have not issued secured Systemwide Debt Securities.

Contingency Funding Program

The Banks and the Funding Corporation have established a Contingency Funding Program to provide for contingency financing mechanisms and procedures to address potential disruptions in the System's communications, operations and payments systems and to cover events that threaten continuous market access by the Banks or the Funding Corporation's normal operations. Under the Contingency Funding Program, the Funding Corporation has the option to finance maturing Systemwide Debt Securities through the issuance of Systemwide discount notes either directly to institutional investors or through the selling group. In addition, the Funding Corporation, in consultation with the Banks, may also issue Systemwide Bonds directly to institutional investors. The Funding Corporation, on behalf of the Banks, may also incur other obligations, such as Federal funds purchased, that would be the joint and several obligations of the Banks and would be insured by the Insurance Corporation to the extent funds are available in the Insurance Fund.

RISK FACTORS

In the course of conducting our business operations, the System is exposed to a variety of risks, some of which are inherent in the financial services industry and others of which are more specific to our own business. The following discussion summarizes some of the more important risks that the System faces. This discussion is not exhaustive and there may be other risks that the System faces that are not described below. The risks described below, if realized, could have a significant negative effect on the System's business, financial condition, and results of operations, and, among other things, could result in the Banks' inability to pay principal and interest on Systemwide Debt Securities on a timely basis.

The System's business is directly affected by the agricultural, rural and general economies.

The System's financial condition is directly impacted by factors affecting the agricultural, rural and general U.S. and global economies, because these factors impact the demand for loans and financial services offered by the System and the ability of System borrowers to make payments on loans. These factors may include:

- adverse weather events, food safety, disease, pandemics and other unfavorable conditions that periodically occur and impact the agricultural productivity and income of System borrowers,
- volatile prices of agricultural commodities,
- changes in production expenses, particularly feed, fuel and fertilizer,
- changes in demand for and supply of U.S. agricultural products in a global marketplace,
- changes in farmland and rural real estate values,
- irrigation water availability and cost, and environmental standards,
- availability and cost of agricultural workers,
- political, legal, regulatory, financial market and economic conditions and/or developments in the U.S. and abroad that can affect such things as the price of commodities or products used or sold by System borrowers, including the volatility thereof, as well as changes in the relative value of the U.S. dollar, and
- changes in the general U.S. economy that can affect the availability of off-farm sources of income and prices of real estate.

These factors, in turn, could increase the System's nonperforming assets, decrease the value of the System's loan portfolio, reduce the System's loan origination volume, and decrease the value of collateral securing certain of the System's loans, which could have a significant adverse impact on the System's financial condition and results of operations.

Our business may be adversely affected by the cost and availability of funding in the debt markets.

The ability to fund our operations, meet financial obligations, including unfunded commitments to extend credit, and generate income depends on the ability to issue Systemwide Debt Securities in the debt markets on a regular basis with select maturities and structures and at attractive rates. The ability to access the debt markets may be limited and funding costs may increase due to circumstances that we may be unable to control, such as a general disruption in the U.S. and global financial markets, negative views about government-sponsored enterprises or the financial services industry, the willingness of domestic and foreign investors to purchase our debt or a downgrade in our credit ratings. The System's financial condition and results of operations would be adversely affected if funding becomes more expensive or our ability to access the debt market becomes limited.

In addition to issuances of Systemwide Debt Securities, System institutions have accessed other third party capital, primarily preferred stock, to support their requisite regulatory capital levels and loan growth. These third party capital sources have supplemented the System's issuances of Systemwide Debt Securities and enhanced the System's capital position. To the extent that these third party capital sources are not available or the cost of issuing such capital is too high, the System's overall growth and capital position may be reduced.

Uncertainty about the future of government-sponsored enterprises could have an adverse impact on the System's ability to issue debt at favorable rates and terms.

The System's government-sponsored enterprise status has been an important factor in its ability to continually access the debt capital markets. With both Fannie Mae and Freddie Mac still operating under conservatorship, housing related government-sponsored enterprise status and reform continues to be a topic of debate by Congress and the U.S. Administration. While the status and reform debate has not, to date, specifically related to the System, a potential risk exists that the System, as a government-sponsored enterprise, may directly or indirectly be impacted by any changes in status or reform of housing related government-sponsored enterprises. Any change in the System's status as a government-sponsored enterprise or the general perception by investors of government-sponsored enterprise status could have a significant adverse impact on the System's ability to issue debt at favorable rates and terms.

We face significant competition in connection with the issuance of Systemwide Debt Securities.

We compete for low-cost debt funding with the U.S. Treasury, other government-sponsored enterprises, including Fannie Mae, Freddie Mac and the Federal Home Loan Banks, and other highly rated institutions and companies. Competition for debt funding from these entities can vary with changes in economic, financial market and regulatory environments. In addition, any change in the perceptions of government-sponsored enterprise status may intensify competition with other highly rated institutions and companies in connection with the issuance of Systemwide Debt Securities. Increased competition for low-cost debt funding of highly rated institutions may result in a higher cost to finance our business, which could negatively affect our financial results. An inability to issue Systemwide Debt Securities at favorable rates in amounts sufficient to fund our business activities and meet our obligations could have an adverse effect on our liquidity, financial condition and results of operations.

A decrease in our credit rating or the U.S. government's credit rating could have an adverse effect on our ability to issue Systemwide Debt Securities at favorable rates and terms.

The System is subject to periodic review by credit rating agencies. Any event that could have an adverse impact on the System's financial condition or results of operations may cause the rating agencies to downgrade, place on negative watch or change their outlook on the System's credit ratings. Also, changes in the credit ratings or credit ratings outlook of the U.S. government may influence changes in the System's credit ratings and credit ratings outlook given its status as a government-sponsored enterprise.

Any downgrades in credit ratings and outlook could result in higher funding costs or disruptions in the System's access to the capital markets. To the extent that the System cannot access the capital markets when needed on acceptable terms or is unable to effectively manage its cost of funds, its financial condition and results of operations could be negatively affected.

Volatility in the agricultural commodities market and in the cost of farm inputs can result in higher risk profiles for certain System borrowers.

Volatility in commodities prices, coupled with fluctuations in production expenses (including interest rates), may have an adverse impact on the cash flow and profitability of certain System borrowers, which, in turn, may negatively affect their ability to repay their loans. While certain borrowers may be negatively impacted by these conditions, other System borrowers may benefit. For example, increased prices for grains will result in higher risk profiles for livestock and dairy producers, processors and marketers of grains and oilseeds, and borrowers that purchase corn or other grains for use in their products. However, grain farmers may benefit from higher prices. Volatility in the agricultural commodities market and in the cost of farm inputs may adversely impact the credit quality of the System's loan portfolio and, as a result, negatively affect the System's results of operations.

In an environment of less favorable economic conditions in agriculture, and without sufficient government support programs, including crop insurance, the System's financial performance and credit quality measures likely would be impacted negatively.

Production agriculture is a cyclical business that is heavily influenced by the demand for U.S. agricultural products and by commodity prices. Factors that could affect demand and prices for U.S. commodities include a change in the U.S. government's support programs for agriculture, changes to trade agreements and trade policies, deteriorating economic conditions internationally or an increase in the U.S. dollar's value, any of which would reduce U.S. agricultural exports. To the extent economic conditions in agriculture remain less favorable, and changes to direct government support programs, including crop insurance, are implemented or there are changes in U.S. and global trade policies, the System's financial performance and credit quality measures could be negatively impacted.

As regulated entities, the Banks and Associations are subject to certain capital and other requirements that may limit the operations and financial performance of the System.

The Banks and Associations are subject to the supervision of, and regulation by, the Farm Credit Administration, including with respect to complying with certain capital and other requirements. Compliance with capital and other requirements may limit the System's business activities and could adversely affect its financial performance. (See "Farm Credit Administration Capital Requirements" beginning on page 81 of this Annual Information Statement for a discussion on capital requirements.)

Changes in the laws or regulations that govern the System could have a material impact on the System or its operations.

System institutions are created and extensively governed by federal statutes and regulated by the Farm Credit Administration. Any change in the laws or regulations that govern the System's business, affect government-sponsored enterprises or affect financial institutions in general, could have a material impact on the System and its operations. Laws and regulations may change from time to time, and the interpretations of the relevant laws and regulations also are subject to change.

Domestic and foreign governmental policies, regulations and other actions affecting the agricultural sector and related industries could adversely affect the System's financial condition and results of operations.

Agricultural production and trade flows can be impacted by domestic and foreign governmental policies and regulations. Policies and regulations affecting the agricultural industry, such as taxes, tariffs, duties, subsidies, immigration, crop insurance and import and export restrictions on agricultural commodities and commodity products, can influence industry profitability, the planting of certain crops, or grazing of certain types of livestock, versus other uses of agricultural resources, whether unprocessed or processed commodity products are traded and the volume and types of imports and exports. In addition, international trade disputes can adversely affect agricultural commodity trade flows by limiting or disrupting trade between countries or regions. Future domestic and foreign governmental policies, regulations and other actions could adversely affect the supply of, demand for and prices of commodities and agricultural products, impact or restrict the ability of the System's borrowers to do business in existing and target markets and could cause a deterioration in their financial condition and results of operations, which could in turn adversely affect the System's financial condition and results of operations.

Changes in U.S. fiscal or spending policies may impair the ability of certain System borrowers to repay their loans to us, which in turn could adversely impact us.

Certain System borrowers benefit from U.S. government support for the agricultural sector, including crop insurance and subsidy programs. Any congressional efforts to limit the U.S. budget deficit would likely result in continued pressure to reduce federal spending, including funds made available for farm programs. Adverse changes in the agricultural spending policies or budget priorities of the U.S. government in light of the U.S. budget deficit or otherwise may affect the financial condition of some of the System's borrowers and impair their ability to repay their loans to us. The inability of borrowers to repay their loans to us could increase our nonperforming assets, decrease the value of our loan portfolio, reduce our loan origination volume and otherwise harm our business.

An unfavorable change in U.S. tax laws or an adverse interpretation of existing tax laws could negatively impact the System's financial results.

Certain System institutions are statutorily exempt from federal taxes. Other System institutions operate as non-exempt cooperatives. As such, they are eligible, under Subchapter T of the Internal Revenue Code, to deduct or exclude from taxable income amounts determined to be qualified patronage dividends. A change in U.S. tax law or an adverse interpretation of existing tax laws in a manner that reduces or eliminates these tax benefits or that is different from the System's application of such laws would negatively impact the System's results of operations.

A failure in our operational systems or infrastructure could impair our liquidity, disrupt our business, damage our reputation and cause losses adversely affecting our financial results.

Shortcomings or failures in our internal processes, people or systems could lead to impairment of our liquidity, financial loss, disruption of our business, liability to customers, legislative or regulatory intervention or reputational damage. For example, our operations rely on the secure processing, storage and transmission of confidential and other information in our computer systems and networks. Any failure of our operational systems or infrastructure could impact our ability to serve our customers, which could adversely affect the System's results of operations and our reputation.

System institutions face cybersecurity risks that could result in the disruption of operations or the disclosure of confidential information, adversely affect our business or reputation and create significant legal and financial exposure.

Information security risks for large institutions such as ours have significantly increased in recent years and, from time to time, we have been and will likely continue to be the target of attempted cyberattacks and other information security breaches. To date, we have not experienced any material losses relating to cyberattacks or other information security breaches, but we could suffer such losses in the future. If one or more of such events occur, this potentially could jeopardize confidential and other information, including nonpublic personal information and sensitive business data, processed and stored in, and transmitted through, our computer systems and networks, or otherwise cause interruptions or malfunctions in our operations or the operations of our customers or counterparties. This could result in significant losses, reputational damage, litigation, regulatory fines or penalties, or otherwise adversely affect our business, financial condition or results of operations. We maintain insurance coverage relating to cybersecurity risks, and we may still be required to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities or other exposures. Despite having insurance coverage, we may be subject to litigation and financial losses. Additionally, third parties with which we do business may also be sources of cybersecurity or other technological risks.

Failures of critical vendors and other third parties could disrupt our ability to conduct and manage our businesses.

System institutions rely on vendors and other third parties to perform certain critical services. A failure in, or an interruption to, one or more of those services provided could negatively affect their business operations and services provided to System institutions. If one or more of these key external parties were not able to perform their functions for a period of time, at an acceptable service level, or for increased volumes, the System institutions' business operations could be constrained, disrupted, or otherwise negatively affected.

We outsource certain functions and these relationships allow for the storage and processing of our information, as well as customer, counterparty and borrower information. While we engage in actions to reduce our exposure resulting from outsourcing, such as performing onsite security control assessments and limiting third-party access to the lowest privileged level necessary to perform job functions, ongoing threats may result in unauthorized access, loss or destruction of data or other cybersecurity incidents with increased costs and consequences to us such as those described above.

The System faces risks from unpredictable catastrophic events.

We are exposed to the risk that a catastrophic event, such as a terrorist event or natural disaster, could result in a significant business disruption and an inability to fund the System or process transactions through normal business processes. Any measures we take to mitigate this risk may not be sufficient to respond to the full range of catastrophic events that may occur and we may not have sufficient insurance coverage for catastrophic events. System borrowers may also be negatively affected by such events, which could have a negative impact on their ability to repay loans. The impact of such events on System borrowers and the overall economy may also adversely affect our financial condition and results of operations.

An unfavorable change in our reputation could adversely affect our business and financial results.

An unfavorable change in our reputation caused by negative public opinion could adversely affect our ability to obtain financing, impede our ability to hire and retain qualified personnel, hinder our business prospects, or expose us to greater regulatory scrutiny or adverse regulatory or legislative changes. Perceptions regarding the practices of our competitors, counterparties, and vendors, or the financial services industry as a whole, may also adversely affect our reputation. Damage to the reputation of third parties with whom we have important relationships may also impair market confidence in our business operations.

The Banks and Associations are subject to credit risk.

The Banks and Associations are subject to credit risk in the course of their lending, investing and hedging activities. Credit risk is the risk that arises from the unwillingness or inability of borrowers, debt issuers or counterparties, including guarantors (such as Farmer Mac) and third-party providers of other credit enhancements (such as bond insurers), to meet their contractual obligations to us.

Some of our counterparties may become subject to serious liquidity problems affecting, either temporarily or permanently, their businesses, which may adversely affect their ability to meet their obligations to us. Challenging market conditions could increase the likelihood that we will have disputes with our counterparties concerning their obligations to us, especially with respect to counterparties that have experienced financial strain or have large exposures to us. A default by a counterparty with significant obligations to us could adversely affect our ability to conduct our operations efficiently, which in turn could adversely affect our results of operations or our financial condition.

In addition, defaults by one or more financial institutions that are party to a derivative or other financial instrument transaction could lead to market-wide disruptions, which could lead to further defaults that could adversely affect the Banks. It may be difficult for the Banks to find derivative and other financial instrument transaction counterparties in such a market.

The Banks and Associations are subject to liquidity risk with respect to their investments.

The Banks and Associations are subject to liquidity risk in the course of their investing activities. Moreover, if the market for the Banks' and Associations' investments becomes less liquid, the underlying credit fundamentals deteriorate or the investments decline in value, it may make it more difficult for such investments to be sold if the need arises. In addition, because of the inherent uncertainty of determining the fair value of investments that do not have a readily available market value, the fair value of the Banks' and Associations' investments may differ significantly from the values that would have been used had a ready market existed for the investments. Ultimately, these factors could lead to further write-downs in the value of investments and impairment of assets that, if significant, could have adverse effects on our business, financial condition, results of operations and liquidity.

The earnings of the Banks and Associations are significantly affected by the monetary policies of the Board of Governors of the Federal Reserve System.

The Board of Governors of the Federal Reserve System regulates the supply of money and credit in the United States. Its policies influence the Banks' and the Associations' cost of funds for lending and investing and the return they earn on their loans and investments, both of which impact their net interest margins, and can materially affect the value of the loans and investments they hold. Federal Reserve Board policies also can affect System borrowers, potentially increasing the risk that they may fail to repay their loans. Changes in Federal Reserve Board policies are beyond the System's control and are difficult to predict or anticipate.

The financial services industry is highly competitive.

The System operates in a competitive marketplace in which there is competition from banks and non-bank lenders. In order to remain a viable competitor in the U.S. farm credit market, System institutions must provide effective loan products, undertake significant marketing efforts, use competitive pricing programs and maintain operating efficiency. In addition, the ability to access and use technology is an increasingly important competitive factor in the financial services industry. As a result, more traditional financial services companies, such as the System, are facing the risk of increased competition from products and services offered by non-bank financial technology companies. These and other competitive market pressures could result in reduced interest rate spreads and loan originations, and in some cases, less favorable loan structures and terms for the System.

The Banks and Associations are subject to interest rate risk.

The Banks and Associations, in the course of their borrowing, lending and investment activities, are subject to interest rate risk. Interest rate risk is the risk that changes in interest rates may adversely affect the institution's operating results and financial condition. This risk arises from differences in the timing between the contractual maturities, cash flows and the repricing characteristics of the institution's assets and the financing obtained to fund those assets. The Banks and Associations are responsible for developing institution-specific asset/liability management policies and strategies to manage interest rate risk and monitoring them on a regular basis. Interest rate risk can produce variability in earnings and ultimately the long-term capital position of the System.

Certain System institutions use derivative financial instruments to hedge against interest rate and liquidity risks and to lower the overall cost of funds and therefore, are subject to counterparty risk and other derivative risks.

Certain System institutions use derivative financial instruments to minimize the financial effects on their business of changes in interest rates or for liquidity purposes and must determine the nature and quantity of these hedging transactions. The effectiveness of the hedging transactions depends upon management's ability to determine the appropriate hedging position, taking into consideration the institution's assets, liabilities and prevailing and anticipated market conditions. In addition, the usefulness of the institution's hedging strategy depends on the availability in the market of cost-effective hedging instruments and the ability to enter into hedging transactions with high quality counterparties. If the System institution is unable to manage its hedging position properly it will negatively impact the System institution's financial condition and results of operations. A System institution faces the risk that its derivatives counterparties may not meet their payment and other obligations in hedging transactions. To the extent the System institution clears derivatives, it would also face the risk of operational failure of any of the clearing members, exchanges, clearinghouses, or other financial intermediaries it uses to facilitate such hedging transactions. If a derivatives counterparty clearing member or clearinghouse were to fail, the System institution could experience losses related to any collateral it had posted with such derivatives counterparty clearing member or clearinghouse to cover initial or variation margin. The System institution could also be exposed to replacement risk or unhedged market exposure if it is unable to replace the transaction.

Transition away from the use of the London InterBank Offered Rate (LIBOR) could adversely affect System institutions' operations and cash flows and the value of certain Systemwide Debt Securities, as well as System institutions' loans, preferred stock, investments and derivatives, and, in turn, adversely affect System institutions' results of operations, financial condition and liquidity.

System institutions routinely engage in transactions involving certain Systemwide Debt Securities, loans, preferred stock, investments and derivatives that reference LIBOR or are directly or indirectly indexed to LIBOR, and which may mature after December 31, 2021. Uncertainty relating to the LIBOR calculation process and potential phasing out of LIBOR after December 31, 2021, may adversely affect the System institutions' results of operations, financial condition and liquidity.

On July 27, 2017, the United Kingdom Financial Conduct Authority (the Financial Conduct Authority) announced that, after 2021, it will no longer persuade or compel the banks it regulates to submit transaction data for the calculation of the LIBOR rates to the ICE Benchmark Administration (the entity that is responsible for calculating LIBOR). Accordingly, it is uncertain whether the ICE Benchmark Administration will continue to quote LIBOR after 2021.

While the LIBOR panel banks have committed to be a part of the submission panel until December 31, 2021, if a panel bank withdraws from the panel, the Financial Conduct Authority has to review whether LIBOR remains a "representative" rate under the European Benchmarks Regulation. If the Financial Conduct Authority determines that LIBOR is no longer "representative" as a result of this withdrawal or on another basis, there are risks that the viability of LIBOR, even if still published, will be called into question and that such a determination may trigger the use of an alternative rate under some financial instruments.

In the United States, efforts to identify a set of alternative U.S. dollar reference interest rates include proposals by the Alternative Reference Rates Committee (ARRC) of the Federal Reserve Board and the Federal Reserve Bank of New York. Specifically, the ARRC has proposed the Secured Overnight Financing Rate (SOFR) as the recommended alternative to LIBOR and the Federal Reserve Bank of New York began publishing SOFR in April of 2018. SOFR is based on a broad segment of the overnight Treasury repurchase market and is a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities. Since the initial publication of SOFR in 2018, daily changes in SOFR have at times been more volatile than daily changes in comparable benchmark or market rates, and SOFR may be subject to direct influence by activities of the Federal Reserve and the Federal Reserve Bank of New York in ways that other rates may not be. In late September 2019, the Federal Reserve Bank of New York began conducting a series of overnight and term repurchase agreement ("repo") activities to help maintain the Federal funds rate within a target range. These activities directly impact prevailing SOFR rates. While the Federal Reserve Bank of New York announced that this activity would continue at least through April of 2020, there is no guarantee that it will continue.

At this time, it is not possible to predict, among other uncertainties, (i) when LIBOR will be discontinued, (ii) the effect of any changes to the methodology for calculating LIBOR, or (iii) any establishment of alternative reference rates or (iv) any other reforms to LIBOR that may be enacted in the United Kingdom, in the United States or elsewhere. Uncertainty as to the nature of such potential changes, alternative reference rates or other reforms may adversely affect the trading market for LIBOR-based instruments, including certain of the financial instruments that reference LIBOR issued or held by System institutions. System institutions' exposure arises from loans that they make to customers, investment securities that they purchase, preferred stock that they issue and their derivative transactions, as well as Systemwide Debt Securities that are issued by the Funding Corporation on the Banks' behalf. Accordingly, reform of, or the replacement or disappearance of, LIBOR and other "benchmarks" may adversely affect the rates of interest System institutions pay on and the value of and return on their financial instruments (including changes to their value and liquidity, return, and usefulness for intended purpose). Moreover, if LIBOR is replaced, System institutions will need to take steps to restructure their debt, loans and derivatives, which could adversely affect our operations. Alternative reference rates that may replace LIBOR, including SOFR for U.S. dollar transactions, may not yield the same or similar economic results as LIBOR over the lives of the financial instruments. There can be no guarantee that SOFR will become the dominant alternative to U.S. dollar LIBOR or that SOFR will be widely used and other alternatives may or may not be developed and adopted with additional consequences.

System institutions are currently evaluating the potential impact on the System of the eventual replacement of the LIBOR benchmark interest rate, including the possibility of using SOFR or other alternative rates as the alternative to LIBOR. While each System institution is required by the FCA to have a transition plan, the transition from LIBOR to SOFR or other alternative rates is expected to be complex and to include the development of term and credit adjustments to minimize, to the extent possible, discrepancies between LIBOR and SOFR or other alternative rates. Accordingly, the transition may introduce additional basis risk for market participants, including when an alternative index, e.g., SOFR, exists in conjunction with LIBOR. In addition, we cannot anticipate how long it will take to develop the systems and processes necessary to adopt SOFR or other benchmark replacements, which may delay and contribute to uncertainty and volatility surrounding the LIBOR transition.

There is considerable uncertainty as to how the financial services industry will address the discontinuance of LIBOR. This uncertainty could result in disputes and litigation with investors, counterparties and borrowers surrounding the implementation of alternative reference rates in financial instruments that reference LIBOR. If LIBOR ceases or changes in a manner that causes regulators or market participants to question its viability, financial instruments indexed to LIBOR could experience disparate outcomes based on their contractual terms, ability to amend those terms, market or product type, legal or regulatory jurisdiction, and a host of other factors. There can be no assurance that legislative or regulatory actions will dictate what happens if LIBOR ceases or is no longer viable, or what those actions might be.

The System's loans and investment securities are subject to prepayment risk and interest rate fluctuations that may adversely affect our results of operations and financial condition.

During periods of declining interest rates, the borrower under a loan or the issuer of an investment security may exercise its option to prepay principal earlier than scheduled, forcing the System to reinvest the proceeds from such prepayment in lower yielding loans or securities, which may result in a decline in the System's earnings. A range of prepayment options exists on the System's fixed and floating-rate loans. These options range from loans with "make-whole" prepayment fee provisions (i.e., the borrower pays an additional amount when the loan is prepaid to cover the loss from the residual higher-cost funding that can occur as a result of the prepayment) to loans that may be prepaid without any prepayment fee provisions. A borrower may choose to prepay a loan if, for example, the borrower can refinance the loan at a lower cost due to declining interest rates or an improvement in the credit standing of the borrower. Similar prepayment risks exist with respect to the System's investments, including its mortgage- and asset-backed securities. In addition, the market price of such investments will change in response to changes in interest rates and other factors. During periods of declining interest rates, the market price of fixed-rate debt investments generally rises. Conversely, during periods of rising interest rates, the market price of such investments generally declines. The magnitude of these fluctuations in the market price of debt investments is generally greater for securities with longer maturities.

Each Bank and Association depends on the accuracy and completeness of information about its customers and counterparties.

In deciding whether to extend credit or enter into transactions with customers and counterparties, the Banks and Associations may rely on information furnished to them by or on behalf of customers and counterparties, including financial statements and other financial information. The Banks and Associations also may rely on representations of customers and counterparties as to the accuracy and completeness of that information and, with respect to financial statements, on reports of independent registered public accounting firms. If the financial or other information provided to them is incorrect, the Banks and Associations could suffer credit losses or other consequences.

The Banks and Associations may lend only to qualified borrowers in the agricultural and rural sectors and certain related entities and are subject to geographic lending restrictions.

Unlike commercial banks and other financial institutions that lend to both the agricultural sector and other sectors of the economy, the Banks and Associations are restricted solely to making loans and providing financial services to qualified, eligible borrowers in the agricultural and rural sectors and to certain related entities. In addition, certain Banks and Associations are subject to particular geographic lending restrictions. As a result, the Banks and Associations have more limited flexibility in attempting to diversify their loan portfolios as compared with many commercial banks and other financial institutions. Concentration of risk in industries, geographies and individual borrowers may limit the ability to offset adverse performance in one sector against positive performance in another sector compared to other more diversified commercial banks and financial institutions.

The System's accounting policies and methods are key to how it reports its financial condition and results of operations, and in some cases may require System institutions' managements to make estimates about matters that are inherently uncertain.

The System's accounting policies, methods and estimates are fundamental to how it records and reports its financial condition and results of operations. System institutions' managements must exercise judgment in selecting and applying many of these accounting policies, methodologies, and estimates so that they not only comply with generally accepted accounting principles in the U.S. and reflect best practices but also reflect managements' judgments as to the most appropriate manner in which to record and report the financial condition and results of operations. In addition, different management teams of System institutions may make different judgements on similar matters. Inappropriate policies, methods and estimates, or the misapplication of accounting policies, methods or estimates could adversely affect the financial condition or results of operations of the System.

From time to time, the Financial Accounting Standards Board changes the financial accounting standards that govern the preparation of our financial statements. These changes are beyond our control and can be difficult to predict and could impact how we report our financial condition and results of operations.

We could be required to apply a new or revised accounting standard retrospectively, which may result in the revision of prior period financial statements by material amounts. The implementation of new or revised standards also could result in a change to a Bank's or Association's capital position and subject it to increased oversight by the Farm Credit Administration or limit its ability to participate in the issuance of Systemwide Debt Securities. See "Federal Regulation and Supervision of the Farm Credit System — Farm Credit Administration Regulations — Bank Collateral Requirements" and "— Capital Adequacy" and "Description of Systemwide Debt Securities — Repayment Protections — Agreements Among Certain System Institutions."

The determination of the amount of allowance for loan losses and impairments taken on our assets is highly subjective and these estimates could materially impact our results of operations or financial condition.

The determination of the amount of loss allowances and asset impairments varies by asset type and is based upon the periodic evaluation and assessment of known and inherent risks associated with the respective asset class by System institutions' managements. Such evaluations and assessments are revised as conditions change and new information becomes available. The managements of System institutions update their evaluations regularly and reflect changes in allowances and impairments in operations as such evaluations are revised. These evaluations are subjective and additional impairments may need to be taken or allowances provided in the future. Historical trends may not be indicative of future impairments or allowances.

Our risk management framework may not be effective in mitigating risk and reducing the potential for significant losses.

Our risk management framework is designed to manage risk and minimize loss to us. We seek to identify, measure, monitor, report and control our exposure to the types of risk to which we are subject, including credit, market, liquidity, operational and reputational risks, among others. While we employ a broad and diversified set of risk monitoring and mitigation techniques, those techniques are inherently limited because they cannot anticipate the existence or future development of currently unanticipated or unknown risks. For example, increases in the overall complexity of our operations, among other developments, have resulted in the creation of a variety of previously unanticipated or unknown risks, highlighting the intrinsic limitations of our risk monitoring and mitigation techniques. As such, we may incur future losses due to the development of such previously unanticipated or unknown risks.

Also, because System institutions are not commonly owned or controlled, each System institution is responsible for its own risk management. Moreover, there is no formal process or procedure in place to mandate Systemwide risk mitigation actions, including, but not limited to, reducing concentration, interest rate and counterparty credit risk across the System. As a result, the System's risk management framework may not be effective in mitigating risk and reducing the potential for significant losses due to this inability to mandate risk mitigation actions across the System.

A failure or circumvention of our controls and procedures could have an adverse effect on our business, results of operations and financial condition.

Each System entity regularly reviews and updates its internal controls, disclosure controls and procedures, and corporate governance policies and procedures. The design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote. In addition, while we continue to evaluate our internal controls, we cannot be certain that these measures will ensure that we implement and maintain adequate controls over our financial processes and reporting in the future. Any failure or circumvention of a System institution's controls and procedures or failure to comply with regulations related to controls and procedures could have an adverse effect on the System's business, results of operations and financial condition. Also, because System institutions are not commonly owned or controlled, as mentioned above, each System institution is responsible for its own controls and procedures. As a result, the System's control framework, no matter how well designed and operated, does not provide absolute assurance that the objectives of the control systems are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud or errors can be detected.

Our structure may impact our ability to issue combined financial statements within regulatory timeframes.

The structure of the System, as a federally chartered network of interdependent, cooperatively owned lending institutions, may present challenges to timely financial reporting and the assessment of internal control over financial reporting. Our decentralized reporting structure impacts how the Banks and Associations meet their regulatory disclosure obligations including, together with the Funding Corporation, the responsibility to produce the System's combined financial statements and to assure that there are adequate disclosure controls and procedures and internal control over financial reporting in connection with such production. To facilitate compliance with these regulatory mandates, the Banks and Associations have agreed to disclosure policies and procedures. Since no single System institution has the corporate or direct regulatory authority to compel any other System institution to disclose information or to establish and maintain disclosure controls and procedures or internal control over financial reporting, production of the System's combined financial statements and the establishment of adequate controls is dependent on System institutions themselves satisfying their regulatory obligations and the Banks' and Associations' compliance with the agreed upon disclosure policies and procedures. Failure by any System institution to provide required information for financial reporting, or to have adequate disclosure controls or procedures or internal control over financial reporting, as required by regulation or as agreed to under the disclosure policies and procedures may delay the timely publication of the System's combined financial statements.

Our business may be directly and indirectly affected by unfavorable weather conditions or natural disasters that reduce agricultural production and the ability of System borrowers to make payments on our loans.

Adverse weather conditions, particularly during the planting and early growing season, can significantly affect agricultural production, with the timing and quantity of rainfall being two of the most important factors in agricultural production. Insufficient levels of rain prevent farmers from planting new crops and may cause growing crops to die or result in lower yields. Excessive rain or flooding can prevent planting from occurring at optimal times, and may cause crop loss through increased disease or mold growth. Temperatures outside normal ranges can also cause crop failure or decreased yields, and may also increase disease incidence. Temperature affects the rate of growth, crop maturity and crop quality. Natural calamities such as regional floods, wildfires, hurricanes or other storms, and droughts can have significant negative effects on agricultural and livestock production. The resulting negative impact on farm income can strongly affect the ability for System borrowers to make timely payments on our loans or at all.

Our ability to attract and retain qualified employees is critical to our success and failure to do so could adversely affect our results of operations and competitive position.

Our success depends on our ability to recruit and retain key executive officers and other skilled professional employees. We compete against other financial institutions for highly skilled executive officers and professional employees. Many of these financial institutions offer wage and benefit packages that exceed our wage and benefit packages. As a result, in the future, we may have to significantly increase wages and benefits in order to attract and retain qualified personnel. The inability to attract and retain an appropriately qualified workforce could result in operational failures that could adversely affect our financial condition and results of operations and internal control over financial reporting.

OTHER BUSINESS MATTERS

Related Party Transactions

In the ordinary course of business, the Banks and Associations may enter into loan transactions with their officers and directors and non-System organizations with which such persons may be associated. These loans are subject to special approval requirements contained in Farm Credit Administration regulations and are, in the view of the System institutions' management, made on the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with unrelated borrowers. As of December 31, 2019 and 2018, all related party loans were made in accordance with established policies and the same terms as those prevailing at the time for comparable transactions, except for one loan to a company affiliated with an individual who served as a System institution director at the time the loan was made, which was $1.3 million at December 31, 2018. The interest rate on this loan was marginally lower than the rate on similar loans to unrelated borrowers.

Total loans outstanding to related parties were $2.7 billion and $2.4 billion at December 31, 2019 and 2018. During 2019 and 2018, $3.5 billion and $2.7 billion of new loans were made to such persons and repayments totaled $3.2 billion and $2.5 billion. In the opinions of Bank and Association managements, all such loans outstanding at December 31, 2019 and 2018 did not involve more than a normal risk of collectability, except for loans to one Association director totaling $548 thousand in 2019 and loans to four Association directors totaling $12.7 million in 2018.

Legal Proceedings

On June 13, 2016, a lawsuit was commenced by the filing of a complaint in the United States District Court Southern District of New York against CoBank by a number of investors who held CoBank's 7.875% Subordinated Notes due in 2018. For additional information, see Note 19 to the accompanying combined financial statements.

On November 4, 2016, an alleged class action complaint was filed in the Supreme Court of the State of New York against AgriBank by a purported beneficial owner of AgriBank's 9.125% subordinated notes due in 2019. For additional information, see Note 19 to the accompanying combined financial statements.

At December 31, 2019, various other lawsuits were pending or threatened against System institutions. Each System institution to which a pending or threatened lawsuit relates intends to vigorously defend against such action. In the opinion of management, based on information currently available and taking into account the advice of legal counsel, the ultimate liability, if any, of pending or threatened legal actions will not have a material adverse impact on the System's combined results of operations or financial condition.

Changes in and Disagreements with the Independent Registered Public Accounting Firm of the Combined Financial Statements of the Farm Credit System

During the fiscal year ended December 31, 2019 and through the date of this annual information statement, there have been no changes in or disagreements with the independent registered public accounting firm of the combined financial statements of the System.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Management's discussion and analysis provides a narrative on the System's financial performance and condition that should be read in conjunction with the accompanying financial statements. It includes the following sections:

- Basis of Presentation
- Forward-Looking Information
- Critical Accounting Policies
- 2019 Overview
- Agricultural Outlook
- System Organizational and Structural Matters
- Results of Operations
- Fourth Quarter 2019 Results of Operations
- Risk Management
- Regulatory Matters
- Recently Adopted or Issued Accounting Pronouncements

Basis of Presentation

The System is a federally chartered network of interdependent, borrower-owned lending institutions (Banks and Associations) and affiliated service organizations. Through our three Farm Credit Banks, one Agricultural Credit Bank and 68 Associations (as of December 31, 2019), we support rural communities and agriculture with reliable, consistent credit and financial services nationwide to farmers, ranchers, producers or harvesters of aquatic products, their cooperatives and farm-related businesses. We also make loans to finance the processing and marketing activities of these borrowers and make loans or provide credit enhancements to other banks to support the export of U.S. agricultural commodities or supplies. In addition, we make loans to rural homeowners, rural infrastructure providers and other eligible borrowers.

The combined financial statements and related financial information contained in this annual information statement present the combined assets, liabilities, capital, income and expenses of the Banks, the Associations, the Federal Farm Credit Banks Funding Corporation and the Farm Credit Insurance Fund, and reflect the investments in and allocated earnings of certain service organizations owned by the Banks or Associations. All significant intra-System transactions and balances have been eliminated in combination. (See Note 1 to the accompanying combined financial statements for additional information on organization, operations and principles of combination and the Supplemental Combining Information on pages F-69 through F-76.) This annual information statement has been prepared under the oversight of the System Audit Committee.

Our financial statements are presented on a combined basis due to the financial and operational interdependence of System entities as discussed in the "Business" section in this annual information statement. While this annual information statement reports on the combined financial condition and results of operations of the Banks, Associations and other System entities specified above, only the Banks are jointly and severally liable for the payments on Systemwide Debt Securities. Each Bank is primarily liable for the payment of principal and interest on Systemwide Debt Securities issued to fund its operations. (See Notes 12 and 21 to the accompanying combined financial statements for information about the capital of the Banks and the Supplemental Combining Information on pages F-69 through F-71 for information related to the financial condition of the combined Banks.) Because the Associations are not directly liable for the payment of principal or interest on Systemwide Debt Securities, their capital may not be available to support those payments. Under the Farm Credit Act, the timely payment of the principal and interest on Systemwide Debt Securities is insured by the Farm Credit System Insurance Corporation to the extent funds are available in the Insurance Fund. (See Note 7 to the accompanying combined financial statements.)

Forward-Looking Information

Certain sections of this annual information statement contain forward-looking statements concerning financial information and statements about future economic performance and events, plans and objectives and assumptions underlying these projections and statements. These projections and statements are not based on historical facts but instead represent our current assumptions and expectations regarding our business, the economy and other future conditions. However, actual results and developments may differ materially from our expectations and forecasts due to a number of risks and uncertainties, many of which are beyond our control. Forward-looking statements can be identified by words such as “anticipates,” “believes,” “could,” “estimates,” “may,” “should,” “will,” or other variations of these terms that are intended to reference future periods.

These statements are not guarantees of future performance and involve certain risks and uncertainties and actual results may differ from those in the forward-looking statements as a result of various factors. These risks and uncertainties include, but are not limited to:

- political, legal, regulatory, financial market and economic conditions and/or developments in the U.S. and abroad;
- economic fluctuations in the agricultural, rural infrastructure, international, and farm-related business sectors;
- adverse weather-related events, food safety, disease, pandemics and other unfavorable conditions that periodically occur that impact agricultural productivity and income;
- changes in U.S. government support of the agricultural industry and the System as a government-sponsored enterprise, as well as investor and rating agency reactions to events involving the System, the U.S. government, other government-sponsored enterprises and other financial institutions;
- actions taken by the Federal Reserve System in implementing monetary policy;
- credit, interest rate and liquidity risk inherent in our lending activities;
- the replacement of LIBOR and the implementation of Secured Overnight Financing Rate (SOFR) or other benchmark interest rates;
- changes in our assumptions for determining the allowance for loan losses, other-than-temporary impairment and fair value measurements; and
- industry outlooks for agricultural conditions.

Critical Accounting Policies

The System’s financial statements are reported in conformity with generally accepted accounting principles in the U.S. Our significant accounting policies are critical to the understanding of our results of operations and financial condition because some accounting policies require us to make complex or subjective judgments and estimates that may affect the reported amounts of certain assets or liabilities. We consider these policies as critical because managements of System institutions have to make judgments about matters that are inherently uncertain. For a complete discussion of the System’s significant accounting policies, see Note 2 to the accompanying combined financial statements. The following is a summary of certain of our most significant critical accounting policies.

- Allowance for loan losses — The allowance for loan losses represents the aggregate of each System entity’s individual evaluation of its allowance for loan losses requirements. The allowance for loan losses is maintained at a level considered adequate to provide for probable losses existing and inherent in each entity’s loan portfolio. The allowance for loan losses is increased through provisions for loan losses and loan recoveries and is decreased through loan loss reversals and loan charge-offs. Each Bank and Association determines its allowance for loan losses based on periodic evaluation of its loan portfolio in which numerous factors are considered, including economic conditions, collateral values, loan portfolio composition, borrowers’ financial conditions and prior loan loss experience. The allowance for loan losses encompasses various judgments, evaluations and appraisals with respect to the System’s loans and their underlying security that, by their nature, contain elements of uncertainty and imprecision. Management of each System entity also applies judgment to adjust various loss factors, taking into consideration model imprecision, external factors and economic events that have not yet been reflected in the loss factors.

  The allowance for loan losses includes components for loans individually evaluated for impairment, loans collectively evaluated for impairment and loans acquired with deteriorated credit quality.

Certain Banks and Associations have established a reserve for unfunded commitments that provides for potential losses related to unfunded commitments and is maintained at a level that is considered the best estimate of the amount required to absorb probable losses related to these unfunded commitments. The reserve is determined using a similar methodology as used for the allowance for loan losses taking into account the probability of funding the commitment. The reserve for unfunded commitments is recorded as a liability in the Combined Statement of Condition.

Changes in the factors considered by the management of each Bank and Association in the evaluation of losses in its loan portfolio and unfunded commitments could result in a change in the allowance for loan losses or reserve for unfunded commitments and could have a direct impact on the provision for loan losses and the results of operations.

- Valuation methodologies — Managements of the System entities use market prices for determining fair values for certain assets and liabilities for which an observable liquid market exists. However, when no liquid market exists, managements of the System entities apply various valuation methodologies to assets and liabilities that often involve a significant degree of judgment. Examples of these items include impaired loans and investments, pension and other postretirement benefit obligations, and certain derivative and other financial instruments. These valuations require the use of various assumptions, including, among others, discount rates, rates of return on assets, repayment rates, cash flows, default rates, costs of servicing and liquidation values. The use of different assumptions could produce significantly different results, which could have material positive or negative effects on the System's results of operations.
- Pensions — The Banks and substantially all Associations sponsor defined benefit retirement plans, all of which are closed to new participants. These plans are noncontributory and benefits are based on salary and years of service. In addition, the Banks and Associations sponsor defined contribution retirement savings plans. Pension expense for all plans is recorded as part of salaries and employee benefits and other expense. Pension expense is determined by using independent third party actuarial valuations based on certain assumptions, including expected long-term rates of return on plan assets and discount rates. The expected return on plan assets for the year is calculated based on the composition of assets at the beginning of the year and the expected long-term rate of return on that portfolio of assets. The discount rate is used to determine the present value of our future benefit obligations.

2019 Overview

General

The System's combined net income was $5.446 billion for 2019, $5.332 billion for 2018 and $5.189 billion for 2017. The increase in net income for 2019 resulted primarily from an increase in net interest income of $290 million and decreases in the provision for loan losses of $25 million and the provision for income taxes of $23 million, partially offset by an increase in noninterest expense of $180 million and a decrease in noninterest income of $44 million. The increase in net interest income for 2019 resulted primarily from a higher level of average earning assets, partially offset by a lower net interest spread. Average earning assets, primarily loans, grew $16.549 billion or 5.1% to $341.329 billion for 2019, as compared with the prior year.

The System's loan portfolio increased $13.586 billion or 5.0% to $286.964 billion at December 31, 2019, as compared with $273.378 billion at December 31, 2018, primarily due to growth in the real estate mortgage, processing and marketing and production and intermediate-term loans.

The System's nonperforming assets totaled $2.347 billion at December 31, 2019, as compared with $2.282 billion at December 31, 2018, representing 0.82% and 0.83% of total loans and other property owned for the corresponding periods. The System's capital to assets ratio was 16.9% at December 31, 2019, as compared with 16.7% at December 31, 2018.

Funding

The System continues to have reliable access to the debt capital markets to support its mission of providing credit and financial services to agriculture, rural infrastructure and rural communities. During 2019, investor demand for Systemwide Debt Securities remained favorable across all products.

The System is a government-sponsored enterprise that continues to benefit from broad access to domestic and global capital markets. This access provides us with a dependable source of competitively priced debt which is critical for supporting our mission of providing credit to agriculture and rural America.

Agricultural Outlook

Overview

Production agriculture is a cyclical business that is heavily influenced by commodity prices, weather, government policies (including tax, trade, crop insurance, periodic aid, etc.), interest rates and various other factors that affect supply and demand. The System utilizes the U.S. Department of Agriculture (USDA) analysis to provide a general understanding of the U.S. agricultural economic outlook; however, this outlook does not take into account all aspects of our business or events that occurred subsequent to its issuance. References to USDA information in this section refer to U.S. agricultural market data and not System data.

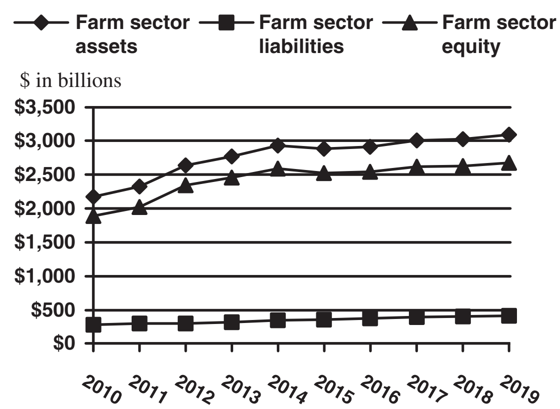
Farm Sector Income & Finances

Agricultural production is a major use of land in the United States and the value of farm real estate accounted for 83% of the total value of the U.S. farm sector assets for 2019 according to the USDA in its February 5, 2020 forecast. Because real estate is such a significant component of the balance sheet of U.S. farms, the value of the farm real estate is a critical measure of the farm sector's financial performance. Changes in farmland values also affect the financial well-being of agricultural producers because farm real estate serves as the principal source of collateral for farm loans.

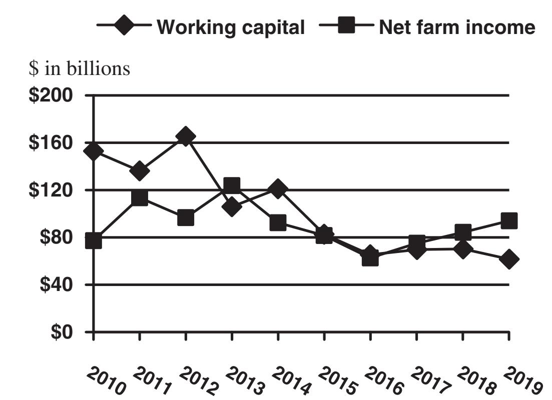
USDA's most recent forecast anticipates that farm sector equity, the difference between farm sector assets and debt, is predicted to rise 1.9% in 2019. Farm real estate value is expected to increase 1.8% and non-real estate farm assets are expected to increase 3.4%, while farm sector debt is forecast to increase 3.4% in 2019. Farm real estate debt as a share of total debt has been rising since 2014 and is expected to account for 61.7% of total farm debt in 2019.

The USDA is forecasting farm sector solvency ratios to increase slightly in 2019 to 15.5% for the debt-to-equity ratio and 13.5% for the debt-to-asset ratio, which represent the second highest levels since 2009, but well below the peak of 28.5% and 22.2% in 1985. Working capital (which is defined as cash and cash convertible assets minus liabilities due to creditors within 12 months) is forecast to decline 12.7% in 2019 to $61 billion from $70 billion in 2018. Farm sector working capital has steadily declined since peaking at $165 billion in 2012.

The following chart illustrates USDA data on the farm sector balance sheet for the past ten years:



The following chart illustrates USDA data on working capital and net farm income for the past ten years:



The USDA's most recent forecast estimates net farm income (income after expenses from production in the current year; a broader measure of profits) for 2019 at $93.6 billion, a $9.8 billion increase from 2018, $6.8 billion above the 10-year average and 24.3% below its peak of $123.7 billion in 2013. The forecasted increase in net farm income for 2019, compared with 2018 is primarily due to increases in direct government payments of $10.0 billion to $23.7 billion, primarily driven by higher payments from the Market Facilitation Program (MFP). The MFP was first implemented in 2018 and continued in 2019 to assist farmers impacted by trade disruptions.

The USDA's outlook projects net farm income for 2020 to increase to $96.7 billion, a $3.1 billion or 3.3% increase from 2019. The forecasted increase in net farm income for 2020 is primarily due to expected increases in cash receipts for animals and animal products of $8.2 billion and crop receipts of $1.9 billion, partially offset by an $8.7 billion decrease in direct government payments due to an expected decline in payments from the MFP. The increase in animals and animal products receipts reflects growth in hogs, milk, cattle and poultry/eggs receipts, while the crop receipts are driven by fruit/nuts and corn. Soybeans receipts are anticipated to decrease as lower quantities outweigh an increase in price.

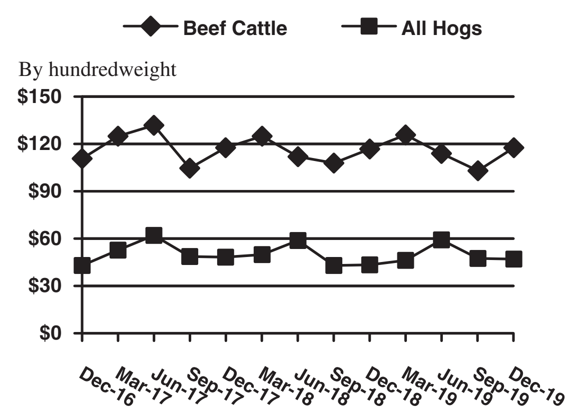
Commodity Review

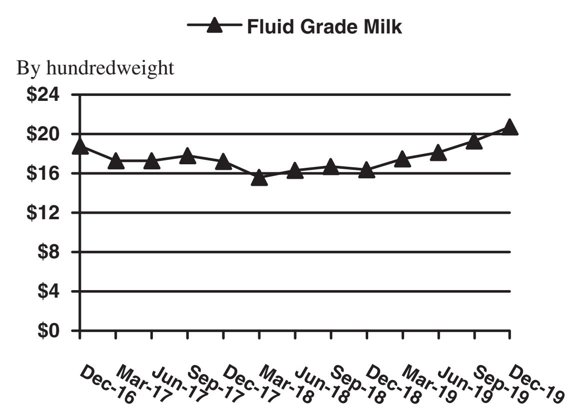
Expected agricultural commodity prices can influence production decisions of farmers and ranchers on planted/harvested acreage of crops or inventory of livestock and thus, affect the supply of agricultural commodities. Greater area of planted/harvested acreage and increased crop yields for some crops in recent years have contributed to increased supply, which exceeded demand. Also impacting yields are the growing conditions that are sensitive to weather conditions. Although not generally affected by weather, livestock and dairy prices are linked to crop prices as feed is a significant input cost to these producers.

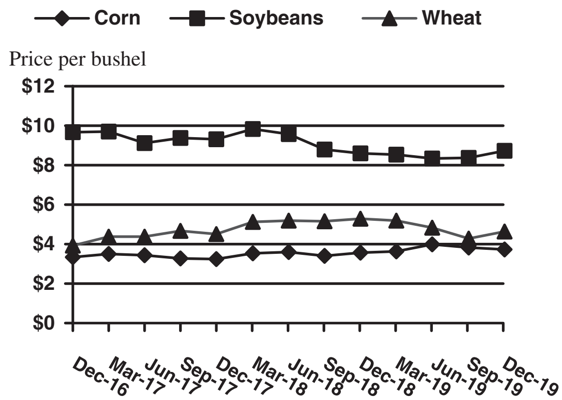
Global economic conditions also influence demand for food and agricultural products, which affects U.S. agricultural trade. Therefore, U.S. exports and imports shift to reflect changes in trade policies, world population and economic growth. Also impacting U.S. agricultural trade is global supplies and prices, changes in the value of the U.S. dollar and the government support for agriculture.

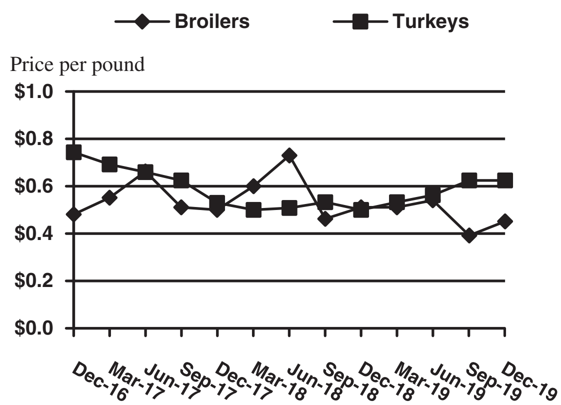
Severe wet weather in the Midwest during 2019 adversely affected growing conditions in some production areas. In addition, farmers in certain parts of the United States were also impacted by inclement weather during the fall harvest. The impact of the weather related conditions on production agriculture was partially offset by crop insurance proceeds. In addition to weather related challenges, reduced exports resulting from the trade tensions with China added to the already challenging agricultural economy. During 2018 and 2019, the MFP provided a material boost in farm sector income and in early 2020, the United States and China agreed to a "phase one" trade deal, which includes a significant commitment from China to buy agricultural products, among other items. However, the recent spread of the coronavirus (COVID-19) has created uncertainty about China's economic outlook and its ability to fulfill phase one commitments. Furthermore, African swine fever, which has been negatively impacting Asian hog production, may produce increased U.S. exports of pork and other protein products but could also negatively affect U.S. soybean exports.

The following charts set forth certain agricultural commodity prices, utilizing the average monthly price for the last month of each quarter by hundredweight for beef cattle, hogs and milk, per bushel for corn, soybeans and wheat and by pound for poultry, on certain dates during the period from December 31, 2016 to December 31, 2019:









The agricultural environment has been challenging during the past several years for many commodities. Currency fluctuations, ample inventories and U.S. trade policies, including retaliatory actions by other countries, have adversely impacted demand and prices for agricultural exports. This has reduced net farm income and eroded working capital from peak levels in 2012. The agriculture sector continues to adjust to market conditions. While producers' financial performance generally has been negatively impacted, MFP, crop insurance and producer operating adjustments have helped offset the severity of stress during the past two years.

Looking ahead, it is unclear whether a MFP will be implemented for the 2020 crop year. In addition, there remains considerable uncertainty surrounding potential U.S. agricultural export volumes going forward. As a result, the System's financial performance and credit quality may be negatively impacted but is expected to remain sound overall. Additionally, geographic and commodity diversification across the System coupled with off-farm income support for many borrowers helps to mitigate the impact of periods of less favorable agricultural conditions. While the System benefits overall from diversification, certain System institutions have higher geographic, commodity and borrower concentrations, which, during times of less favorable agricultural conditions, may accentuate the negative impact on those institutions' financial performance and credit quality.

Market Share

The USDA estimated in February 2020 that the System's market share of farm business debt (defined as debt incurred by those involved in on-farm agricultural production) increased slightly to 41.4% at December 31, 2018 (the latest available data), as compared with 40.5% at December 31, 2017.

System Organizational and Structural Matters

The following table summarizes the structural changes of the System over the past five years:

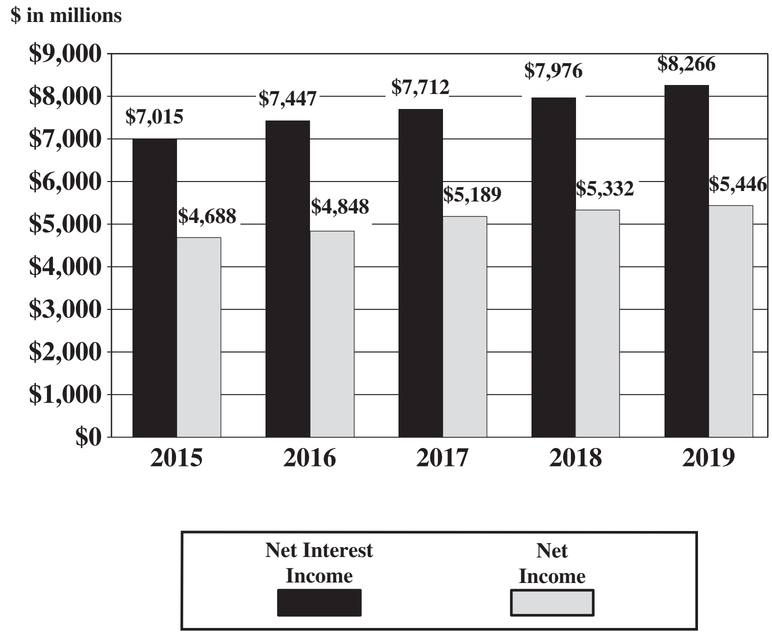
	Banks	Associations	Total
Entities at January 1, 2015	4	76	80
Net changes through January 1, 2019	–	(7)	(7)
Entities at January 1, 2019	4	69	73
Net changes through January 1, 2020	–	(1)	(1)
Entities at January 1, 2020	4	68	72

Over the past several years, the number of Associations has declined as a result of mergers with other Associations.

(For additional information regarding mergers, see Note 11 to the accompanying combined financial statements.)

Results of Operations

The following chart illustrates the System's net interest income and net income for the past five years:



Earnings Analysis

Changes in the key components impacting the System's results of operations over the past three years are summarized below:

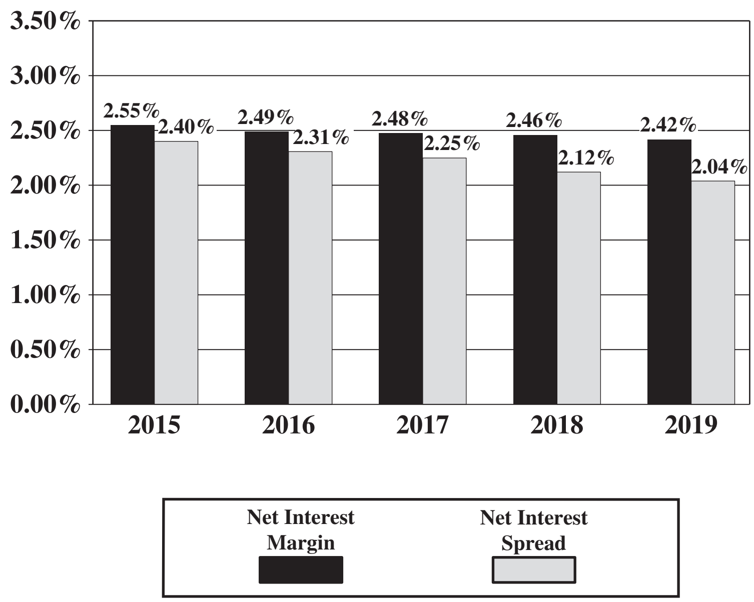
	2019 vs. 2018	2018 vs. 2017
	(in millions)	
Increase (decrease) in net income due to:		
Interest income	$ 1,339	$ 2,034
Interest expense	(1,049)	(1,770)
Net interest income	290	264
Provision for loan losses	25	3
Noninterest income	(44)	92
Noninterest expense	(180)	(128)
Provision for income taxes	23	(88)
Net change in net income	$ 114	$ 143

Net Interest Income

Net interest income was $8.266 billion in 2019, $7.976 billion in 2018 and $7.712 billion in 2017. Net interest income is the difference between interest income and interest expense. Net interest income is the principal source of earnings for the System and is impacted by volume, rates on interest-bearing assets and liabilities and funding from noninterest-bearing sources (principally capital). The effects of changes in volume and interest rates on net interest income over the past three years are presented in the following table. The table distinguishes between the changes in interest income and interest expense related to average outstanding balances and the levels of average interest rates. The change in the benefit derived from funding earning assets with noninterest-bearing sources (principally capital) is reflected solely as an increase in volume.

	2019 vs. 2018 Increase (decrease) due to			2018 vs. 2017 Increase (decrease) due to		
	Volume	Rate	Total	Volume	Rate	Total
	(in millions)					
Interest income:						
Loans	$658	$ 466	$1,124	$499	$1,176	$1,675
Investments	65	150	215	43	316	359
Total interest income	723	616	1,339	542	1,492	2,034
Interest expense:						
Systemwide Debt Securities and other	286	763	1,049	174	1,596	1,770
Changes in net interest income	$437	$(147)	$ 290	$368	$ (104)	$ 264

The following chart illustrates the System's net interest margin and net interest spread trends for the past five years:



The following table presents interest rate spreads, components of interest rate spreads, the details of the changes in interest rates earned and paid, and the impact of those changes on interest rate spreads for the past three years:

	2019			2018			2017		
	Average Balance	Interest	Rate	Average Balance	Interest	Rate	Average Balance	Interest	Rate
				($ in millions)					
Assets									
Real estate mortgage loans	$126,698	$ 6,377	5.03%	$121,773	$ 5,924	4.86%	$116,200	$ 5,272	4.54%
Production and intermediate-term loans	52,160	2,700	5.18	48,984	2,410	4.92	48,288	2,114	4.38
Agribusiness loans	48,259	2,249	4.66	45,373	1,977	4.36	41,359	1,482	3.58
Rural infrastructure loans	29,289	1,326	4.53	28,430	1,257	4.42	27,718	1,120	4.04
Rural residential real estate loans	7,328	333	4.54	7,208	321	4.45	7,154	313	4.38
Agricultural export finance loans	6,366	203	3.19	5,951	169	2.84	5,633	111	1.97
Lease receivables	3,545	137	3.86	3,525	129	3.66	3,442	121	3.52
Loans to other financing institutions	814	23	2.83	830	21	2.53	827	15	1.81
Nonaccrual loans	1,963	78	3.97	1,872	94	5.02	1,630	79	4.85
Total loans	276,422	13,426	4.86	263,946	12,302	4.66	252,251	10,627	4.21
Federal funds sold, investments and other interest-earning assets	64,907	1,593	2.45	60,834	1,378	2.27	58,711	1,019	1.74
Total earning assets	341,329	15,019	4.40	324,780	13,680	4.21	310,962	11,646	3.75
Allowance for loan losses	(1,753)			(1,657)			(1,547)		
Other noninterest-earning assets	12,930			11,985			11,653		
Total assets	$352,506			$335,108			$321,068		
Liabilities and Capital									
Systemwide bonds and medium-term notes	$264,046	$ 6,262	2.37%	$248,231	$ 5,270	2.12%	$232,868	$ 3,677	1.58%
Systemwide discount notes	18,776	445	2.37	21,460	394	1.84	25,238	233	0.92
Other interest-bearing liabilities	3,032	46	1.52	2,954	40	1.35	3,414	24	0.70
Total interest-bearing liabilities	285,854	6,753	2.36	272,645	5,704	2.09	261,520	3,934	1.50
Noninterest-bearing liabilities	5,528			5,049			4,894		
Capital	61,124			57,414			54,654		
Total liabilities and capital	$352,506			$335,108			$321,068		
Net interest spread(1)			2.04			2.12			2.25
Impact of noninterest-bearing sources			0.38			0.34			0.23
Net interest income and margin(2)		$ 8,266	2.42%		$ 7,976	2.46%		$ 7,712	2.48%

(1) Net interest spread is the difference between the rate earned on total earning assets and the rate paid on total interest-bearing liabilities.
(2) Net interest margin is net interest income divided by average earning assets.

Earning assets are funded with both interest-bearing and noninterest-bearing sources (principally capital). Variations in average volume and the spreads earned on interest-bearing funds and capital determine changes in net interest income.

As illustrated in the preceding tables, the increase in net interest income in 2019, as compared with 2018, resulted primarily from an increase in the level of average earning assets, partially offset by a lower net interest spread. Average earning assets grew $16.549 billion or 5.1% to $341.329 billion for 2019, as compared with the prior year.

The net interest margin declined by four basis points to 2.42% for 2019, as compared with 2.46% for 2018, due to a decrease in the net interest spread of eight basis points to 2.04% for 2019, as compared with 2.12% for 2018, partially offset by a four basis point increase in income earned on earning assets funded by noninterest-bearing sources (principally capital). The decline in the net interest spread for 2019, as compared with 2018, was primarily attributable to an increase in debt costs and lower lending spreads due to continued competitive pressures.

Interest income recognized on cash-basis nonaccrual loans was $78 million for 2019, $94 million for 2018 and $79 million for 2017. Interest income is recognized on cash-basis nonaccrual loans only as interest payments are received and certain other conditions are met. Nonaccrual loans are returned to accrual status after a period of sustained payment performance provided they are current as to principal and interest, any previously charged off amounts have been collected, and the collectability of the remaining amounts of principal and interest are no longer in doubt.

The increase in net interest income in 2018, as compared with 2017, resulted primarily from an increase in the level of average earning assets. Average earning assets grew $13.818 billion or 4.4% to $324.780 billion for 2018. The net interest margin decreased two basis points to 2.46% for 2018, as compared with 2.48% for 2017. Negatively impacting the net interest margin was a decrease in the net interest spread of 13 basis points to 2.12% for 2018, as compared with net interest spread of 2.25% for 2017. The net interest margin was positively impacted by an 11 basis point increase in income earned on earning assets funded by noninterest-bearing sources (principally capital).

Provision for Loan Losses

Each Bank and Association makes its own determination whether an increase in its allowance for loan losses through a provision for loan losses or a decrease in its allowance for loan losses through a loan loss reversal is warranted based on its assessment of the credit risk in its loan portfolio.

The System recognized provisions for loan losses of $169 million for 2019, $194 million in 2018 and $197 million in 2017. The provision for loan losses in 2019 primarily reflected deterioration in credit quality in the agribusiness sector and the dairy, grain and cattle industries, as well as additional reserves due to increased credit risk exposure resulting from overall loan growth.

The 2018 provision for loan losses primarily reflected specific reserves associated with a limited number of customers in the agribusiness and rural power sectors, as well as increased credit risk exposure resulting from overall growth in loan volume. The provision for loan losses in 2018 also included industry-specific reserves related to the grain and dairy industries. The provision for loan losses recognized in 2017 primarily reflected industry-specific reserves for the livestock and grain industries, increased loan volume and slight deterioration in credit quality of certain sectors of the loan portfolio. Also included in the provision for loan losses for 2017 were specific reserves relating to certain processing and marketing cooperatives.

Noninterest Income

Noninterest income for each of the three years in the period ended December 31, 2019 is summarized in the following table:

	For the Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Financially related services income	$262	$258	$252
Loan-related fee income	253	244	246
Income earned on Insurance Fund assets	95	73	58
Mineral income	66	79	57
Operating lease income	26	23	27
Losses on extinguishment of debt	(47)	(15)	(47)
Net gains on derivative and other transactions	26	27	16
Net gains on sales of investments and other assets	25	50	14
Other noninterest income	5	16	40
Total noninterest income	$711	$755	$663

Noninterest income decreased $44 million or 5.8% in 2019 to $711 million, as compared with 2018. The decrease was primarily due to an increase in losses on extinguishment of debt of $32 million and a decrease in net gains on sales of investments and other assets of $25 million. During 2019, the Banks called debt totaling $54 billion, as compared to $29 million in the prior year. Partially offsetting these decreases in noninterest income was an increase in income earned on Insurance Fund assets of $22 million.

Noninterest income increased $92 million or 13.9% in 2018 to $755 million, as compared with 2017. Net gains on sales of investments and other assets increased $36 million during 2018 as investments were sold to manage liquidity and credit exposure. Mineral income increased $22 million reflecting higher oil and gas prices and production during 2018, as compared to 2017. Also contributing to the increase in noninterest income was a decrease in losses on extinguishment of debt of $32 million as loan prepayments slowed in 2018, as compared with 2017, due to rising interest rates. Partially offsetting these increases in noninterest income was a decrease in other noninterest income of $24 million.

Noninterest Expense

Noninterest expense for each of the three years in the period ended December 31, 2019 is summarized below:

	For the Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Salaries and employee benefits	$1,982	$1,883	$1,780
Occupancy and equipment expense	290	262	244
Purchased services	242	210	189
Other operating expense	737	722	729
Total operating expense	3,251	3,077	2,942
Net losses on other property owned	8	2	9
Total noninterest expense	$3,259	$3,079	$2,951

Noninterest expense increased $180 million or 5.8% to $3.259 billion for 2019, as compared with 2018, primarily due to increases in salaries and employee benefits, purchased services and occupancy and equipment expense.

Salaries and employee benefits increased $99 million or 5.3% in 2019 as a result of annual merit increases and higher staffing levels at certain System institutions. The System employed 15,331 full-time equivalents at December 31, 2019, a 3.2% increase, as compared with 14,850 full-time equivalents at December 31, 2018.

Occupancy and equipment expense increased $28 million or 10.7% for 2019, as compared to 2018, primarily due to increases in facilities and maintenance expenses.

Purchased services increased $32 million or 15.2% for 2019, as compared with 2018, primarily due to increases in digital, efficiency and process refinement projects and various other business initiatives.

Noninterest expense increased $128 million or 4.3% to $3.079 billion for 2018, as compared with 2017, primarily due to increases in salaries and employee benefits, purchased services and occupancy and equipment expense.

Salaries and employee benefits increased $103 million or 5.8% in 2018 as a result of annual merit increases and higher staffing levels at certain System institutions. The System employed 14,850 full-time equivalents at December 31, 2018, a 3.3% increase, as compared with 14,379 full-time equivalents at December 31, 2017.

Occupancy and equipment expense increased $18 million or 7.4% for 2018, as compared to 2017, primarily due to increases in facilities and maintenance expenses.

Purchased services increased $21 million or 11.1% for 2018, as compared with 2017, primarily due to increases in technology and other consulting services related to various business initiatives.

Operating expense statistics for each of the three years in the period ended December 31, 2019 are set forth below:

	For the Year Ended December 31,		
	2019	2018	2017
	($ in millions)		
Excess of net interest income over operating expense	$5,015	$4,899	$4,770
Operating expense as a percentage of net interest income	39.3%	38.6%	38.1%
Operating expense as a percentage of net interest income and noninterest income	36.2	35.2	35.1
Operating expense as a percentage of average loans	1.18	1.17	1.17
Operating expense as a percentage of average earning assets	0.95	0.95	0.95

Provision for Income Taxes

The System recorded provisions for income taxes of $103 million for 2019, $126 million in 2018 and $38 million in 2017. The System's effective tax rate decreased to 1.9% for 2019 from 2.3% for 2018. The decrease in effective tax rate was primarily attributable to a significant one-time benefit resulting from amendments to prior period tax returns to realize the benefit of certain equipment leasing transactions.

The provision for income taxes for 2017 reflected the benefit of $162 million in net deferred tax adjustments resulting from the enactment of federal tax legislation which, among other things, lowered the federal corporate tax rate from 35% to 21% beginning on January 1, 2018. In accordance with generally accepted accounting principles in the U.S., the change to the lower corporate tax rate led to a re-measurement of the deferred tax liabilities and deferred tax assets in 2017, the period of enactment. Our deferred tax liabilities primarily relate to depreciable assets associated with leases, while our deferred tax assets primarily relate to the allowance for loan losses and employee benefit plans.

As discussed in Note 2 to the accompanying combined financial statements, the System is comprised of both taxable and non-taxable entities. Taxable entities are eligible to operate as cooperatives for tax purposes and thus may elect to deduct from taxable income certain amounts allocated to borrowers as patronage distributions in the form of cash, stock or allocated retained earnings.

Fourth Quarter 2019 Results of Operations

The summary results of operations for the fourth quarter is presented below:

	For the Quarter Ended December 31,	
	2019	2018
	(in millions)	
Interest income	$ 3,666	$ 3,651
Interest expense	(1,550)	(1,622)
Net interest income	2,116	2,029
Provision for loan losses	(74)	(48)
Noninterest income	217	228
Noninterest expense	(896)	(859)
Income before income taxes	1,363	1,350
Benefit from (provision for) income taxes	28	(30)
Net income	$ 1,391	$ 1,320

Combined net income increased $71 million or 5.4% to $1.391 billion for the fourth quarter of 2019, as compared with $1.320 billion for the fourth quarter of 2018. The increase in the fourth quarter of 2019 combined net income resulted from an increase in net interest income of $87 million and from a benefit from income taxes of $28 million in the fourth quarter of 2019, as compared with a provision for income taxes of $30 million for the same period of the prior year, partially offset by increases in noninterest expense of $37 million and the provision for loan losses of $26 million.

Net interest income increased 4.3% to $2.116 billion for the fourth quarter of 2019, as compared with $2.029 billion for the prior year period. The increase primarily resulted from lower debt costs and a higher level of average earning assets due to increased loan volume. Average earning assets grew $16.035 billion or 4.9% to $346.034 billion for the fourth quarter of 2019, as compared with the same period of the prior year.

The net interest margin for the fourth quarter of 2019 declined to 2.45%, as compared with 2.46% for the same period of the prior year. The net interest margin was impacted by a three basis point decrease in income earned on earning assets funded by noninterest-bearing sources (primarily capital), partially offset by a two basis point increase in the net interest spread to 2.10%, as compared with 2.08% for the fourth quarter of 2018. The increase in the net interest spread was primarily due to lower debt costs.

The provision for loan losses was $74 million for the fourth quarter of 2019, as compared with $48 million for the same period of the prior year. The fourth quarter of 2019 provision for loan losses primarily reflected deterioration in credit quality, collateral revaluations and increased credit risk exposure resulting from overall loan growth.

Noninterest income decreased $11 million or 4.8% to $217 million for the fourth quarter of 2019, as compared with the fourth quarter of 2018. The decrease was primarily due to an increase in losses on extinguishment of debt of $12 million.

The increase of $37 million or 4.3% to $896 million in noninterest expense for the fourth quarter of 2019, as compared with the fourth quarter of 2018, was primarily due to an increase in salaries and employee benefits of $18 million driven by annual merit increases and increased staffing levels at certain System institutions and an increase in purchased services of $14 million.

The $28 million benefit from income taxes recognized in the fourth quarter of 2019 reflected a significant one-time benefit resulting from amendments to prior period tax returns to realize the benefit of certain equipment leasing transactions. As a result, the effective tax rate decreased to (2.1)% for the fourth quarter of 2019, as compared with 2.2% for the fourth quarter of 2018.

Risk Management

Overview

The System is in the business of making agricultural and other loans that require us to take certain risks. Management of risks inherent in our business is essential for our current and long-term financial performance. Prudent and disciplined risk management includes an enterprise risk management structure to identify emerging risks and evaluate risk implications of decisions and actions taken. Each System institution's goal is to mitigate risk, where appropriate, and to properly and effectively identify, measure, price, monitor and report risks in our business activities. Stress testing represents a component of each institution's risk management process. Each System institution is required by regulation to perform stress tests; however, the depth and frequency of these stress tests may vary by institution size and complexity.

The major types of risk for which we have exposure are:

- structural risk — risk inherent in our business and related to our structure (an interdependent network of lending institutions),
- credit risk — risk of loss arising from an obligor's failure to meet the terms of its contract or failure to perform as agreed,
- interest rate risk — risk that changes in interest rates may adversely affect our operating results and financial condition,
- liquidity risk — risk arising from our inability to meet obligations when they come due without incurring unacceptable losses, including our ability to access the debt market,
- operational risk — risk resulting from inadequate or failed internal processes or systems, errors by employees, fraud or external events,
- reputational risk — risk of loss resulting from events, real or perceived, that shape the image of the System or any of its entities, including the impact of investors' perceptions about agriculture, the reliability of System financial information, or the actions of any System institution, and
- political risk — risk of loss of support for the System and agriculture by the federal and state governments.

Structural Risk Management

Structural risk results from the fact that the System is comprised of Banks and Associations that are cooperatively owned, directly or indirectly, by their borrowers. While System institutions are financially and operationally interdependent, they are not commonly owned. Each System institution is responsible for its own risk management and there are no formal processes or procedures in place to mandate Systemwide risk mitigation actions, including, but not limited to, reducing credit risk concentration, interest rate and counterparty credit risk across the System. This structure at times requires action by consensus or contractual agreement. Further, there is structural risk in that only the Banks are jointly and severally liable for the payment of principal and interest on Systemwide Debt Securities. Although capital at the Association level reduces a Bank's credit exposure with respect to its wholesale loans to its affiliated Associations, this capital may not be available to support the payment of principal and interest on Systemwide Debt Securities.

In order to monitor the financial strength of each Bank and mitigate the risks of non-performance by each Bank of its obligations under the Systemwide Debt Securities, we utilize two integrated intra-System financial performance agreements — the Amended and Restated Contractual Interbank Performance Agreement, or CIPA, and the Third Amended and Restated Market Access Agreement, or MAA. Under provisions of the CIPA, a score (CIPA score) is calculated quarterly to measure the financial condition and performance of each District (a Bank and its affiliated Associations) using various ratios that take into account the District's and Bank's capital, asset quality, earnings, interest-rate risk and liquidity. The CIPA score is then compared against the agreed-upon standard of financial condition and performance that each District must achieve and maintain. The measurement standard established under the CIPA is intended to provide an early-warning mechanism to assist in monitoring the financial condition of each District. The performance standard under the CIPA is based on the average CIPA score over a four-quarter period.

The MAA is designed to provide for the timely identification and resolution of individual Bank financial issues and establishes performance criteria and procedures for the Banks that provide operational oversight and control over a Bank's access to System funding. The performance criteria set forth in the MAA are as follows:

- the defined CIPA scores,
- the Tier 1 Leverage ratio of a Bank, and
- the Total Capital ratio of a Bank.

For additional information on the regulatory capital ratios, see pages 82 and 83.

If a Bank fails to meet the MAA performance criteria, it will be placed into one of three categories. Each category gives the other System Banks and the Funding Corporation (collectively, the MAA Committee) progressively more control over a Bank that has declining financial performance under the MAA performance criteria. A "Category I" Bank is subject to additional monitoring and reporting requirements; a "Category II" Bank's ability to participate in issuances of Systemwide Debt Securities may, subject to the discretion of the MAA Committee, be limited to refinancing maturing debt obligations; and a "Category III" Bank may, subject to the discretion of the MAA Committee, not be permitted to participate in issuances of Systemwide Debt Securities. Decisions by the MAA Committee to permit, limit or prohibit a "Category II" or "Category III" Bank to participate in the issuance of Systemwide Debt Securities are subject to oversight and override by the Farm Credit Administration. A Bank exits these categories by returning to compliance with the agreed-upon performance criteria.

The criteria for the Tier 1 Leverage ratio and the Total Capital ratio are:

	Tier 1 Leverage Ratio	Total Capital Ratio
Category I	<5.0%	<10.5%
Category II	<4.0%	<8.0%
Category III	<3.0%	<7.0%

(See Note 21 for each Bank's Tier 1 Leverage and Total Capital ratios.)

During the three years ended December 31, 2019, all Banks met the agreed-upon standards of financial condition and performance (including those defined in the CIPA) as required by the MAA.

Credit Risk Management

Credit risk arises from the potential inability of an obligor to meet its payment obligation and exists in our outstanding loans, letters of credit, unfunded loan commitments, investment portfolios and derivative counterparty credit exposures. (See page 69 for a discussion regarding derivative counterparty exposure.) System institutions manage credit risk associated with their retail lending activities through an analysis of the credit risk profile of an individual borrower. Each Bank and Association has its own set of underwriting standards and lending policies, approved by its board of directors, that provides direction to its loan officers. Underwriting standards include, among other things, an evaluation of:

- character — borrower integrity and credit history,
- capacity — repayment capacity of the borrower based on cash flows from operations or other sources of income,
- collateral — protects the lender in the event of default and represents a potential secondary source of loan repayment,
- capital — ability of the operation to survive unanticipated risks, and
- conditions — intended use of the loan funds.

The retail credit risk management process begins with an analysis of the borrower's credit history, repayment capacity, financial position and collateral, which includes an analysis of credit scores for smaller loans. Repayment capacity focuses on the borrower's ability to repay the loan based on cash flows from operations or other sources of income, including off-farm income. Real estate mortgage loans must be secured by first liens on the real estate (collateral). As required by Farm Credit Administration regulations, each institution that makes loans on a secured basis must have collateral evaluation policies and procedures. Real estate mortgage loans may be made only in amounts up to 85% of the original appraised value of the property taken as security or up to 97% of the appraised value if guaranteed by a state, federal, or other governmental agency. The actual loan to appraised value when loans are made is generally lower than the statutory maximum percentage. Appraisals are required for loans of more than $250,000 with exemptions allowed pursuant to Farm Credit Administration regulation.

System institutions use a two-dimensional loan rating model based on internally generated combined System risk rating guidance that incorporates a 14-point risk-rating scale to identify and track the probability of borrower default and a separate scale addressing loss given default over a period of time. Probability of default is the probability that a borrower will experience a default within 12 months from the date of the determination of the risk rating. A default is considered to have occurred if the lender believes the borrower will not be able to pay its obligation in full or the borrower is past due more than 90 days. The loss given default is management's opinion as to the anticipated economic loss on a specific loan assuming default has occurred or is expected to occur within the next 12 months. The economic loss represents the principal balance plus interest at the date of default less the present value of subsequent cash flows occurring until the loan is collected or charged off, or otherwise is no longer considered in default and transferred to accrual status. This credit risk rating process incorporates objective and subjective criteria to identify inherent strengths, weaknesses and risks in a particular relationship.

The model's 14-point risk rating scale provides for nine acceptable categories, one other assets especially mentioned category, two substandard categories, one doubtful category and one loss category. These categories are defined as follows:

- acceptable — assets are expected to be fully collectible and represent the highest quality,
- other assets especially mentioned (OAEM) — assets are currently collectible but exhibit some potential weakness,
- substandard — assets exhibit some serious weakness in repayment capacity, equity, or collateral pledged on the loan,
- doubtful — assets exhibit similar weaknesses to substandard assets; however, doubtful assets have additional weaknesses in existing facts, conditions and values that make collection in full highly questionable, and
- loss — assets are considered uncollectible.

Each of the probability of default categories carries a distinct percentage of default probability. The probability of default between one and nine of the acceptable categories is very narrow and would reflect almost no default to a minimal default percentage. The probability of default grows more rapidly as a loan moves from a "nine" of the acceptable category to OAEM and grows significantly as a loan moves to a substandard (viable) level. A substandard (non-viable) rating indicates that the probability of default is almost certain.

The loss given default is separated into four categories that are defined as follows:

- A/B — no principal loss is expected; anticipated economic loss of 0%-15%
- C/D — anticipated principal loss of 0% to 15%; anticipated economic loss of 15%-25%
- E — anticipated principal loss of 15% to 40%; anticipated economic loss of 25%-50%
- F — anticipated principal loss of greater than 40%; anticipated economic loss of greater than 50%

The credit risk rating methodology is a key component of each Bank's and Association's allowance for loan losses evaluation, and is generally incorporated into the institution's loan underwriting standards and internal lending limits.

In addition, borrower and commodity concentration lending and leasing limits have been established by each individual System institution to manage credit exposure. The regulatory lending and leasing limit to a single borrower or lessee is 15% of the institution's permanent capital but System institutions' boards of directors have generally established more restrictive lending limits. This limit applies to Associations with long-term and short- and intermediate-term lending authorities, and to the Banks' (other than CoBank) loan participations.

The Banks manage credit risk arising from their wholesale loans (revolving lines of credit) to their affiliated Associations as well as credit risk arising from the Banks' retail loans to borrowers. An Association's ability to repay its loan from its affiliated Bank is dependent on repayment of loans made to the Association's borrowers. Monitoring of the credit risk by the related Bank of an Association's loan portfolio, together with appropriate credit administration and servicing, reduces credit risk on the wholesale loans. Monitoring may include various mechanisms, including testing the reliability of an Association's credit classifications, periodic meetings with the Association's management and board of directors, formalized risk assessments, and prior approval by the Bank of transactions that exceed the Association's delegated lending authority (which is determined by the Bank). In addition, some Banks utilize risk-based pricing programs that price funds differentially to Associations based on risk profiles. Each Bank utilizes a "General Financing Agreement" setting forth the terms and conditions of each loan to its affiliated Associations to achieve its goal of managing credit risk. This agreement generally includes:

- typical commercial lending provisions, including advance rates based on quality of pledged assets and financial performance covenants,
- a pledge of substantially all Association assets as collateral for the loan,
- a risk-based score that is based on the Association's profitability, credit quality, risk coverage, capital adequacy and quality of credit administration,

- a requirement that retail loans originated by the Association over an established dollar amount be approved by the Bank and all loans to Association board members receive prior approval by the Bank, and
- a requirement that the Association adopt underwriting standards consistent with the Bank's underwriting guidelines and maintain an internal audit function, which reviews its lending operations.

By selling loans or interests in loans to other institutions within the System or outside the System, a Bank or Association can manage its growth and capital, as well as limit its credit exposure to a borrower or geographic, industry or commodity concentration. By buying loans or interests in loans from another System institution or from outside the System, a Bank or Association can improve diversification.

Portfolio credit risk is also evaluated with the goal of managing the concentration of credit risk. Concentration risk is reviewed and measured by each institution by industry, product, geography and customer limits. The concentrations at the System level are illustrated in the "Loan Portfolio — Loan Portfolio Diversification" section that follows.

Loan Portfolio

The System's loan portfolio consists only of retail loans. Bank loans to affiliated Associations have been eliminated in the combined financial statements. Loans outstanding for each of the past five years consisted of:

	December 31,				
	2019	2018	2017	2016	2015
			(in millions)		
Real estate mortgage	$132,215	$126,310	$120,561	$115,469	$108,673
Production and intermediate-term	56,095	53,447	51,724	50,282	49,204
Agribusiness:					
Processing and marketing	28,205	24,832	21,582	21,166	19,949
Loans to cooperatives	17,776	17,589	17,335	15,300	13,113
Farm-related business	4,068	3,692	3,293	3,162	3,533
Rural infrastructure:					
Power	19,432	20,100	19,689	19,577	17,925
Communication	7,847	6,755	6,311	6,023	6,196
Water/waste water	2,390	2,305	1,965	1,840	1,677
Rural residential real estate	7,405	7,308	7,261	7,148	7,117
Agricultural export finance	6,712	6,581	5,645	5,531	5,075
Lease receivables	3,902	3,630	3,665	3,480	3,373
Loans to other financing institutions	917	829	857	813	915
Total loans	$286,964	$273,378	$259,888	$249,791	$236,750

Loans by type as a percentage of total loans for each of the past five years were:

	December 31,				
	2019	2018	2017	2016	2015
Real estate mortgage	46.1%	46.2%	46.4%	46.2%	45.9%
Production and intermediate-term	19.6	19.6	19.9	20.1	20.8
Agribusiness:					
Processing and marketing	9.8	9.1	8.3	8.5	8.4
Loans to cooperatives	6.2	6.4	6.7	6.1	5.6
Farm-related business	1.4	1.3	1.3	1.3	1.5
Rural infrastructure:					
Power	6.8	7.4	7.6	7.9	7.6
Communication	2.7	2.5	2.4	2.4	2.6
Water/waste water	0.8	0.8	0.7	0.7	0.7
Rural residential real estate	2.6	2.7	2.8	2.9	3.0
Agricultural export finance	2.3	2.4	2.2	2.2	2.1
Lease receivables	1.4	1.3	1.4	1.4	1.4
Loans to other financing institutions	0.3	0.3	0.3	0.3	0.4
Total loans	100.0%	100.0%	100.0%	100.0%	100.0%

The year-to-year change in loan volume was an increase of 5.0% in 2019, 5.2% in 2018, 4.0% in 2017 and 5.5% in 2016. The increase in 2019 was primarily attributable to increases in real estate mortgages, processing and marketing and production and intermediate-term loans.

Real estate mortgage loans increased $5.905 billion or 4.7% during 2019. Financing for new and existing customers was the primary driver of the increase.

Production and intermediate-term loans increased $2.648 billion or 5.0% during 2019, primarily due to advances on existing loans, as well as advance purchases of 2020 inputs, such as fertilizer, seed and fuel, as part of year-end tax planning strategies.

Processing and marketing loans increased $3.373 billion or 13.6% during 2019, resulting primarily from new loan growth and advances on existing loans within certain industries.

The increase in loan volume for 2018 was primarily attributable to increases in real estate mortgages, processing and marketing and production and intermediate-term loans.

The increase in loan volume for 2017 was primarily attributable to increases in real estate mortgages, loans to cooperatives, production and intermediate-term and processing and marketing loans.

The increase in loan volume for 2016 was primarily attributable to increases in real estate mortgages, loans to cooperatives, rural power and processing and marketing loans.

Real estate mortgage loans represent the largest component of the System's loan portfolio. The following table provides credit risk information aggregating System institutions' assessments of the probability of default and loss given default on our real estate mortgage loans outstanding (excluding accrued interest) at December 31, 2019:

Risk Ratings	Uniform Loan Classification System**	Loss Given Default — Economic Loss* A/B 0-15%	C/D 15-25%	E 25-50%	F >50%	Total
		(in millions)				
1 through 3	Acceptable	$ 391				$ 391
4	Acceptable	6,689	$ 2,217	$ 110	$ 12	9,028
5	Acceptable	14,230	5,963	199	53	20,445
6	Acceptable	18,861	7,264	435	47	26,607
7	Acceptable	21,366	7,088	626	77	29,157
8	Acceptable	15,769	5,039	707	92	21,607
9	Acceptable	10,313	3,355	490	85	14,243
10	OAEM	4,138	1,052	153	28	5,371
11	Substandard (viable)	3,205	895	208	26	4,334
12	Substandard (non-viable)	642	289	54	43	1,028
13 and 14	Doubtful and Loss			2	2	4
	Total	$95,604	$33,162	$2,984	$465	$132,215

* Economic loss is the principal balance plus interest at the date of default less the present value of subsequent cash flows occurring until the loan is collected or charged off, or otherwise is no longer considered in default and transferred to accrual status. See pages 48 and 49 for a discussion of loss given default categories.

** The table is presented based on risk ratings and not the Uniform Loan Classification System. Therefore, properly executed and structured guarantees may allow a loan with a risk rating of 10 or worse to be classified as Acceptable.

Loan Portfolio Diversification

We make loans and provide financially related services to qualified borrowers in the agricultural and rural sectors and to certain related entities. Our loan portfolio at the System level is diversified by commodities financed and geographic locations served, as illustrated in the following two tables. Generally, a large percentage of agricultural operations include more than one commodity. Due to the geographic territories served by Banks and Associations, most institutions have higher geographic, borrower and commodity concentrations than does the System as a whole.

	December 31, 2019		December 31, 2018	
	Amount	Percentage	Amount	Percentage
	($ in millions)			
Cash grains (includes corn, wheat and soybeans)	$ 45,294	15.78%	$ 43,673	15.98%
Cattle	25,827	9.00	24,738	9.05
Food products (includes meat, dairy and bakery products)	20,317	7.08	18,857	6.90
Rural power	19,432	6.77	20,100	7.35
Dairy farms	18,818	6.56	18,139	6.63
Tree fruits, nuts and grapes	17,381	6.06	15,655	5.73
Rural home loans, farm landlords and part-time farms	17,379	6.06	16,563	6.06
Forestry	17,065	5.95	15,768	5.77
Field crops (includes sugar beets, potatoes and vegetables)	16,125	5.62	14,936	5.46
Farm supplies and marketing	14,028	4.89	13,773	5.04
Agricultural services and fish	9,967	3.47	8,952	3.27
General farms, primarily crop	9,887	3.44	10,211	3.73
Poultry and eggs	8,022	2.80	7,377	2.70
Rural communication	7,847	2.73	6,755	2.47
Hogs	7,116	2.48	6,586	2.41
Agricultural export finance	6,712	2.34	6,581	2.41
General farms, primarily livestock	4,692	1.63	4,546	1.66
Horticulture	2,721	0.95	2,631	0.96
Other livestock	2,608	0.91	2,561	0.94
Cotton	2,554	0.89	2,448	0.90
Rural water/waste water	2,390	0.83	2,305	0.84
Biofuels, primarily ethanol	1,769	0.62	1,401	0.51
Other	9,013	3.14	8,822	3.23
Total	$286,964	100.00%	$273,378	100.00%

The System makes credit available in all 50 states, the Commonwealth of Puerto Rico, and U.S. territories under conditions set forth in the Farm Credit Act. The following table presents the geographic distribution of the System's loan portfolio for states that represented 1% or more of the System's total loan volume during either one or both of the past two years:

State	2019	2018
California	11.36%	10.98%
Texas	6.95	6.90
Iowa	5.35	5.34
Illinois	5.02	4.98
Minnesota	4.47	4.50
Nebraska	3.76	3.84
Ohio	3.66	3.57
Kansas	3.10	3.13
Indiana	3.00	2.95
Wisconsin	2.92	3.06
Missouri	2.74	2.67
Michigan	2.70	2.69
South Dakota	2.52	2.65
North Carolina	2.50	2.52
New York	2.34	2.55
Georgia	2.34	2.46
Washington	2.30	2.22
Florida	2.16	2.16
North Dakota	2.13	2.19
Colorado	1.93	1.96
Tennessee	1.73	1.79
Virginia	1.73	1.75
Arkansas	1.69	1.80
Kentucky	1.63	1.77
Idaho	1.56	1.58
Oregon	1.31	1.26
Pennsylvania	1.28	1.24
Alabama	1.27	1.22
Oklahoma	1.24	1.27
Mississippi	1.11	1.15
Louisiana	1.00	0.85
Other	11.20	11.00
Total	100.00%	100.00%

The following table sets forth the loans by dollar size and number of borrowers:

	December 31, 2019		December 31, 2018	
Range	Amount Outstanding	Number of Borrowers	Amount Outstanding	Number of Borrowers
($ in thousands)	($ in millions)			
$249 and under	$ 31,426	430,067	$ 32,241	429,854
$250 — $499	23,510	67,364	21,568	65,297
$500 — $999	25,782	36,944	25,236	36,264
$1,000 — $4,999	60,677	31,103	59,388	29,792
$5,000 — $24,999	44,297	4,527	41,493	4,224
$25,000 — $99,999	39,320	830	37,458	803
$100,000 — $249,999	33,165	214	30,602	201
$250,000 and over	28,787	71	25,392	64
Total	$286,964	571,120	$273,378	566,499

Small loans (less than $250,000) accounted for 75% of System borrowers and 11% of System loan volume at December 31, 2019, as compared with 76% and 12% at December 31, 2018. Credit risk on small loans, in many instances, is reduced by off-farm income sources.

The ten largest borrowers accounted for $7.088 billion or 2.47% of the System's total outstanding loans at December 31, 2019, as compared with $6.595 billion or 2.41% at December 31, 2018. The concentration of large loans to relatively few borrowers continued to be a significant factor in assessing the credit risk associated with loans.

Although System institutions monitor credit risk individually, the System has established a quarterly process to report System large loan exposures (outstanding loan amounts plus any unfunded loan commitments). A System risk management committee reviews and monitors large loan exposures to existing individual customers. Beginning in the second quarter of 2019, the System committee increased the threshold for monitoring large loan exposures to $1.25 billion from $1.0 billion. The increase in the exposure level reflects the growth in the System's risk-bearing capacity. In certain limited circumstances, a threshold of $1.5 billion for monitoring large loan exposures may be considered. Since it is possible that one or more System institutions may simultaneously make credit available to a customer that may, in the aggregate, exceed these limits, the process provides for quarterly data to be compiled on existing large loan exposures with notice provided to the Banks and Associations of the largest loan exposures, including all loan exposures to a borrower greater than 75% of the $1.25 billion level or $937.5 million. While this process captures information regarding large loan exposures, any credit decision resides with the individual System institutions. At December 31, 2019, no exposure was above $1.25 billion and at December 31, 2018, one exposure was above $1.0 billion but less than $1.5 billion. Additionally, four exposures at December 31, 2019 exceeded $937.5 million and ten exposures at December 31, 2018 exceeded $750 million.

System institutions reduce credit risk through certain federal government guarantee programs, such as the Farm Service Agency and Small Business Administration. As of December 31, 2019 and 2018, $8.106 billion and $7.859 billion of loans had varying levels of federal government guarantees. System institutions also limit, to some extent, the credit risk of certain real estate mortgage loans by entering into agreements with others that provide long-term standby commitments to purchase System loans and other credit guarantees. The amount of loans under these other credit guarantees was $3.280 billion at December 31, 2019, of which $2.235 billion was provided by Farmer Mac, as compared with total credit guarantees of $3.511 billion at December 31, 2018, of which $2.314 billion was provided by Farmer Mac. Fees for credit guarantees totaled $13 million for each of the past three years and are included in other operating expenses.

Loan Portfolio Maturity Distribution

The following table presents the contractual maturity distribution of loans, excluding real estate mortgage and rural residential real estate loans, at December 31, 2019:

	Due in 1 Year or Less	Due After 1 Year Through 5 Years	Due After 5 Years	Total
	(in millions)			
Production and intermediate-term	$24,909	$22,072	$ 9,114	$ 56,095
Agribusiness:				
Processing and marketing	11,142	9,111	7,952	28,205
Loans to cooperatives	7,330	6,757	3,689	17,776
Farm-related business	1,177	1,315	1,576	4,068
Rural infrastructure:				
Power	2,452	3,661	13,319	19,432
Communication	2,761	2,639	2,447	7,847
Water/waste water	533	499	1,358	2,390
Agricultural export finance	6,058	185	469	6,712
Lease receivables	186	2,192	1,524	3,902
Loans to other financing institutions	405	440	72	917
Total	$56,953	$48,871	$41,520	$147,344

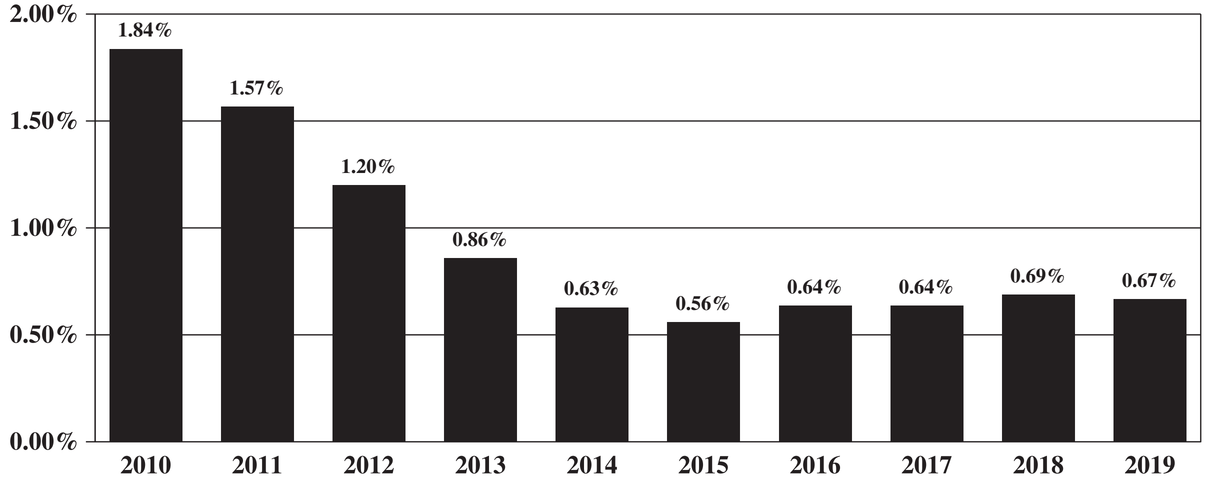
Note: Real estate mortgage and rural residential real estate loans have been excluded from the table above given the long-term maturities of such loans, including maturities of up to 40 years in certain cases.

Nonperforming Assets

Nonperforming assets (including related accrued interest) by loan type for each of the past five years consisted of the following:

	December 31,				
	2019	2018	2017	2016	2015
			(in millions)		
Nonaccrual loans:					
Real estate mortgage	$ 912	$ 830	$ 867	$ 835	$ 703
Production and intermediate-term	548	489	492	494	356
Agribusiness	315	398	169	167	106
Rural infrastructure	55	79	34		86
Rural residential real estate	50	53	51	52	57
Agricultural export finance			4		
Lease receivables	30	34	43	43	16
Total nonaccrual loans	1,910	1,883	1,660	1,591	1,324
Accruing restructured loans:					
Real estate mortgage	198	173	179	182	180
Production and intermediate-term	82	86	96	94	97
Agribusiness	5	5	4	2	2
Rural infrastructure	2			59	
Rural residential real estate	7	8	7	7	7
Total accruing restructured loans	294	272	286	344	286
Accruing loans 90 days or more past due:					
Real estate mortgage	53	31	4	16	12
Production and intermediate-term	10	10	11	10	5
Agribusiness	4	1	4		
Rural infrastructure	2				
Rural residential real estate			1		1
Lease receivables	2	1	1	1	1
Total accruing loans 90 days or more past due	71	43	21	27	19
Total nonperforming loans	2,275	2,198	1,967	1,962	1,629
Other property owned	72	84	55	75	96
Total nonperforming assets	$2,347	$2,282	$2,022	$2,037	$1,725

Nonaccrual Loans as a % of Total Loans Outstanding as of December 31,



Loans are generally placed in nonaccrual status when principal or interest is delinquent for 90 days (unless adequately secured and in the process of collection) or when circumstances indicate that collection of principal and interest is in doubt. Nonaccrual loans may be transferred to accrual status if all contractual principal and interest due on the loan is paid and the loan is current, prior charge-offs are recovered, no reasonable doubt remains as to the borrower's willingness and ability to perform in accordance with the loan terms, and the borrower has demonstrated payment performance.

Nonaccrual loans increased $27 million or 1.4% to $1.910 billion at December 31, 2019, primarily due to loans transferred into nonaccrual status and advances, substantially offset by repayments on nonaccrual loans. The increase was primarily due to credit quality deterioration impacting a limited number of borrowers in the dairy, cattle and nut industries.

Nonaccrual loans as a percentage of total loans outstanding was 0.67% at December 31, 2019 and 0.69% at December 31, 2018. Nonaccrual loans that were current as to principal and interest were 60.1% of total nonaccrual loans at December 31, 2019, as compared with 65.3% at December 31, 2018. Nonaccrual loans contractually past due with respect to either principal or interest were $763 million and $654 million at December 31, 2019 and 2018.

At December 31, 2019, the ten largest nonaccrual loans totaled $408 million, while at December 31, 2018, the ten largest nonaccrual loans totaled $491 million.

Accruing restructured loans, including related accrued interest, were $294 million and $272 million at December 31, 2019 and 2018. The restructured loans include only the year-end balances of loans (and related accrued interest) on which the creditor for economic or legal reasons related to the debtor's financial difficulties grants a concession to the debtor that it would not otherwise consider. Concessions vary by program and are borrower-specific and may include interest rate reductions, term extensions, payment deferrals or the acceptance of additional collateral in lieu of payments. In limited circumstances, principal may be forgiven. Restructured loans do not include loans on which concessions have been granted but which remain in nonaccrual status. Upon restructuring, our accounting policies generally require a period of loan performance during which time the borrower complies with the restructured terms before a loan is transferred to accruing restructured status.

Accruing loans 90 days or more past due increased $28 million to $71 million at December 31, 2019. These loans are considered well secured and in the process of collection.

The following table presents the nonaccrual loan activity during the past three years:

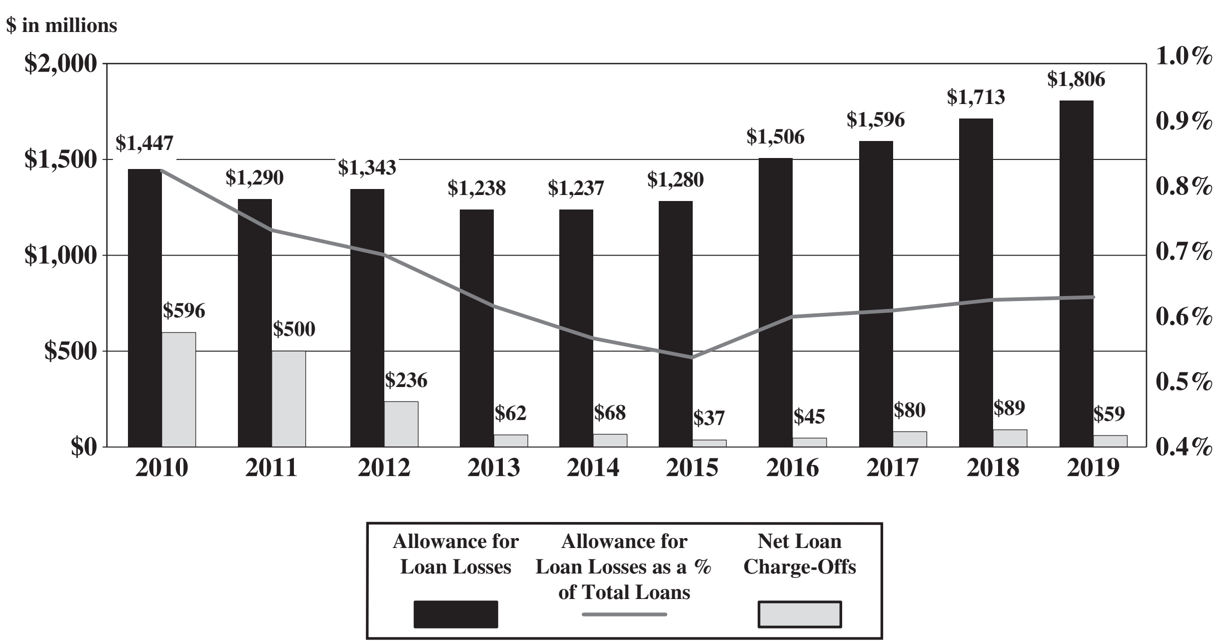
	For the Year Ended December 31,		
	2019	2018	2017
		(in millions)	
Balance at beginning of year	$ 1,883	$ 1,660	$ 1,591
Additions:			
Gross amounts transferred into nonaccrual	1,073	1,414	1,041
Recoveries	28	27	33
Advances	589	705	383
Other, net	6		3
Reductions:			
Charge-offs	(88)	(119)	(113)
Transfers to other property owned (book value)	(37)	(78)	(36)
Returned to accrual status	(120)	(176)	(140)
Repayments	(1,424)	(1,550)	(1,102)
Balance at end of year	$ 1,910	$ 1,883	$ 1,660

Other property owned, which is held for sale and consists of real and personal property acquired through collection actions, decreased $12 million to $72 million at December 31, 2019, primarily due to sales in excess of loans transferred into other property owned.

Loans classified under the Farm Credit Administration's Uniform Loan Classification System as Acceptable or Other Assets Especially Mentioned (OAEM) as a percentage of total loans and accrued interest receivable was 96.5% at both December 31, 2019 and December 31, 2018. Loan delinquencies (accruing loans 30 days or more past due) as a percentage of accruing loans decreased slightly to 0.32% at December 31, 2019, as compared with 0.33% at December 31, 2018.

Allowance for Loan Losses

The following chart illustrates the System's allowance for loan losses at December 31, and year-to-date net loan charge-offs:



The allowance for loan losses was $1.806 billion at December 31, 2019 and $1.713 billion at December 31, 2018. Net loan charge-offs of $59 million, $89 million and $80 million were recorded during 2019, 2018 and 2017.

Management of each System institution considers the allowance for loan losses at each period end to be adequate to absorb probable losses existing in and inherent to their loan portfolios. The allowance for loan losses represents the aggregate of each System entity's individual evaluation of its allowance for loan losses requirements. Although aggregated in the System's combined financial statements, the allowance for loan losses of each System entity is specific to that institution and is not available to absorb losses realized by other System entities. Managements' evaluations consider factors that include, among other things, loan loss experience, portfolio quality, loan portfolio composition, collateral value, current agricultural production conditions and economic conditions. Additionally, borrower, industry, geographic and portfolio concentrations, along with modeling imprecision, are all considered in the determination of the allowance for loan losses.

Certain System borrowers continue to face challenges due to reduced net farm income in certain sectors. System underwriting standards require strong collateral support for real estate mortgage loans. By regulation, real estate mortgage loans must have a loan-to-value ratio of 85% or less at origination or up to 97% if guaranteed by federal, state or other governmental agency. Most of the System's real estate mortgage loans at origination had a loan-to-value ratio below the statutory maximum of 85%. These factors help to mitigate the System's exposure to loan losses.

In determining the allowance for loan losses, System institutions consider estimated credit losses for specifically identified loans, as well as estimated probable credit losses inherent in the remainder of the portfolio as of the balance sheet date. All nonperforming loans are specifically identified and are evaluated for impairment. At December 31, 2019, $652 million of the System's $2.275 billion of nonperforming loans had specific reserves (representing probable losses) of $209 million. The remaining $1.623 billion of nonperforming loans were evaluated and determined not to need a specific reserve.

One of the primary tools utilized by System institutions to determine probable losses inherent in their loan portfolios, which have not been specifically identified and evaluated for impairment, is to determine the credit risk ratings of the loans in their portfolios as indicated by the probability of default assigned to the loans multiplied by the estimated loss given default of the loans. The estimated losses derived from this calculation are aggregated, reviewed and adjusted to best reflect current economic and industry factors. The result of the analysis provides a basis to estimate probable losses and determine reserves adequate to cover these estimated probable losses.

The following table represents the risk rating distribution for the System's outstanding loans at December 31, 2019. Nonperforming loans or impaired loans generally include substandard (non-viable), doubtful and loss loans.

		Loss Given Default				
		Economic Loss*				
Risk Ratings	**Uniform Loan Classification System****	**A/B 0-15%**	**C/D 15-25%**	**E 25-50%**	**F >50%**	**Total**
		(in millions)				
1 through 3	Acceptable	$ 7,976	$ 1,085	$ 7	$ 1,549	$ 10,617
4	Acceptable	13,299	6,222	578	1,955	22,054
5	Acceptable	19,576	23,874	2,887	1,989	48,326
6	Acceptable	26,046	23,725	3,335	2,020	55,126
7	Acceptable	26,784	25,601	5,155	1,603	59,143
8	Acceptable	19,382	18,347	4,041	1,582	43,352
9	Acceptable	12,699	10,758	2,676	646	26,779
10	OAEM	5,663	3,722	1,022	433	10,840
11	Substandard (viable)	4,536	2,834	951	216	8,537
12	Substandard (non-viable)	909	554	268	382	2,113
13 and 14	Doubtful and Loss	1	3	28	45	77
	Total	$136,871	$116,725	$20,948	$12,420	$286,964

* Economic loss is the principal balance plus interest at the date of default less the present value of subsequent cash flows occurring until the loan is collected or charged off, or otherwise is no longer considered in default and transferred to accrual status. See pages 48 and 49 for discussion of loss given default categories.

** The table is presented based on risk ratings and not the Uniform Loan Classification System. Therefore, properly executed and structured guarantees may allow a loan with a risk rating of 10 or worse to be classified as Acceptable.

The following table presents the activity in the allowance for loan losses for the most recent five years:

	For the Year Ended December 31,				
	2019	2018	2017	2016	2015
	($ in millions)				
Balance at beginning of year	$1,713	$1,596	$1,506	$1,280	$1,237
Charge-offs:					
Real estate mortgage	(11)	(20)	(19)	(11)	(18)
Production and intermediate-term	(53)	(58)	(53)	(61)	(44)
Agribusiness	(12)	(29)	(38)	(9)	(15)
Rural infrastructure	(7)	(3)			(10)
Rural residential real estate	(1)	(2)	(2)	(3)	(4)
Lease receivables	(4)	(8)	(2)	(3)	(1)
Total charge-offs	(88)	(120)	(114)	(87)	(92)
Recoveries:					
Real estate mortgage	6	9	7	16	22
Production and intermediate-term	17	17	18	16	23
Agribusiness	3	3	6	5	7
Rural infrastructure	1	1	2	4	1
Rural residential real estate	1	1	1	1	1
Lease receivables	1				1
Total recoveries	29	31	34	42	55
Net charge-offs	(59)	(89)	(80)	(45)	(37)
Provision for loan losses	169	194	197	266	106
Adjustment due to Association mergers*			(38)	(1)	(15)
Reclassification (to) from reserve for unfunded commitments**	(17)	12	11	6	(11)
Balance at end of year	$1,806	$1,713	$1,596	$1,506	$1,280
Ratio of net loan charge-offs during the period to average loans outstanding during the period	0.02%	0.03%	0.03%	0.02%	0.02%

* Represents the elimination of the allowance for loan losses in connection with Association mergers. See Note 11 to the accompanying combined financial statements.

** Represents reclassifications between the allowance for loan losses and the reserve for unfunded commitments primarily as a result of advances on or repayments of seasonal lines of credit or other loans.

The allowance for loan losses by loan type for the most recent five years is as follows:

	December 31,									
	2019	%	2018	%	2017	%	2016	%	2015	%
	($ in millions)									
Real estate mortgage	$ 492	27.2%	$ 481	28.1%	$ 450	28.2%	$ 399	26.5%	$ 336	26.3%
Production and intermediate-term	493	27.3	448	26.1	437	27.4	417	27.7	346	27.0
Agribusiness	508	28.1	475	27.7	420	26.3	407	27.0	320	25.0
Rural infrastructure	219	12.2	217	12.7	200	12.5	201	13.3	204	15.9
Rural residential real estate	18	1.0	19	1.1	20	1.3	21	1.4	20	1.6
Agricultural export finance	22	1.2	19	1.1	16	1.0	15	1.0	13	1.0
Lease receivables	53	2.9	53	3.1	52	3.2	45	3.0	40	3.1
Loans to other financing institutions	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1
Total	$1,806	100.0%	$1,713	100.0%	$1,596	100.0%	$1,506	100.0%	$1,280	100.0%

The allowance for loan losses as a percentage of total loans outstanding and as a percentage of certain other credit quality indicators is shown below:

	December 31,				
	2019	2018	2017	2016	2015
Total loans	0.63%	0.63%	0.61%	0.60%	0.54%
Nonperforming assets	77	75	79	74	74
Nonaccrual loans	95	91	96	95	97

Credit Commitments and Reserve for Unfunded Commitments

The following table summarizes the maturity distribution (expiration) of unfunded credit commitments:

	December 31, 2019				
	Less than 1 Year	1-3 Years	3-5 Years	Over 5 Years	Total
	(in millions)				
Commitments to extend credit	$34,337	$21,530	$19,466	$6,449	$81,782
Standby letters of credit	1,402	433	125	116	2,076
Commercial and other letters of credit	57	22	11	8	98
Total commitments	$35,796	$21,985	$19,602	$6,573	$83,956

Since many of these commitments are expected to expire without being drawn upon, the total commitments do not necessarily represent future cash requirements. These credit-related financial instruments have off-balance-sheet credit risk because their contractual amounts are not reflected on the balance sheet until funded or drawn upon. However, standby letters of credit are reflected on the balance sheet at the fair value of the liability of $13 million and $12 million as of December 31, 2019 and 2018. The fair value of these letters of credit is estimated based on the cost to terminate the agreement or fees currently charged for similar agreements. The credit risk associated with issuing commitments and letters of credit is substantially the same as that involved in extending loans to borrowers and the same credit policies are applied by management. Upon fully funding a commitment, the credit risk amounts are equal to the contract amounts, assuming that borrowers fail completely to meet their obligations and the collateral or other security are of no value. The amount of collateral obtained, if deemed necessary upon extension of credit, is based on management's credit evaluation of the borrower.

At December 31, 2019, the System had a reserve for unfunded commitments of $169 million, as compared with a reserve of $152 million at December 31, 2018. The reserve for unfunded commitments is reported as other liabilities in the Combined Statement of Condition.

Interest Rate Risk Management

Interest rate risk is the risk of loss of future earnings or long-term market value of equity that may result from changes in interest rates. This risk can produce variability in the System's net interest income and the long-term value of the System's capital position. The System actively manages the following risks:

- Yield curve risk — results from changes in the level, shape, and implied volatility of the yield curve. Changes in the yield curve often arise due to the market's expectation of future interest rates at different points along the yield curve.
- Repricing risk — results from the timing differences (mismatches) between interest-bearing assets and liabilities that limit the ability to alter or adjust the rates earned on assets or paid on liabilities in response to changes in market interest rates.
- Option risk — results from "embedded options" that are present in many financial instruments, including the right to prepay loans before the contractual maturity date. Lending practices or loan features that provide the borrower with flexibility frequently introduce a risk exposure for the lender. For example, a fixed-rate loan product may provide a potential borrower with a rate guarantee, an option to lock-in the loan rate for a period of time prior to closing, which protects the borrower from an increase in interest rates between the time loan terms are negotiated and the loan closes. If interest rates increase while the rate guarantee is in effect and if we do not take measures to hedge the rate guarantee, we might realize a lower spread than expected when the loan is funded.

  After the loan closes, the borrower may also have the option to repay the loan's principal ahead of schedule. If interest rates fall, System institutions may be forced to reinvest principal repaid from higher rate loans at a lower rate, which may reduce the interest rate spread unless the underlying debt can be similarly refinanced.

  Interest rate caps are another form of embedded options that may be present in certain investments and floating- and adjustable-rate loans. Interest rate caps typically prevent the investment or loan rate from increasing above a defined limit. In a rising interest rate environment, the spread may be reduced if caps limit upward adjustments to floating investment or loan rates while debt costs continue to increase.

  Interest rate floors are also embedded options that may be present in certain investments and floating- and adjustable-rate loans. Interest rate floors prevent the loan or investment rate from decreasing below a certain defined limit. In a declining rate environment, the spread may be widened if the floor limits the downward adjustments to a floating-rate investment or loan rate as underlying debt costs continue to decrease below the floor rate.
- Basis risk — results from unexpected changes in the relationships among interest rates and interest rate indexes. Basis risk can produce volatility in the spread earned on a loan or an investment relative to its cost of funds. This risk arises when the floating-rate index tied to a loan or investment differs from the index on the Systemwide Debt Security issued to fund the loan or investment.

The goal of the Banks in managing interest rate risk is to maintain stable earnings and preserve the long-term market value of equity. In most cases, the wholesale funding provided by a Bank to an Association matches the terms and embedded options of the Association's retail loans. This funding approach shifts the majority of the interest rate risk associated with retail loans from the Association to its funding Bank where interest rate risk is generally managed centrally. The Banks and Associations are responsible for developing asset/liability management policies and strategies to manage interest rate risk and for monitoring and reporting this risk on a regular basis. These policies include guidelines for measuring and evaluating exposures to interest rate risk. In addition, the policies establish limits for interest rate risk and define the role of the board of directors in delegating day-to-day responsibility for interest rate risk management to Bank or Association management.

That authority is delegated to an asset/liability management committee, made up of senior Bank or Association managers. The policies define the composition of the committee and its responsibilities. Interest rate risk management is also subject to certain intra-System agreements, including the CIPA and MAA, and regulatory oversight by the Farm Credit Administration.

One of the primary benefits of our status as a government-sponsored enterprise debt issuer is that, through the Funding Corporation and its selling group, the System has daily access to the debt markets and significant flexibility in structuring the maturity and types of debt securities we issue to match asset cash flows. The ability to quickly access the debt markets helps us minimize the risk that interest rates might change between the time a loan commitment is made and the time it is funded.

Flexibility in structuring debt enables us to issue Systemwide Debt Securities that offset most of the primary interest rate risk exposures embedded in our loans. For example, by issuing floating-rate Systemwide Debt Securities, we are able to minimize the basis risk exposure presented by similarly-indexed, floating-rate loans. As discussed above, some of our fixed-rate loans may provide borrowers with the option to prepay their loans. In most interest rate environments, we are able to significantly offset the risk created by a prepayment option by funding prepayable fixed-rate loans with callable debt. Callable debt provides us with the option to retire debt early to offset prepayment risk in earning assets or refinance debt in a declining interest rate environment. See "Risk Factors" for a discussion of certain of our funding risks.

Approximately 76% of our fixed-rate loans provide the borrowers with the option to prepay their loan at any time without fees, and the remainder of the System's fixed-rate loans contain provisions requiring prepayment fees to partially or fully compensate the System for the cost of retiring the debt, some of which may be non-callable.

The Banks participate in the derivatives markets, which provide additional tools to manage interest rate risk. Our use of derivatives is detailed later in this section.

Interest Rate Risk Measurements

The Banks assess and measure interest rate risk using:

- interest rate gap analysis — compares the amount of interest sensitive assets to interest sensitive liabilities that reprice in defined time periods,
- net interest income sensitivity analysis — projects the impact of changes in the level of interest rates, changes in spreads and the shape of the yield curve on net interest income for the next year,
- market value of equity sensitivity analysis — projects the impact of changes in the level of interest rates and the shape of the yield curve on the market value of assets, liabilities and equity, and
- duration gap analysis — measures the difference between the estimated durations of assets and liabilities.

These measures are calculated on a monthly basis and the assumptions used in these analyses are monitored routinely and adjusted as necessary. The Banks use sophisticated simulation models to develop interest rate sensitivity estimates. These models are periodically back tested and reviewed by third parties for reasonableness.

Interest Rate Risk Management Results

Interest Rate Gap Analysis

The interest rate gap analysis presents a comparison of interest-sensitive assets and liabilities in defined time segments as of December 31, 2019. The interest rate gap analysis is a static indicator, which does not reflect the dynamics of balance sheet, cash flows, rate and spread changes and financial instrument optionality, and may not necessarily indicate the sensitivity of net interest income in a changing interest rate environment. Within the gap analysis, gaps are created when an institution uses its capital to fund assets. Capital reduces the amount of debt that otherwise would be required to fund a certain level of assets. The quantity of earning assets will exceed the quantity of interest-bearing liabilities in any repricing interval where capital provides part of the funding. The gap table below includes anticipated cash flows on interest sensitive assets and liabilities given the current level of interest rates:

	Repricing Intervals				
	0-6 Months	6 Months to 1 Year	1-5 Years	Over 5 Years	Total
	($ in millions)				
Floating-rate loans:					
Indexed/adjustable-rate loans	$ 64,945	$ 276	$ 793	$ 683	$ 66,697
Administered-rate loans	46,632				46,632
Fixed-rate loans:					
Fixed-rate with prepayment or conversion fees	4,275	3,985	15,743	16,567	40,570
Fixed-rate without prepayment or conversion fees	33,148	16,022	53,143	28,842	131,155
Nonaccrual loans				1,910	1,910
Total gross loans	149,000	20,283	69,679	48,002	286,964
Federal funds sold, investments and other interest-earning assets	32,531	4,724	19,855	8,913	66,023
Total earning assets	181,531	25,007	89,534	56,915	352,987
Interest-bearing liabilities:					
Callable bonds and notes	14,441	15,109	33,660	14,705	77,915
Noncallable bonds and notes	141,823	13,743	42,091	17,966	215,623
Other interest-bearing liabilities	2,873		155	88	3,116
Total interest-bearing liabilities	159,137	28,852	75,906	32,759	296,654
Effect of interest rate swaps and other derivatives	11,066	(3,075)	(8,329)	338	
Total interest-bearing liabilities adjusted for swaps and other derivatives	170,203	25,777	67,577	33,097	296,654
Interest rate sensitivity gap (total earning assets less total interest-bearing liabilities adjusted for swaps and other derivatives)	$ 11,328	$ (770)	$21,957	$23,818	$ 56,333
Cumulative gap	$ 11,328	$10,558	$32,515	$56,333	
Cumulative gap as a percentage of total earning assets	3.21%	2.99%	9.21%	15.96%	

As illustrated above, the System had a positive gap position between its earning assets and interest-bearing liabilities for the zero to six months repricing interval as measured on December 31, 2019 and reflects the System's asset-sensitive position during this time period.

Typically, the net interest income of an institution that is asset sensitive will be favorably impacted in a rising rate environment and unfavorably impacted in a declining rate environment. Due to the System's ability to exercise call options on its callable debt when interest rates decline, the System's net interest income has benefitted in the past from certain declining interest rate environments.

The System's net interest spread, a component of its net interest margin, may also react in a different manner due to certain conditions at the time an earning asset or interest-bearing liability reprices. These conditions include competitive pressures on spreads or rates, the steepness of the yield curve and how capital is deployed to fund earning assets. In addition, a significant portion of the System's floating-rate loans are administered-rate loans that, unlike indexed loans, require definitive action by management to change the interest rate. The interest rates charged on administered-rate loans may reflect managements' assessments of whether rate changes are feasible or warranted in view of market conditions. Therefore, the actual interest rates charged on administered-rate loans may not reflect the movement of interest rates in the markets, thereby creating volatility in net interest income.

The System's cumulative gap position in the zero to six months repricing interval decreased from 4.10% at December 31, 2018 to 3.21% at December 31, 2019.

Sensitivity Analysis

In addition to the static view of interest rate sensitivity shown by the gap analysis, each Bank conducts simulations of net interest income and market value of equity. The sensitivity analysis incorporates the effects of leverage and the optionality of interest sensitive assets and liabilities due to interest rate changes. The two primary scenarios used for the analysis reflect the impact of interest rate shocks upward and downward (i.e., immediate, parallel changes upward and downward in the yield curve) on projected net interest income and on market value of equity. The Banks also use other types of measures to model exposures to interest rate changes, such as rate ramps (gradual change in rates) and yield curve slope changes.

The upward and downward shocks are generally based on movements of 100 and 200 basis points in interest rates, which are considered significant enough to capture the effects of embedded options and convexity within the assets and liabilities so that underlying risk may be revealed. However, in the current, relatively low interest rate environment, the downward shock is based on one-half of the three-month Treasury bill rate, which was 78 basis points and 120 basis points at December 31, 2019 and 2018. Under these simulations, the System's sensitivity to interest rate changes (sum of Districts' sensitivity analyses) was:

	December 31, 2019		
	-78	**+100**	**+200**
Change in net interest income	0.11%	1.59%	3.04%
Change in market value of equity	2.21%	-3.65%	-7.52%

	December 31, 2018			
	-120	**-100**	**+100**	**+200**
Change in net interest income	-2.27%	-2.03%	1.45%	3.24%
Change in market value of equity	5.32%	4.32%	-3.73%	-7.24%

Each Bank's interest rate risk management policy establishes limits for changes in net interest income sensitivity and market value of equity sensitivity. These limits are measured at least monthly and reported to each Bank's board of directors at least quarterly. The limits set by the Banks' boards of directors for net interest income sensitivity and market value of equity sensitivity ranged from negative 12% to negative 20% for a 200 basis point shock. During 2019 and 2018, no Bank exceeded its policy limits.

Further, each Bank has established a District interest rate risk sensitivity limit not to exceed a 15% reduction in net interest income and market value of equity, given a 200 basis point shock, as measured using the combined results of each Bank and its affiliated Associations. This limit is measured and reported on a quarterly basis. None of the Districts exceeded the District limit during 2019 and 2018. District measurements are presented in the Supplemental Financial Information on page F-78.

In addition to the interest rate scenarios required for reporting and regulatory purposes, the Banks periodically perform additional scenario analyses to study the effects of changes in critical modeling assumptions — for example, the impact of increased/decreased prepayments, changes in the relationship of the System's funding cost to other benchmark interest rates, additional non-parallel shifts in the yield curve, and changes in market volatility.

One of the primary modeling assumptions affecting the measurement of interest rate risk is the prepayment function. The cash flows on some of our fixed-rate agricultural loans and most of our mortgage-related investment securities are sensitive to changes in interest rates because borrowers may have the flexibility to partially or completely repay the loan ahead of schedule. When interest rates decrease, borrowers can often reduce their interest costs by refinancing their fixed-rate loans. The financial incentive for the borrowers to refinance their loans increases as interest rates decline and the potential savings increase.

When interest rates rise, borrowers with fixed-rate loans lack the incentive to prepay their loans. However, prepayments can occur in any rate environment for reasons unrelated to interest rate conditions.

Lenders closely study the relationship between interest rates, the potential savings available from refinancing, and actual loan prepayment activity in order to gain a better understanding of prepayment behavior and more accurately forecast cash flows for prepayable loans.

The Banks gather and maintain loan information, including prepayment data, for use in developing prepayment models for agricultural loans. These models typically specify a minimum or "baseline" level of expected prepayments that is not affected by the general level of interest rates, along with an interest-sensitive component that projects faster prepayments as the potential refinancing advantage increases. The refinancing advantage is defined as the difference between the loan rate on an outstanding fixed-rate loan and the current loan rate offered for a new fixed-rate loan with a similar maturity. Further, model refinements may reflect differences due to the loan product type and age or "seasoning" of the loan. The Banks' agricultural loan prepayment models are based on proprietary data and may differ from Bank to Bank and from prepayment models developed for use with residential mortgages.

The Banks and certain Associations also maintain investment portfolios that contain mortgage- and asset-backed investments that may also be subject to prepayment risk. Detailed prepayment data for these assets are readily available in the marketplace and a number of banks and fixed-income consulting firms market product-specific prepayment models for use in asset/liability risk management. The Banks and certain Associations typically subscribe to a commercially available prepayment model appropriate for these securities and integrate the analysis within their regular asset/liability analysis.

Duration Gap Analysis

Another risk measurement is duration, which we calculate using a simulation model. Duration is the weighted average maturity (typically measured in months or years) of an instrument's cash flows, weighted by the present value of those cash flows. As such, duration provides an estimate of an instrument's sensitivity to small changes in market interest rates. The duration gap is the difference between the estimated durations of assets and liabilities. All else being equal, an institution with a small duration gap has less exposure to interest rate risk than an institution with a large duration gap.

A positive duration gap means there is a greater exposure to rising interest rates because it indicates that the duration of our assets exceeds the duration of our liabilities. A negative duration gap means that there is a greater exposure to declining interest rates because the duration of our assets is less than the duration of our liabilities. At December 31, 2019, the System's aggregate duration gap (the sum of the Banks' duration gaps) was a positive 3.9 months, as compared with a positive 4.2 months at December 31, 2018. Generally, a duration gap within the range of a positive six months to a negative six months indicates a small exposure to changes in interest rates.

Derivative Products

Derivative products are a part of our interest rate risk management activities and supplement our issuance of debt securities in the capital markets. We use derivative financial instruments as hedges that provide us with greater flexibility to manage interest rate and liquidity risks and to lower the overall cost of funds. We do not hold or enter into derivative transactions for trading purposes. Derivative products are subject to regulatory compliance obligations, including, among other things, recordkeeping, reporting, clearing and margining. Clearing and margining are discussed in more detail below.

The primary types of derivative products used and hedging strategies employed are summarized in the following table. For additional information, see Note 16 to the accompanying combined financial statements.

Derivative Products/Hedged Item	Purpose of the Hedge Transaction	Strategic Impact
Receive-fixed, pay-floating interest rate swap hedging callable or non-callable fixed-rate debt	To protect against the decline in interest rates on floating-rate assets by exchanging the debt's fixed-rate payment for a floating-rate payment that better reflects the timing of interest rate reset on the assets.	A common use is to create a substitute for conventional floating-rate funding. The fixed-rate received on the swap largely offsets the fixed-rate paid on the associated debt leaving a net floating payment. The strategy frequently provides cost savings or promotes liquidity by permitting access to longer maturity floating-rate funding than the outright issuance of floating-rate debt, which tends to have shorter maturities.
Pay-fixed, receive-floating interest rate swap hedging floating-rate debt	To protect against an increase in interest rates by exchanging the debt's floating-rate payment for a fixed-rate payment that matches the cash flows of assets.	The combination of the pay-fixed, receive-floating swap with floating-rate funding results in a net fixed-rate payment. This strategy may provide lower cost fixed-rate funding than outright issuance of fixed-rate debt.
Floating-for-floating swap hedging floating-rate assets and liabilities	Used to manage the basis risk that can result when assets and liabilities are based on different floating-rate indexes or reprice at different times.	The System's floating-rate loans and floating-rate investments are tied to a number of floating-rate indexes including Farm Credit's short-term debt cost, the prime rate, Federal funds and LIBOR. Ideally, floating-rate loans would be funded by issuing floating-rate funding tied to the same floating-rate index with identical reset terms. However, floating-rate funding is not consistently available to exactly meet these requirements. Floating-for-floating or "basis" swaps are used to bridge this gap.
Interest rate caps hedging floating-rate assets and debt	To replace income lost from floating-rate assets that have reached cap levels or to put a ceiling on interest cost on floating-rate debt.	Some floating-rate loans and investments may specify a maximum interest rate to limit the borrower's exposure to rising interest rates. Interest rate caps are purchased to provide offsetting protection against rising interest rates.
Interest rate floors hedging floating-rate assets	To protect against falling interest rates on floating-rate assets.	A purchased floor option will produce a cash flow when the index rate falls below the strike rate. Cash flow from the floor can be used to offset income lost on floating-rate assets when interest rates decline. Floor options may also be used in combination with interest rate caps to create interest rate collars or otherwise limit or modify floating-rate cash flows in both rising and declining interest rate environment.

The aggregate notional amount of the System's derivative products, most of which consisted of interest rate swaps, increased $6.468 billion to $45.770 billion at December 31, 2019, as compared with $39.302 billion at December 31, 2018. The aggregate notional amount of these instruments, which is not included in the Combined Statement of Condition, is indicative of the System's activities in derivative financial instruments, but is not an indicator of the level of credit risk associated with these instruments. The exposure to credit risk is a small fraction of the aggregate notional amount as more fully discussed on page 70.

The following table presents notional amounts and weighted average interest rates by expected (contractual) maturity dates for the System's derivative financial instruments. The fair values of these derivatives were recognized in the Combined Statement of Condition. The table was prepared using the implied forward yield curve at December 31, 2019.

	Maturities of 2019 Derivative Products							
	2020	2021	2022	2023	2024	2025 and Thereafter	Total	Fair Value at December 31, 2019*
	($ in millions)							
Receive-fixed swaps								
Notional value	$5,502	$4,837	$2,660	$1,331	$ 367	$ 963	$15,660	$ 182
Weighted average receive rate	1.62%	2.45%	2.04%	2.37%	2.46%	2.55%	2.09%	
Weighted average pay rate	1.74%	1.75%	1.75%	1.72%	1.77%	1.74%	1.74%	
Pay-fixed and amortizing-pay fixed swaps								
Notional value	$ 373	$1,095	$1,027	$1,313	$1,107	$ 6,878	$11,793	$(330)
Weighted average receive rate	1.76%	1.79%	1.76%	1.72%	1.62%	1.62%	1.66%	
Weighted average pay rate	2.10%	2.36%	2.08%	2.29%	1.97%	2.09%	2.13%	
Floating-for-floating and amortizing floating-for-floating swaps								
Notional value	$ 300	$ 600	$ 200	$ 650		$ 550	$ 2,300	$ (4)
Weighted average receive rate	1.59%	1.51%	1.49%	1.49%		1.56%	1.53%	
Weighted average pay rate	1.61%	1.53%	1.53%	1.54%		1.66%	1.57%	
Customer derivative products								
Notional value	$ 457	$ 935	$ 981	$ 846	$1,008	$ 5,057	$ 9,284	$ 268
Weighted average receive rate	1.93%	2.44%	2.23%	2.61%	2.21%	2.40%	2.36%	
Weighted average pay rate	1.80%	1.82%	1.81%	1.86%	1.78%	1.84%	1.83%	
Interest rate caps and floors								
Notional value	$ 331	$ 473	$ 804	$2,343	$ 285	$ 2,244	$ 6,480	$ 30
Foreign exchange and other contracts								
Notional value	$ 253						$ 253	$ (2)
Total notional value	$7,216	$7,940	$5,672	$6,483	$2,767	$15,692	$45,770	$ 144
Total weighted average rates on swaps:								
Receive rate	1.65%	2.28%	2.00%	2.07%	1.98%	1.98%	1.99%	
Pay rate	1.76%	1.83%	1.82%	1.90%	1.86%	1.95%	1.87%	

* The fair value of derivative products in this table excludes variation margin settlements of $110 million.

By using derivative instruments, we are exposed to counterparty credit risk. If a counterparty fails to fulfill its performance obligations under a derivative contract, the credit risk exposure will equal the fair value gain in a derivative. When the fair value of a derivative is positive, the counterparty would owe us on early termination of the derivative, thus creating credit risk. When the fair value of the derivative is negative, we would owe the counterparty on early termination of the derivative, and, therefore, assume no credit risk.

To minimize the risk of credit losses for non-cleared derivatives, we typically enter into master agreements that govern all derivative transactions with a counterparty, which include bilateral collateral agreements requiring the exchange of collateral to offset credit risk exposure. In some instances, the bilateral exchange of collateral is required by regulation, whereas in other instances it is based on dollar thresholds of exposure that consider a counterparty's creditworthiness. We may also clear derivative transactions through a futures commission merchant (FCM), with a clearinghouse (i.e. a central counterparty (CCP)). Cleared derivatives require the payment of initial and variation margin as a protection against default.

To further minimize the risk of credit losses from derivatives, the Banks transact with counterparties that have an investment grade long-term credit rating from a Nationally Recognized Statistical Rating Organization such as Moody's Investors Service, S&P Global Ratings or Fitch Ratings, and also monitor the credit standing of and levels of exposure to individual derivative counterparties.

The Banks may enter into derivatives with their customers, including Associations, as a service to enable customers to transfer, modify or reduce their interest rate risk by transferring this risk to the Bank. The Banks substantially offset the market risk by concurrently entering into offsetting agreements with non-System institutional counterparties.

In addition to entering into over-the-counter derivative transactions directly with a counterparty as described above, the Banks may also clear such transactions through a FCM with a CCP. When the swap is cleared by the two parties, the single bilateral swap is divided into two separate swaps with the CCP becoming the counterparty to both of the initial parties to the swap. CCPs have several layers of protection against default including margin, member capital contributions, and FCM guarantees of their customers' transactions with the CCP. FCMs also pre-qualify the counterparties to all swaps that are sent to the CCP from a credit perspective, setting limits for each counterparty and collecting initial and variation margin daily from each counterparty for changes in the value of cleared derivatives. The margin collected from both parties to the swap protects against credit risk in the event a counterparty defaults. The initial and variation margin requirements are set by and held for the benefit of the CCP. Additional initial margin may be required and held by the FCM, due to its guarantees of its customers' trades with the CCP.

Certain over-the-counter swaps entered into by swap dealers and major swap participants, as well as certain other market participants, including financial institutions are subject to mandatory clearing. Currently, instrument types that must be cleared are interest rate swaps and credit default swaps. System institutions with less than $10 billion in assets qualify for an exemption from clearing if the swap is used to hedge commercial risk. All System institutions also qualify for a "cooperative exemption." This exemption does not cover all swaps that are executed by System institutions, and is generally limited to transactions entered into in connection with loans to members. At December 31, 2019 and 2018, the notional amount of cleared derivatives was $18.298 billion and $15.882 billion.

Two of the largest CCPs amended their rule books so as to legally characterize variation margin in respect of cleared swap transactions as a settlement payment rather than the posting of collateral. This change resulted in the reclassification of collateral assets for amounts formerly considered variation margin to an offset of the fair value of interest rate swaps and other financial instruments related to our net position for cleared derivative transactions in the accompanying Combined Statement of Condition as of December 31, 2019 and 2018. In addition, price alignment interest formerly paid with respect to the collateral will no longer be paid, though an economically equivalent price adjustment amount will be included in the trading revenue associated with the centrally cleared derivatives. This change had no impact on the System's results of operations or cash flows.

The exposure on derivatives by counterparty credit rating (Moody's) that would be owed to us due to a default or early termination by our counterparties at December 31, 2019 were:

Derivative Credit Exposure

			Years to Maturity(1)						
	Number of Counterparties	**Notional Principal**	**Less than 1 Year**	**1 to 5 Years**	**Maturity Over 5 Years**	**Distribution Netting(2)**	**Credit Exposure**	**Collateral Held**	**Exposure, Net of Collateral**
					($ in millions)				
Bilateral derivatives:									
Aa2	4	$10,487		$ 1		$ (1)			
Aa3	4	4,752			$1		$1		$1
A1	2	175							
A2	2	959							
A3	1	1,801							
Cleared derivatives(3)	2	18,298	$2	140	6	(144)	4	—	4
Total	15	$36,472	$2	$141	$7	$(145)	$5	$0	$5

(1) Represents gain positions on derivative instruments with individual counterparties. Net gains represent the exposure to credit loss estimated by calculating the cost, on a present value basis, to replace all outstanding derivative contracts within a maturity category. Within each maturity category, contracts in a loss position are netted against contracts in a gain position with the same counterparty. If the net position within a maturity category with a particular counterparty is a loss, no amount is reported.

(2) Represents impact of netting of derivatives in a gain position and derivatives in a loss position with the same counterparty across different maturity categories.

(3) Represents derivative transactions cleared with central counterparties, which are not rated. Excluded from the table is initial margin posted by two Banks and one Association totaling $92 million at December 31, 2019 related to cleared derivative transactions.

Note: Due to grouping of counterparties by credit rating, exposure, net of collateral may not represent the difference between credit exposure and collateral held. The above table excludes $9.284 billion in notional amount of derivative financial instruments at December 31, 2019 related to interest rate swaps that two Banks entered into with certain of their customers. Also excluded is $14 million in notional amount of derivative financial instruments related to forward commitments that one Association has entered into to hedge interest rate risk on interest rate locks.

At December 31, 2019, the credit exposure, net of collateral, was $5 million. The Banks' counterparties did not post any cash as collateral with us. Three Banks posted collateral of $152 million with respect to their obligations under these agreements.

Future of LIBOR

In 2017, the United Kingdom's Financial Conduct Authority, which regulates LIBOR, announced its intention to stop persuading or compelling the group of major banks that sustains LIBOR to submit rate quotations after 2021. As a result, it is uncertain whether LIBOR will continue to be quoted after 2021. The System has exposure to LIBOR, including in financial instruments that reference LIBOR that mature after 2021.

System institutions' exposure arises from loans that they make to customers, investment securities that they purchase, Systemwide Debt Securities that are issued by the Funding Corporation on the Banks' behalf, preferred stock that they issue and their derivative transactions. Alternative reference rates that replace LIBOR may not yield the same or similar economic results over the lives of the financial instruments, which could adversely affect the value of, and return on, financial instruments held by System institutions. The LIBOR transition could result in System institutions paying higher interest rates on current LIBOR-indexed Systemwide Debt Securities, adversely affect the yield on, and fair value of, the financial instruments we hold that reference LIBOR, and increase the costs of or affect System institutions' ability to effectively use derivative instruments to manage interest rate risk. In addition, to the extent that System institutions cannot successfully transition their LIBOR-based financial instruments to an alternative rate based index that is endorsed or supported by regulators and generally accepted by the market as a replacement to LIBOR, there could be other ramifications including those that may arise as a result of the need to redeem or terminate such financial instruments. Due to the uncertainty regarding the transition of LIBOR-based financial instruments, including when it will happen, the manner in which an alternative reference rate will apply, and the mechanisms for transitioning System institutions' LIBOR-based instruments to instruments with an alternative rate, we cannot yet reasonably estimate the expected financial impact of the LIBOR transition on the System.

On September 11, 2018, the Farm Credit Administration issued guidelines for System institutions to follow as they prepare for the expected phase-out of LIBOR. The guidelines direct each System institution to develop a LIBOR transition plan designed to provide an orderly roadmap of actions that will reduce LIBOR exposure over time. The Farm Credit Administration identified the following as important considerations in the development of each entity's transition plan:

- a governance structure to manage the transition,
- an assessment of exposures to LIBOR,
- an assessment of the fallback provisions in contracts and the impact of a LIBOR phase-out under those provisions,
- the establishment of strategies for reducing each type of LIBOR exposure,
- an assessment of the operational processes that need to be changed,
- a communication strategy for customers and stakeholders,
- the establishment of a process to stay abreast of industry developments and best practices,
- the establishment of a process to ensure a coordinated approach, to the extent possible, across the System, and
- a timeframe and action steps for completing key objectives.

Each Bank and Association has established and is in the process of implementing a LIBOR transition plan and will continue to analyze potential risks associated with the LIBOR transition, including, but not limited to, financial, market, accounting, operational, legal, tax, reputational and compliance risks.

At this time, we are unable to predict when LIBOR will cease to be available or if SOFR will become the only benchmark to replace LIBOR. Because the System engages in transactions involving financial instruments that reference LIBOR, these developments could have a material impact on us, our borrowers, our investors, and System institutions' customers and counterparties.

The following is a summary of variable-rate Systemwide Debt Securities and other financial instruments impacted by the LIBOR transition:

	December 31, 2019
	(in millions)
Variable-rate Systemwide Debt Securities by interest-rate index	
LIBOR	$ 80,613
SOFR	7,957
Other	28,644
Total	$117,214
LIBOR-indexed Systemwide Debt Securities by contractual maturity	
Due in 2020	$ 50,011
Due in 2021	28,446
Due in 2022 and thereafter	2,156
Total	$ 80,613

	Due in 2020	Due in 2021	Due in 2022 and thereafter	Total
	(in millions)			
LIBOR-indexed variable-rate financial instruments at December 31, 2019:				
Investments	$ 1,159	$ 348	$10,724	$12,231
Loans	16,728	7,411	38,632	62,771
Preferred stock			274	274
Derivatives (notional amount)	6,960	7,939	30,617	45,516

Note: Excluded from this table are preferred stock issuances totaling $1.845 billion that currently have fixed dividend rates but convert to LIBOR-indexed variable-rates in the future. The $274 million of preferred stock is perpetual and may be redeemed in 2022 or thereafter. For additional information regarding preferred stock, see Note 12 to the accompanying combined financial statement.

Liquidity Risk Management

General

Liquidity risk management is necessary to ensure our ability to meet our financial obligations. These obligations include the repayment of Systemwide Debt Securities as they mature, the ability to fund new and existing loan and other funding commitments, and the ability to fund operations in a cost-effective manner. A primary objective of liquidity risk management is to plan for unanticipated changes in the capital markets. The Banks and Funding Corporation have established a Contingency Funding Program to provide for contingency financing mechanisms and procedures to address potential disruptions in the System's communications, operations and payments systems, as well as the ability to handle events that threaten continuous market access by the Banks or disrupt the Funding Corporation's normal operations. Under this Contingency Funding Program, the Funding Corporation has the option to finance maturing Systemwide Debt Securities through the issuance of Systemwide discount notes either directly to institutional investors or through the selling group. In addition, the Funding Corporation, in consultation with the Banks, may also issue Systemwide bonds directly to institutional investors. The Funding Corporation, on behalf of the Banks, may also incur other obligations, such as Federal funds purchased, that would be the joint and several obligations of the Banks and would be insured by the Insurance Corporation to the extent funds are available in the Insurance Fund.

In addition, each Bank maintains contingency funding plans that help inform operating and funding needs and addresses actions each Bank would consider in the event that there is not ready access to traditional funding sources. These potential actions include drawing on existing uncommitted lines of credit with various financial institutions, borrowing overnight via federal funds, using investment securities as collateral to borrow, selling securities under repurchase agreements, using the proceeds from maturing investments and selling liquid investments.

The System does not have a guaranteed line of credit from the U.S. Treasury or the Federal Reserve. However, the Insurance Corporation has an agreement with the Federal Financing Bank, a federal instrumentality subject to the supervision and direction of the U.S. Treasury, pursuant to which the Federal Financing Bank would advance funds to the Insurance Corporation. Under its existing statutory authority, the Insurance Corporation may use these funds to provide assistance to the System Banks in exigent market circumstances that threaten the Banks' ability to pay maturing debt obligations. The agreement provides for advances of up to $10 billion and terminates on September 30, 2020, unless otherwise renewed. The decision whether to seek funds from the Federal Financing Bank is at the discretion of the Insurance Corporation, and each funding obligation of the Federal Financing Bank is subject to various terms and conditions and, as a result, there can be no assurance that funding would be available if needed by the System.

Funding Sources

Our primary source of liquidity is the ability to issue Systemwide Debt Securities, which are the general unsecured joint and several obligations of the Banks. We continually raise funds to support our mission to provide credit and related services to the agricultural and rural sectors, repay maturing Systemwide Debt Securities, and meet other obligations. As a government-sponsored enterprise, we have had access to the global capital markets. This access has traditionally provided us with a dependable source of competitively priced debt that is critical to support our mission of providing funding to the agricultural and rural sectors. The U.S. government does not guarantee, directly or indirectly, the payment of principal or interest on any Systemwide Debt Securities issued by the Banks.

Moody's Investors Service and Fitch Ratings rate our long-term debt as Aaa and AAA, and our short-term debt as P-1 and F1. These are the highest ratings available from these rating agencies. S&P Global Ratings maintains the long-term sovereign credit rating of the U.S. government at AA+, which directly corresponds to its AA+ long-term debt rating of the System. These rating agencies base their ratings on many quantitative and qualitative factors, including the System's status as a government-sponsored enterprise. Material changes to the factors considered could result in a different debt rating.

Cumulative Systemwide Debt Securities maturities for the past two year-ends were:

	December 31, 2019	December 31, 2018
	(in millions)	
Debt maturing within:		
one day	$ 850	$ 805
one week	2,444	2,693
one quarter	33,890	31,176
six months	61,832	58,458
one year	114,127	109,228

Cash provided by the System's operating activities, which is primarily generated from net interest income in excess of operating expenses, was $5.410 billion for 2019, $5.960 billion for 2018 and $5.037 billion for 2017 and provided an additional source of liquidity for the System that is not reflected in the individual Bank's calculation of days of liquidity, which is discussed under "Liquidity Standard" below. Further, funds in the Insurance Fund would be used to repay maturing Systemwide Debt Securities to the extent available if no other sources existed to repay the debt. At December 31, 2019 and 2018, the assets in the Insurance Fund totaled $5.202 billion and $4.954 billion. (See "Insurance Fund" beginning on page 83 of this Annual Information Statement for additional information.)

Federal Funds and Available-for-Sale Investments

As permitted under Farm Credit Administration regulations, a Bank is authorized to hold Federal funds and available-for-sale investments in an amount not to exceed 35% of a Bank's average loans outstanding for the quarter. For purposes of this calculation, the 30-day average daily balance of Federal funds and investments, carried at amortized cost, is divided by the average daily balance for loans outstanding plus accrued interest for the quarter. We utilize investments for the purposes of maintaining a diverse source of liquidity and managing short-term surplus funds and reducing interest rate risk and, in so doing, enhance profitability. At December 31, 2019, no Bank exceeded the 35% limit.

Farm Credit Administration regulations were revised, effective January 1, 2019, to strengthen eligibility requirements for investments purchased by the Banks and to allow Associations greater flexibility regarding balance sheet risk management by establishing new limits on the amounts and types of investments they may hold. The regulations also require greater Bank oversight of Association investments. Associations may hold securities that are issued by, or are unconditionally guaranteed or insured as to the timely payment of principal and interest by, the U.S. government or its agencies with the approval of its related Bank, in an amount not to exceed 10% of its total average 90-day outstanding loan balance.

Bank eligible investments (carried at fair value) must comply with the regulatory eligibility criteria and for reporting purposes are shown by credit ratings issued by Moody's Investors Service, S&P Global Ratings, or Fitch Ratings.

Credit Rating Criteria by Investment Type

	Moody's	S&P	Fitch
Overnight Federal funds	P-1, P-2	A-1+, A-1, A2	F1, F2
Term Federal funds	P-1, P-2	A-1+, A-1, A2	F1, F2
Commercial paper	P-1	A-1+, A-1	F1
Corporate securities	Aaa, Aa1, Aa2, Aa3	AAA, AA+, AA, AA-	AAA, AA+, AA, AA-
Mortgage-backed securities	Aaa	AAA	AAA
Asset-backed securities	Aaa	AAA	AAA

The Bank's holdings of eligible investments were as follows:

December 31, 2019	Eligible Investments AAA/Aaa	A1/P1/F1	Split Rated(1)	Total
	(in millions)			
Federal funds sold and securities purchased under resale agreements		$3,434	$ 450	$ 3,884
Commercial paper, bankers' acceptances, certificates of deposit and other securities		4,629	2,078	6,707
U.S. Treasury securities			19,222	19,222
U.S. agency securities			3,054	3,054
Mortgage-backed securities:				
Agency collateralized			24,639	24,639
Agency whole-loan pass through			1,266	1,266
Private label-FHA/VA			40	40
Asset-backed securities	$2,565	8	1,656	4,229
Total	$2,565	$8,071	$52,405	$63,041

December 31, 2018	Eligible Investments AAA/Aaa	A1/P1/F1	Split Rated(1)	Total
	(in millions)			
Federal funds sold and securities purchased under resale agreements		$2,881	$ 498	$ 3,379
Commercial paper, bankers' acceptances, certificates of deposit and other securities		4,618	2,063	6,681
U.S. Treasury securities			18,778	18,778
U.S. agency securities			2,480	2,480
Mortgage-backed securities:				
Agency collateralized			25,308	25,308
Agency whole-loan pass through			1,452	1,452
Private label-FHA/VA			49	49
Asset-backed securities	$2,414	8	1,056	3,478
Total	$2,414	$7,507	$51,684	$61,605

(1) Investment that received the highest credit rating from at least one rating organization.

As noted in the tables above, the split rating on investments in U.S. Treasury, U.S. agency and agency mortgage-backed securities is the result of S&P Global Ratings maintaining the U.S. government's long-term sovereign credit rating of AA+. Both Moody's Investors Service and Fitch Ratings maintain ratings of Aaa and AAA for U.S. government and agency securities.

If a Bank held investment no longer meets the regulatory eligibility criteria, the investment becomes ineligible for regulatory liquidity calculation purposes. Under Farm Credit Administration regulations, if a Bank held investment is eligible when purchased but no longer satisfies the eligibility criteria referred to above, the Bank may continue to hold it subject to the following requirements:

- the Bank must notify the Farm Credit Administration within 15 calendar days after such determination,
- the Bank must not use the investment to satisfy its liquidity requirement,
- the Bank must continue to include the investment in the investment portfolio limit calculation,

- the Bank may continue to include the investment as collateral and net collateral at lower of cost or market, and
- the Bank must develop a plan to reduce the risk posed by the investment.

If a Bank determines that it purchased an ineligible investment, it is subject to the following regulatory requirements:

- the Bank must notify the Farm Credit Administration within 15 calendar days after the determination,
- the Bank must divest of the investment no later than 60 calendar days after such determination unless the Farm Credit Administration approves, in writing, a plan that authorizes the Bank to divest the investment over a longer period of time.
- until the Bank divests of the investment:
    1) it must not be used to satisfy the Bank's liquidity requirement,
    2) it must continue to be included in the investment portfolio limit calculation, and
    3) it must be excluded as collateral.

The Farm Credit Administration has the authority to require a Bank to divest any investment at any time for failure to comply with its regulation or for safety and soundness reasons. As of December 31, 2019, the Farm Credit Administration has not required disposition of any of these securities. Bank managements do not believe that events will occur that would require them to dispose of any of these securities.

Ineligible securities (carried at fair value) held by the Banks totaled $474 million at December 31, 2019 and $250 million at December 31, 2018 and represented 0.7% and 0.4% of Federal funds and available-for-sale investments at December 31, 2019 and 2018, respectively.

The types of mortgage-backed and asset-backed securities that are included in the Bank's investment portfolio were:

	December 31, 2019			December 31, 2018		
	Amortized Cost	Fair Value	Unrealized Gains/(Losses)	Amortized Cost	Fair Value	Unrealized Gains/(Losses)
	(in millions)					
Mortgage-backed securities:						
Agency collateralized	$24,611	$24,639	$28	$25,631	$25,308	$(323)
Agency whole-loan pass through	1,241	1,266	25	1,427	1,452	25
Private label-FHA/VA	144	140	(4)	167	162	(5)
Non-agency				12	13	1
Total mortgage-backed securities	$25,996	$26,045	$49	$27,237	$26,935	$(302)
Asset-backed securities:						
Auto loans	$ 1,816	$ 1,823	$ 7	$ 1,932	$ 1,932	
Small business loans	1,708	1,737	29	1,051	1,056	$ 5
Credit card receivables	565	566	1	446	441	(5)
Equipment loans	102	102		46	46	
Student loans	1	1		2	2	
Home equity loans				6	6	
Total asset-backed securities	$ 4,192	$ 4,229	$37	$ 3,483	$ 3,483	$ 0

The fair values for floating-rate and fixed-rate mortgage-backed and asset-backed securities were:

	December 31,	
	2019	2018
	(in millions)	
Floating-rate mortgage-backed securities	$11,093	$11,518
Fixed-rate mortgage-backed securities	14,952	15,417
Total mortgage-backed securities	$26,045	$26,935
Floating-rate asset-backed securities	$ 599	$ 541
Fixed-rate asset-backed securities	3,630	2,942
Total asset-backed securities	$ 4,229	$ 3,483

Other Investments

As mentioned above, Associations are permitted to hold investments but they are limited to securities that are issued by, or are unconditionally guaranteed or insured as to the timely payment of principal and interest, the U.S. government or its agencies. Mortgage-backed securities issued by Farmer Mac are also considered allowable investments for both Banks and Associations but are excluded from the Banks' eligible investment limitation and the Banks' liquidity calculations. These Farmer Mac securities are backed by loans originated by Associations and previously held by the Associations under Farmer Mac standby purchase commitments.

Other investments outstanding that are classified as held-to-maturity (carried at amortized cost) are as follows:

	December 31,	
	2019	2018
	(in millions)	
Farmer Mac securities	$ 909	$ 909
Small Business Administration securities and other government guaranteed	815	228
Rural America bonds and Agricultural Rural Community bonds	73	79
Total	$1,797	$1,216

Other investments outstanding that are classified as available-for-sale (carried at fair value) are as follows:

	December 31,	
	2019	2018
	(in millions)	
Rural home loan securities	$392	$425
Farmer Mac securities	29	36
U.S. Treasury securities	15	
Other securities	14	6
Total	$450	$467

Liquidity Standard

The Farm Credit Administration regulations on liquidity set forth requirements for the Banks to:

- improve their capacity to pay their obligations and fund their operations by maintaining adequate liquidity to withstand various market disruptions and adverse economic or financial conditions;
- strengthen liquidity management;
- enhance the liquidity of assets that they hold in their liquidity reserves;
- maintain a three-tiered liquidity reserve. The first tier of the liquidity reserve must consist of a sufficient amount of cash and/or cash-like instruments to cover each Bank's financial obligations for 15 days. The second and third tiers of the liquidity reserve must contain cash, cash-like instruments, and/or highly liquid instruments that are sufficient to cover the Bank's obligations for the next 15 and subsequent 60 days, respectively;
- establish a supplemental liquidity reserve, in addition to the three tiers set forth immediately above, comprised of cash and eligible investments; and
- strengthen their Contingency Funding Plan.

The number of days of liquidity is calculated by comparing the principal portion of maturing Systemwide Debt Securities and other borrowings of the Banks with the total amount of cash, cash equivalents and eligible investments maintained by that Bank. For purposes of calculating liquidity, liquid assets are reflected at fair value discounted for potential exposure to adverse market value changes that might be recognized upon liquidation or sale and include only the eligible investments of the Banks.

At December 31, 2019, each Bank met the individual tiers' minimums of the liquidity reserve and exceeded the aggregate regulatory minimum 90 days of liquidity. Each Bank's liquidity position ranged from 166 to 222 days at December 31, 2019. The System's liquidity position was 177 days at December 31, 2019, as compared with 182 days at December 31, 2018. (See Note 21 for each Bank's liquidity position at December 31, 2019 and December 31, 2018.)

Contractual Obligations

We enter into contractual obligations in the ordinary course of business, including debt issuances for the funding of our business operations. Systemwide Debt Securities are the joint and several obligations of the Banks. Payments of principal and interest to the holders of Systemwide Debt Securities are insured by amounts held in the Insurance Fund as described in Note 7 to the accompanying combined financial statements. The Banks may issue certain other bonds directly to eligible purchasers. These bonds are the obligations solely of the issuing Bank and are not subject to joint and several liability of the other Banks.

In addition, we enter into derivative transactions with counterparties that create contractual obligations. See "Derivative Products" beginning on page 66 of this Annual Information Statement for additional information. Substantially all proceeds of debt issuances were used to repay maturing debt, as well as to fund growth in loans and investment securities. Issuance, maturity, and retirement activity of Systemwide Debt Securities for the past two years was:

	Systemwide Bonds		Systemwide Medium-Term Notes		Systemwide Discount Notes		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
	(in millions)							
Balance, beginning of year	$ 258,788	$239,573	$89	$89	$ 22,582	$ 25,507	$ 281,459	$ 265,169
Issuances	157,572	98,018			206,904	210,491	364,476	308,509
Maturities/retirements	(141,906)	(78,803)	(3)		(210,488)	(213,416)	(352,397)	(292,219)
Balance, end of year	$ 274,454	$258,788	$86	$89	$ 18,998	$ 22,582	$ 293,538	$ 281,459

Weighted average interest rates and weighted average maturities for 2019 and 2018 were:

	Systemwide Bonds		Systemwide Medium-Term Notes		Systemwide Discount Notes		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
At December 31:								
Average interest rate	2.17%	2.30%	5.82%	5.85%	1.82%	2.40%	2.15%	2.31%
Average remaining maturity	3.0 years	3.1 years	8.8 years	9.7 years	3.6 months	4.0 months	2.8 years	2.9 years
Issuances during the year:								
Average interest rate	2.27%	2.36%			2.10%	1.87%	2.17%	2.03%
Average maturity at issuance	3.6 years	3.0 years			29 days	37 days	19.2 months	12.4 months

The following table presents principal cash flows and related weighted average interest rates by contractual maturity dates for Systemwide Debt Securities.

	Fixed Rate	Average Interest Rate	Floating Rate	Average Interest Rate	Total
			($ in millions)		
2020	$ 49,274	1.87%	$ 64,853	1.92%	$114,127
2021	28,927	2.07	46,874	1.98	75,801
2022	22,062	2.05	4,457	2.13	26,519
2023	16,620	2.32	246	2.01	16,866
2024	12,811	2.23	230	2.06	13,041
2025 and thereafter	46,630	2.95	554	2.33	47,184
Total	$176,324	2.28	$117,214	1.95	$293,538
Fair value at December 31, 2019	$178,572		$117,416		$295,988

The Farm Credit Act and Farm Credit Administration regulations require, as a condition for a Bank's participation in the issuance of Systemwide Debt Securities, that the Bank maintain specified eligible assets, referred to in the Farm Credit Act as "collateral," at least equal in value to the total amount of the debt securities outstanding for which it is primarily liable. (See "Federal Regulation and Supervision of the Farm Credit System — Farm Credit Administration Regulations — Bank Collateral Requirements" for a description of eligible assets.) The collateral requirement does not provide holders of Systemwide Debt Securities with a security interest in any assets of the Banks.

At December 31, 2019, all Banks reported compliance with the collateral requirement. (See "Farm Credit Administration Capital Requirements" beginning on page 82 of this Annual Information Statement and Note 9 to the accompanying combined financial statements.)

Each Bank determines its participation in each issue of Systemwide Debt Securities based on its funding and operating requirements, subject to: (1) the availability of eligible collateral (as described above), (2) compliance with the conditions of participation as prescribed in the Third Amended and Restated Market Access Agreement (MAA), (3) determination by the Funding Corporation of the amounts, maturities, rates of interest and terms of each issuance, and (4) Farm Credit Administration approval. As of December 31, 2019, no Bank was limited or precluded from participation in issuances of Systemwide Debt Securities. As required by the Farm Credit Act, Systemwide Debt Securities are issued pursuant to authorizing resolutions adopted by the board of directors of each Bank. Under the MAA, each Bank's ability to withdraw its authorizing resolution is restricted and, in certain circumstances, eliminated.

Issuance, maturity, and retirement activity of other bonds issued by Banks individually for the past two years was:

	Other Bonds	
	2019	2018
	(in millions)	
Balance, beginning of year	$ 1,817	$ 1,950
Issuances	173,546	147,633
Maturities/retirements	(173,402)	(147,766)
Balance, end of year	$ 1,961	$ 1,817

Weighted average interest rates and weighted average maturities of other bonds for 2019 and 2018 were:

	Other Bonds	
	2019	2018
At December 31:		
Average interest rate	0.89%	1.58%
Average remaining maturity	1 day	1 day
Issuances during the year:		
Average interest rate	1.50%	1.24%
Average maturity at issuance	1 day	1 day

Capital Adequacy and the Ability to Repay Systemwide Debt Securities

System Capitalization

The changes in capital for the year ended December 31, 2019 were:

	Capital				
	Combined Banks	Combined Associations	Insurance Fund	Combination Entries	System Combined
			(in millions)		
Balance at December 31, 2018	$19,183	$40,504	$4,954	$(6,197)	$58,444
Adjustment to beginning balance due to the change in accounting for leases	10	(1)			9
Balance at January 1, 2019	19,193	40,503	4,954	(6,197)	58,453
Net income	2,103	4,380	314	(1,351)	5,446
Change in accumulated other comprehensive loss	557	(17)		(145)	395
Preferred stock issued		331			331
Preferred stock retired		(341)			(341)
Preferred stock dividends	(163)	(20)			(183)
Capital stock and participation certificates issued	241	85		(240)	86
Capital stock and participation certificates and retained earnings retired	(45)	(80)		7	(118)
Equity issued or recharacterized upon Association combination		26			26
Equity retired or recharacterized upon Association combination		(26)			(26)
Insurance Corporation distributions to System institutions			(66)	66	
Patronage	(1,221)	(2,153)		1,035	(2,339)
Balance at December 31, 2019	$20,665	$42,688	$5,202	$(6,825)	$61,730

Note: System combined capital reflected eliminations of approximately $5.5 billion and $5.0 billion of Bank equities held by Associations as of December 31, 2019 and 2018. System combined capital also reflected net eliminations of transactions between System entities, primarily related to accruals, and retained earnings allocations by certain Banks to their Associations. (See Notes 12 and 21 to the accompanying combined financial statements.)

Capital serves to support asset growth and provide protection against unexpected credit and interest rate risk and operating losses. Capital is also needed for future growth and investment in new products and services. We believe a sound capital position is critical to providing protection to investors in Systemwide Debt Securities and our long-term financial success.

The System continues to build capital primarily through net income earned and retained. Capital accumulated through earnings has been partially offset by cash patronage distributions to stockholders. Retained earnings of $49.0 billion is the most significant component of capital. Retained earnings as a percentage of capital was 79.4% and 79.5% at December 31, 2019 and 2018. Capital as a percentage of assets was 16.9% at December 31, 2019 and 16.7% at December 31, 2018. Accumulated other comprehensive loss, net of tax, was comprised of the following components:

	December 31,	
	2019	2018
	(in millions)	
Unrealized gains/losses on investments available-for-sale, net	$ 285	$ (481)
Unrealized gains/losses on cash flow hedges, net	(195)	2
Pension and other benefit plans	(1,430)	(1,256)
	$(1,340)	$(1,735)

Accumulated other comprehensive loss decreased $395 million during 2019 primarily as a result of a decrease in interest rates, which increased the fair value of existing fixed-rate investment securities.

Interdependency of the Banks and the Associations

Understanding the System's structure and the interdependent nature of the Banks and the Associations is critical to understanding our capital adequacy.

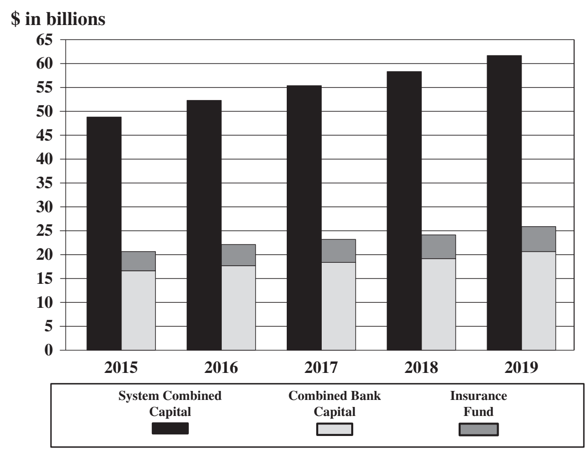
As previously discussed, each Bank is primarily liable for the repayment of Systemwide Debt Securities issued on its behalf, as well as being liable for Systemwide Debt Securities issued on behalf of the other Banks. The Banks, through the issuance of Systemwide Debt Securities, generally finance the wholesale loans to their affiliated Associations who lend the proceeds to their customers. CoBank, as an Agricultural Credit Bank, makes loans to agricultural and rural infrastructure cooperatives and businesses, and other eligible borrowers, as well as Associations. Each Bank's ability to repay Systemwide Debt Securities is due, in large part, to each of its Association's ability to repay its loan from the Bank. As a result, the Banks continually monitor the risk-bearing capabilities of each affiliated Association through various mechanisms, including testing the reliability of each Association's credit classifications and prior-approval of certain Association loan transactions. Capital, allowance for loan losses and earnings at the Association level also reduce the credit exposure that each Bank has with respect to the loans between the Bank and its affiliated Associations.

Since an Association's ability to obtain funds from sources other than its affiliated Bank is significantly limited, the financial well-being of the Bank and its ability to continue to provide funds is very important to the Association. In addition to the equity the Associations are required to purchase in connection with their direct loans from their affiliated Bank, under each Bank's bylaws, the Bank is authorized, under certain circumstances, to require its affiliated Associations and certain other equity holders to purchase additional Bank equity subject to certain limits or conditions. Further, the Banks generally possess indirect access to certain financial resources of their affiliated Associations through loan-pricing provisions and through Bank-influenced operating and financing policies and agreements for its District. (See Notes 12 and 21 to the accompanying combined financial statements for further discussion of Bank and Association capital.)

Notwithstanding the foregoing, only the Banks, and not the Associations, are jointly and severally liable for the repayment of Systemwide Debt Securities. Other than as described above, and subject to various regulatory and contractual conditions and limitations, the Banks do not have direct access to the capital of their affiliated Associations. In addition, any indirect access that the Banks may have to the capital of the Associations may be limited during stressed conditions in a deteriorating agricultural economic environment. Moreover, capital in one Association is not typically available to address capital needs of another Association or of a non-affiliated Bank.

Bank Capital and Insurance Fund

System Combined Capital, Combined Bank Capital and Insurance Fund as of December 31,



Combined Bank-only information is considered meaningful because only the Banks are jointly and severally liable for payment of principal and interest on Systemwide Debt Securities. Amounts in the Insurance Fund are included in the System's combined financial statements because, under the Farm Credit Act, these amounts can only be used for the benefit of the Banks and Associations. Before joint and several liability can be invoked, available amounts in the Insurance Fund would be used to make principal and interest payments on Systemwide Debt Securities. Combined Bank capital and the Insurance Fund increased $1.730 billion during 2019 to $25.867 billion at December 31, 2019. Combined Bank capital as a percentage of combined Bank assets increased to 6.5% at December 31, 2019, as compared with 6.3% at December 31, 2018. Each Bank's capital as a percentage of its assets ranged from 5.4% to 7.3% at December 31, 2019. (See Note 21 to the accompanying combined financial statements.) The Banks have implemented and continue to evaluate capital and asset management strategies to provide additional capacity to meet the borrowing needs of its customers and to fulfill the System's mission of providing credit to agriculture and rural America.

Combined Bank-only net income decreased $68 million to $2.103 billion for 2019, as compared with $2.171 billion for 2018, primarily as a result of a decrease in noninterest income and an increase in noninterest expense. The combined Bank-only net income reflects the earnings from investments, Bank wholesale loans to Associations, and retail loans, the majority of which consist of CoBank's loans to cooperatives and other eligible borrowers. Also, included in the Banks' net income for 2019 and 2018 were funds returned by the Insurance Corporation for premiums paid in excess of the secure base amount. The Banks' wholesale loans to Associations represent a majority of the assets on the combined Bank-only balance sheet. These loans carry less risk than retail loans because the Associations operate under General Financing Agreements with their affiliated Banks and a regulatory framework that includes maintaining certain minimum capital standards, adequate reserves, and prudent underwriting standards. Substantially all Association assets are pledged as collateral for their respective wholesale loan. Based on the lower risk of loans to the Associations, the Banks typically operate with more leverage and lower earnings than would be expected from a retail bank.

One of the mechanisms used by the Banks to evaluate the credit risk of its wholesale loan portfolio is the Farm Credit Administration's Uniform Loan Classification System. The following table reflects the loan classifications of the Associations:

Uniform Loan Classification System	December 31, 2019 Number of Associations	December 31, 2019 Direct Note	December 31, 2018 Number of Associations	December 31, 2018 Direct Note
		($ in millions)		
Acceptable	60	$166,605	65	$158,826
OAEM	8	6,585	3	3,709
Substandard (viable)	—		1	59
Total	68	$173,190	69	$162,594

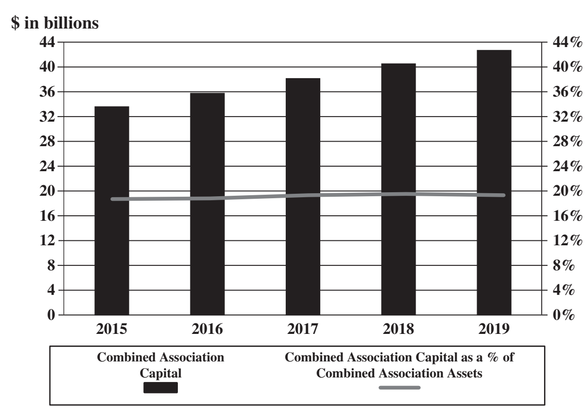
At December 31, 2019 and 2018, none of the wholesale loans classified as OAEM or substandard are deemed a credit risk and none have an associated allowance for loan losses.

Over the past five years, a substantial portion of income earned at the Bank level has been passed on to the Associations through patronage distributions. Bank capital increased $4.028 billion since December 31, 2015 and $1.482 billion since December 31, 2018 to $20.665 billion at December 31, 2019. The Banks had net income of $2.103 billion in 2019, retaining $719 million after patronage and preferred stock dividends, as compared with $2.171 billion in 2018, retaining $539 million after patronage and preferred stock dividends.

For combining Bank-only information, see Note 21 to the accompanying combined financial statements.

Association Capital

Combined Association Capital and Combined Association Capital as a Percentage of Combined Association Assets as of December 31,



Combined Association capital increased $9.066 billion since December 31, 2015 and $2.184 billion since December 31, 2018 to $42.688 billion at December 31, 2019. The growth in Association capital during 2019 resulted primarily from income earned and retained. Combined Associations recorded $4.380 billion of net income in 2019, retaining $2.227 billion after patronage distributions, as compared with $4.280 billion of net income in 2018 with $2.369 billion retained after patronage distributions.

Combined Association capital as a percentage of combined Association assets decreased to 19.3% at December 31, 2019 from 19.5% at December 31, 2018. (See "Farm Credit Administration Capital Requirements" below for additional information.)

Capital Adequacy Plans

System institutions' capital management frameworks are intended to ensure there is sufficient capital to support the underlying risks of its business activities, exceed all regulatory capital requirements, and achieve certain capital adequacy objectives. Each System institution maintains a capital adequacy plan that addresses its capital targets in relation to its risks. The capital adequacy plan assesses the capital level and composition necessary to assure financial viability and to provide for growth. The plans are updated at least annually and are approved by the System institution's board of directors. At a minimum, the plans consider the following factors in determining optimal capital levels:

- asset quality and the adequacy of the allowance for loan losses to absorb potential losses within the loan portfolio,
- quality and quantity of earnings,
- sufficiency of liquid funds,
- capability of management and the quality of operating policies, procedures, and internal controls,
- needs of an institution's customer base, and
- other risk-oriented activities, such as funding and interest rate risks, potential obligations under joint and several liability, contingent and off-balance-sheet liabilities and other conditions warranting additional capital.

Farm Credit Administration Capital Requirements

The Farm Credit Administration sets minimum regulatory capital requirements for Banks and Associations.

The following set forth the regulatory capital ratio requirements and ratios at December 31, 2019:

Ratio	Primary Components of Numerator	Denominator	Minimum Requirement	Minimum with Buffer*	Banks**	Associations
Common Equity Tier 1 (CET1) Capital	Unallocated retained earnings (URE) and common cooperative equities (qualifying capital stock and allocated equity)[1]	Risk-weighted assets	4.5%	7.0%	9.9% - 18.9%	12.2% - 37.1%
Tier 1 Capital	CET1 Capital and non-cumulative perpetual preferred stock	Risk-weighted assets	6.0%	8.5%	14.8% - 19.3%	12.2% - 37.1%
Total Capital	Tier 1 Capital, allowance for loan losses[2], other common cooperative equities[3], and term preferred stock and subordinated debt[4]	Risk-weighted assets	8.0%	10.5%	15.9% - 19.5%	13.6% - 38.3%
Tier 1 Leverage***	Tier 1 Capital	Total assets	4.0%	5.0%	5.5% - 7.5%	10.4% - 34.8%
Permanent Capital	Retained earnings, common stock, non-cumulative perpetual preferred stock and subordinated debt, subject to certain limits	Risk-weighted assets	7.0%	N/A	15.0% - 19.3%	13.3% - 37.5%
Other requirements:						
Unallocated Retained Earnings and URE Equivalents (UREE) Leverage	URE and URE Equivalents	Total assets	1.5%	N/A	3.0% - 6.2%	8.3% - 35.5%

* These capital requirements became effective January 1, 2017 and have a three-year phase-in of the capital conservation buffer applied to the risk-adjusted capital ratios. There is no phase-in of the leverage buffer. Amounts shown reflect the full capital conservation buffer.

** See Note 21 for each Bank's Total Capital ratio and Tier 1 Leverage ratio at December 31, 2019 and 2018.

*** Must include the regulatory minimum requirement for the URE and UREE Leverage ratio.

[1] Equities outstanding 7 or more years

[2] Capped at 1.25% of risk-weighted assets and inclusive of the reserve for unfunded commitments

[3] Outstanding 5 or more years, but less than 7 years

[4] Outstanding 5 or more years

Insurance Fund

An additional layer of protection for Systemwide Debt Security holders is the Insurance Fund that insures the timely payment of principal and interest on these securities. The primary sources of funds for the Insurance Fund are:

- premiums paid by the Banks, the cost of which may be passed on to the Associations, and
- earnings on assets in the Insurance Fund.

In the event a Bank is unable to timely pay Systemwide Debt Securities for which the Bank is primarily liable, the Insurance Corporation must expend amounts in the Insurance Fund to the extent available to insure the timely payment of principal and interest on the debt obligations. However, because of other authorized uses of the Insurance Fund, all of which benefit the Banks and Associations, or the magnitude of the default, there is no assurance that amounts in the Insurance Fund will be available and sufficient to fund the timely payment of principal and interest on Systemwide Debt Securities in the event of a default by a Bank.

Due to the restricted use of funds in the Insurance Fund, the assets of the Insurance Fund have been included as a restricted asset and the capital of the Insurance Fund as restricted capital in the System's combined financial statements. As of December 31, 2019 and 2018, the assets in the Insurance Fund totaled $5.202 billion and $4.954 billion. The aggregate amounts of additions to the Insurance Fund and the related transfers from retained earnings to restricted capital were $314 million in 2019, $282 million in 2018 and $395 million in 2017. (See Note 7 to the accompanying combined financial statements and the Supplemental Combining Information on pages F-69 through F-71 for combining statements of condition and income that illustrate the impact of including the Insurance Fund in the System's combined financial statements.)

Premiums are due until the assets in the Insurance Fund for which no specific use has been identified or designated reach the "secure base amount." The Farm Credit Act, as amended, requires the secure base amount to be maintained at 2% of aggregate outstanding insured debt (adjusted to reflect the reduced risk on loans or investments guaranteed by federal or state governments) or such other percentage of aggregate outstanding insured debt as the Insurance Corporation in its sole discretion determines to be actuarially sound. Insurance premiums are established by the Insurance Corporation with the objective of maintaining the secure base amount at the level required by the Farm Credit Act.

As required by the Farm Credit Act, as amended, if at the end of any calendar year, the aggregate amount in the Insurance Fund exceeds the secure base amount, the Insurance Corporation is required to reduce premiums, as necessary, to maintain the 2% secure base level. In addition, the Insurance Corporation is required to establish Allocated Insurance Reserves Accounts for each Bank. At December 31, 2019, the assets in the Insurance Fund exceeded the secure base amount by $63 million (after deduction of prospective operating expenses for 2020) and the excess was transferred to the Allocated Insurance Reserves Accounts. The excess remains as part of the Insurance Fund until approved for payment by the Insurance Corporation board. As determined by the Insurance Corporation, the total assets in the Insurance Fund at December 31, 2019, 2018 and 2017 were 2.03%, 2.03% and 2.08% of adjusted insured obligations, while the assets in the Insurance Fund for which no specific use has been identified or designated was 2.00% for each of the years.

In January 2020, the Insurance Corporation reviewed the level of the secure base amount and determined that it would decrease its assessment of premiums from nine basis points to eight basis points on adjusted insured debt and continue the assessment of an additional 10 basis points on nonaccrual loans and other-than-temporarily impaired investments. For further discussion on the Insurance Fund and the Allocated Insurance Reserves Accounts, see Note 7 to the accompanying combined financial statements.

Joint and Several Liability

The provisions of joint and several liability of the Banks with respect to Systemwide Debt Securities would be invoked if the available amounts in the Insurance Fund were exhausted. Once joint and several liability is triggered, the Farm Credit Administration is required to make "calls" to satisfy the liability first on all non-defaulting Banks in the proportion that each non-defaulting Bank's available collateral (collateral in excess of the aggregate of the Bank's collateralized obligations) bears to the aggregate available collateral of all non-defaulting Banks. If these calls do not satisfy the liability, then a further call would be made in proportion to each non-defaulting Bank's remaining assets. On making a call on non-defaulting Banks with respect to a Systemwide Debt Security issued on behalf of a defaulting Bank, the Farm Credit Administration is required to appoint the Insurance Corporation as the receiver for the defaulting Bank, and the receiver must expeditiously liquidate the Bank.

Operational Risk Management

Operational risk is the risk of loss resulting from inadequate or failed processes or systems, human factors or external events, including the execution of unauthorized transactions by employees, errors relating to transaction processing and technology, breaches of the internal control system and the risk of fraud by employees or persons outside the System. Each Bank's and Association's board of directors is required, by regulation, to adopt an internal control policy that provides adequate direction to the institution in establishing effective control over and accountability for operations, programs and resources. The policy must include, at a minimum, the following items:

- direction to management that assigns responsibility for the internal control function to an officer of the institution,
- adoption of internal audit and control procedures,
- direction for the operation of a program to review and assess its assets,
- adoption of loan, loan-related assets and appraisal review standards, including standards for scope of review selection and standards for work papers and supporting documentation,
- adoption of asset quality classification standards,
- adoption of standards for assessing credit administration, including the appraisal of collateral, and
- adoption of standards for the training required to initiate a program.

In general, System institutions address operational risk through the organization's internal control framework. Exposure to operational risk is typically identified by senior management with the assistance of internal audit, and higher risk areas receive more scrutiny.

However, no control system, no matter how well designed and operated, can provide absolute assurance that the objectives of the control systems are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud or errors can be detected. These inherent limitations include, but are not limited to, the realities that judgments in decision-making can be faulty and the breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part on certain assumptions about the likelihood of future events and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may be inadequate because of changes in conditions, or the compliance with the policies or procedures may deteriorate.

Reputational Risk Management

Reputation risk is defined as the negative impact resulting from events, real or perceived, that shape the image of the System or any of its entities. The System could be harmed if its reputation were impacted by negative publicity about the System as a whole, an individual System entity, the agricultural industry in general, or government sponsored enterprises.

Given the unique structure of the System, managing reputational risk is the direct responsibility of each System entity. (See "Structural Risk Management" on pages 47 and 48 of this Annual Information Statement for a discussion on the structure of the System).

Entities that serve the System at the national level, including the Coordinating Committee, the Presidents' Planning Committee and The Farm Credit Council, will communicate guidance to the System for reputational issues that have broader consequences for the System as a whole. These entities support those business and other practices that are consistent with our mission. (See pages 14 and 15 of this Annual Information Statement for a discussion on the Coordinating Committee and the Presidents' Planning Committee).

Political Risk Management

Political risk to the System is the risk of loss of support for the System or agriculture by the U.S. government. System institutions are instrumentalities of the federal government and are intended to further governmental policy concerning the extension of credit to or for the benefit of agriculture and rural America. The System may be significantly affected by federal legislation, such as changes to the Farm Credit Act, or indirectly, such as agricultural appropriations bills. In addition, our borrowers may also be significantly affected by changes in federal farm policy, agricultural appropriations bills and U.S. trade policy.

We manage political risk by actively supporting The Farm Credit Council, which is a full-service, federated trade association located in Washington, D.C. representing the System before Congress, the Executive Branch, and others. The Farm Credit Council provides the mechanism for grassroots involvement in the development of System positions and policies with respect to federal legislation and government actions that impact the System. In addition, each District has a District Farm Credit Council that is a regional trade association dedicated to promoting the interests of cooperative farm lending institutions and their borrowers in their respective Districts.

Regulatory Matters

On February 13, 2020, the Farm Credit Administration approved a rule that clarifies the factors that System institutions should consider when categorizing high-risk loans and placing them in nonaccrual status. The rule also revises the criteria by which loans are reinstated to accrual status, and revises the application of the criteria to certain loans in nonaccrual status to distinguish between the types of risk that cause loans to be placed in nonaccrual status.

On September 18, 2019, the Farm Credit Administration issued a proposed rule to amend its investment regulations to allow System Associations to purchase and hold the portion of certain loans that non-System lenders originate and sell in the secondary market, and that the USDA unconditionally guarantees or insures as to timely payment of principal and interest. The rule would authorize Associations to buy investments to augment the liquidity of rural credit markets, reduce the capital burden on community banks and other non-System lenders who choose to sell their USDA guaranteed portions of loans and to enhance the ability of Associations to manage risk. The public comment period ended on November 18, 2019.

On September 23, 2019, the Farm Credit Administration issued a proposed rule that would ensure the System's capital requirements, including certain regulatory disclosures, reflect the current expected credit losses methodology, which revises the accounting for credit losses under U.S. generally accepted accounting principles. The proposed rule identifies which credit loss allowances under the Current Expected Credit Losses (CECL) methodology in the Financial Accounting Standards Board's "Measurement of Credit Losses on Financial Instruments" are eligible for inclusion in a System institution's regulatory capital. Credit loss allowances related to loans, lessor's net investments in leases, and held-to-maturity debt securities would be included in a System institution's Tier 2 capital up to 1.25% of the System institution's total risk-weighted assets. Credit loss allowances for available-for-sale debt securities and purchased credit impaired assets would not be eligible for inclusion in a System institution's Tier 2 capital. In addition, the proposed regulation does not include a transition phase-in period for the CECL day 1 cumulative effect adjustment to retained earnings on a System institution's regulatory capital ratios. The public comment period ended on November 22, 2019.

Recently Adopted or Issued Accounting Pronouncements

See pages F-12 through F-14 to the accompanying combined financial statements for the recently adopted or issued accounting pronouncements.

INDEX TO COMBINED FINANCIAL STATEMENTS AND SUPPLEMENTAL COMBINING AND FINANCIAL INFORMATION

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The System's principal executives and principal financial officers, or persons performing similar functions, are responsible for establishing and maintaining adequate internal control over financial reporting for the System's combined financial statements. For purposes of this report, "internal control over financial reporting" is defined as a process designed by, or under the supervision of the System's principal executives and principal financial officers, or persons performing similar functions, and effected by the System's boards of directors, managements and other personnel, to provide reasonable assurance regarding the reliability of financial reporting information and the preparation of the System's combined financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America and includes those policies and procedures that: (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the System, (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial information in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the System are being made only in accordance with authorizations of managements and directors of the System, and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the System's assets that could have a material effect on the System's combined financial statements.

Managements of System institutions have completed an assessment of the effectiveness of the System's internal control over financial reporting as of December 31, 2019. In making the assessment, managements of System institutions used the framework in *Internal Control — Integrated Framework (2013)*, promulgated by the Committee of Sponsoring Organizations of the Treadway Commission, commonly referred to as the "COSO" criteria.

Based on the assessment performed, the Funding Corporation concluded that as of December 31, 2019, the System's internal control over financial reporting was effective based upon the COSO criteria. Additionally, based on this assessment, the Funding Corporation determined that there were no material weaknesses in the System's internal control over financial reporting as of December 31, 2019.

The System's internal control over financial reporting as of December 31, 2019 has been audited by PricewaterhouseCoopers, LLP, an independent registered public accounting firm, as stated in their accompanying report on pages F-3 and F-4 which expresses an unqualified opinion on the effectiveness of the System's internal control over financial reporting as of December 31, 2019.

Theresa E. McCabe
President and CEO
Funding Corporation

Karen R. Brenner
Managing Director — Financial
Management Division
Funding Corporation

February 28, 2020

pwc

Report of Independent Registered Public Accounting Firm

To the Board of Directors of the Federal Farm Credit Banks Funding Corporation:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying combined statements of condition of the Farm Credit System (the "System") as of December 31, 2019 and 2018, and the related combined statements of income, of comprehensive income, of changes in capital and of cash flows, for each of the three years in the period ended December 31, 2019, including the related notes (collectively referred to as the "combined financial statements"). We also have audited the System's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the combined financial statements referred to above present fairly, in all material respects, the financial position of the System as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the System maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The System's management is responsible for these combined financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report on Internal Control Over Financial Reporting appearing on page F-2 of the 2019 Annual Information Statement. Our responsibility is to express opinions on the System's combined financial statements and on the System's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the System in accordance with the relevant ethical requirements relating to our audit, which include standards of the American Institute of Certified Public Accountants (AICPA) *Code of Professional Conduct* and the Farm Credit Administration's independence rules set forth in 12 CFR Part 621, *Accounting and Reporting Requirements*, Subpart E, *Auditor Independence.*

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

Our audits of the combined financial statements included performing procedures to assess the risks of material misstatement of the combined 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 combined 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 combined financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Supplemental Information

The supplemental combining information on pages F-69 through F-76 of the 2019 Annual Information Statement has been subjected to audit procedures performed in conjunction with the audit of the System's combined financial statements. The supplemental information is the responsibility of the System's management. Our audit procedures included determining whether the supplemental information reconciles to the combined financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information presented in the supplemental information. In our opinion, the supplemental combining information is fairly stated, in all material respects, in relation to the combined financial statements as a whole.

Definition and Limitations of Internal Control over Financial Reporting

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

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

New York, NY
February 28, 2020

We have served as the System's auditor since 1985.

FARM CREDIT SYSTEM

COMBINED STATEMENT OF CONDITION
(in millions)

	December 31, 2019	December 31, 2018
ASSETS		
Cash	$ 2,504	$ 2,933
Federal funds sold and securities purchased under resale agreements	3,884	3,379
Investments (Note 3)		
Available-for-sale (amortized cost of $59,312 and $58,970, respectively)	59,631	58,476
Other investments held-to-maturity (fair value of $1,827 and $1,210, respectively)	1,797	1,216
Other investments available-for-sale (amortized cost of $444 and $482, respectively)	450	467
Loans (Note 4)	286,964	273,378
Less: allowance for loan losses (Note 4)	(1,806)	(1,713)
Net loans	285,158	271,665
Accrued interest receivable	2,864	2,732
Premises and equipment (Note 5)	1,489	1,337
Other assets (Notes 6, 13, 14, 15, 16 and 17)	2,380	1,833
Restricted assets (Note 7)	5,202	4,954
Total assets	$365,359	$348,992
LIABILITIES AND CAPITAL		
Systemwide Debt Securities		
Due within one year:		
Systemwide discount notes	$ 18,998	$ 22,582
Systemwide bonds and medium-term notes	95,129	86,646
	114,127	109,228
Due after one year:		
Systemwide bonds and medium-term notes	179,411	172,231
Total Systemwide Debt Securities (Notes 8 and 9)	293,538	281,459
Other bonds (Note 9)	1,961	1,817
Notes payable and other interest-bearing liabilities	1,155	1,161
Accrued interest payable	1,023	1,036
Other liabilities (Notes 6, 13, 14, 15, 16 and 17)	5,952	5,075
Total liabilities	303,629	290,548
Commitments and contingencies (Notes 4, 15 and 19)		
Capital (Note 12)		
Preferred stock	3,121	3,131
Capital stock and participation certificates	2,009	1,937
Additional paid-in-capital (Note 11)	3,738	3,712
Restricted capital (Note 7)	5,202	4,954
Accumulated other comprehensive loss, net of tax (Notes 3, 13 and 16)	(1,340)	(1,735)
Allocated retained earnings	3,324	3,283
Unallocated retained earnings	45,676	43,162
Total capital	61,730	58,444
Total liabilities and capital	$365,359	$348,992

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

FARM CREDIT SYSTEM

COMBINED STATEMENT OF INCOME
(in millions)

	For the Year Ended December 31,		
	2019	**2018**	**2017**
Interest income			
Investments, Federal funds sold and securities purchased under resale agreements	$ 1,593	$ 1,378	$ 1,019
Loans	13,426	12,302	10,627
Total interest income	15,019	13,680	11,646
Interest expense			
Systemwide bonds and medium-term notes	6,262	5,270	3,677
Systemwide discount notes	445	394	233
Other interest-bearing liabilities	46	40	24
Total interest expense	6,753	5,704	3,934
Net interest income	8,266	7,976	7,712
Provision for loan losses	(169)	(194)	(197)
Net interest income after provision for loan losses	8,097	7,782	7,515
Noninterest income			
Financially related services income	262	258	252
Loan-related fee income	253	244	246
Income earned on Insurance Fund assets (Note 7)	95	73	58
Mineral income	66	79	57
Losses on extinguishment of debt	(47)	(15)	(47)
Net gains on sales of investments and other assets	25	50	14
Other income	57	66	83
Total noninterest income	711	755	663
Noninterest expense			
Salaries and employee benefits (Note 13)	1,982	1,883	1,780
Occupancy and equipment expense	290	262	244
Purchased services	242	210	189
Other expense	745	724	738
Total noninterest expense	3,259	3,079	2,951
Income before income taxes	5,549	5,458	5,227
Provision for income taxes (Note 14)	(103)	(126)	(38)
Net income	$ 5,446	$ 5,332	$ 5,189

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

FARM CREDIT SYSTEM

COMBINED STATEMENT OF COMPREHENSIVE INCOME
(in millions)

	For the Year Ended December 31,		
	2019	2018	2017
Net income	$5,446	$5,332	$5,189
Other comprehensive income (loss):			
Change in unrealized gains/losses on investments available-for-sale not other-than-temporarily impaired, including reclassification adjustments of $(13), $(43) and $(5), respectively	833	(207)	(181)
Change in unrealized gains/losses on other-than-temporarily impaired investments, including reclassification adjustments of $0, $(6) and $(4), respectively		(4)	(2)
Change in unrealized losses on cash flow hedges, including reclassification adjustments of $15, $25 and $15, respectively	(197)	60	(5)
Change in net periodic pension benefit cost, including reclassification adjustments of $95, $130 and $114, respectively	(177)	172	(35)
Income tax related to other comprehensive income	(64)	10	18
Total other comprehensive income (loss)	395	31	(205)
Comprehensive income	$5,841	$5,363	$4,984

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

FARM CREDIT SYSTEM

COMBINED STATEMENT OF CHANGES IN CAPITAL
(in millions)

	Preferred Stock	Capital Stock and Participation Certificates	Additional Paid-in-Capital	Restricted Capital Farm Credit Insurance Fund	Accumulated Other Comprehensive Loss	Allocated Retained Earnings	Unallocated Retained Earnings	Total Capital
Balance at December 31, 2016	$3,018	$1,800	$1,391	$4,453	$(1,534)	$3,102	$40,081	$52,311
Comprehensive income (loss)					(205)		5,189	4,984
Transfer of Insurance Fund premiums and other income from retained earnings to restricted capital				395			(395)	
Preferred stock issued by Associations	400							400
Preferred stock retired by Associations	(366)							(366)
Preferred stock dividends							(170)	(170)
Capital stock and participation certificates issued		118						118
Capital stock and participation certificates retired		(127)						(127)
Equity issued or recharacterized upon Association mergers		25	2,321					2,346
Equity retired or recharacterized upon Association mergers		(25)					(2,344)	(2,369)
Patronage:								
Cash						(233)	(1,512)	(1,745)
Capital stock, participation certificates and retained earnings allocations		88				399	(487)	
Balance at December 31, 2017	3,052	1,879	3,712	4,848	(1,739)	3,268	40,362	55,382
Comprehensive income					31		5,332	5,363
Reclassification of stranded tax effects from accumulated other comprehensive loss to retained earnings					(27)		27	
Transfer of Insurance Fund premiums and other income from retained earnings to restricted capital				282			(282)	
Insurance Corporation distributions to System institutions				(176)			176	
Preferred stock issued by Banks	100						(1)	99
Preferred stock issued by Associations	450							450
Preferred stock retired by Associations	(471)							(471)
Preferred stock dividends							(180)	(180)
Capital stock and participation certificates issued		78						78
Capital stock and participation certificates retired		(122)						(122)
Patronage:								
Cash						(242)	(1,913)	(2,155)
Capital stock, participation certificates and retained earnings allocations		102				257	(359)	
Balance at December 31, 2018	3,131	1,937	3,712	4,954	(1,735)	3,283	43,162	58,444
Adjustment to beginning balance due to the change in accounting for leases							9	9
Balance at January 1, 2019	3,131	1,937	3,712	4,954	(1,735)	3,283	43,171	58,453
Comprehensive income					395		5,446	5,841
Transfer of Insurance Fund premiums and other income from retained earnings to restricted capital				314			(314)	
Insurance Corporation distributions to System institutions				(66)			66	
Preferred stock issued by Associations	331							331
Preferred stock retired by Associations	(341)							(341)
Preferred stock dividends							(183)	(183)
Capital stock and participation certificates issued		86						86
Capital stock and participation certificates retired		(118)						(118)
Equity issued or recharacterized upon Association combination			26					26
Equity retired or recharacterized upon Association combination							(26)	(26)
Patronage:								
Cash						(187)	(2,152)	(2,339)
Capital stock, participation certificates and retained earnings allocations		104				228	(332)	
Balance at December 31, 2019	$3,121	$2,009	$3,738	$5,202	$(1,340)	$3,324	$45,676	$61,730

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

FARM CREDIT SYSTEM

COMBINED STATEMENT OF CASH FLOWS
(in millions)

	For the Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities			
Net income	$ 5,446	$ 5,332	$ 5,189
Adjustments to reconcile net income to net cash provided by operating activities:			
Provision for loan losses	169	194	197
Depreciation and amortization on premises and equipment	158	117	114
Net gains on sales of investments and other assets	(25)	(50)	(14)
Income on Insurance Fund assets, net of operating expenses	(91)	(69)	(54)
Increase in accrued interest receivable	(132)	(378)	(214)
(Decrease) increase in accrued interest payable	(13)	292	130
Other, net	(102)	522	(311)
Net cash provided by operating activities	5,410	5,960	5,037
Cash flows from investing activities			
Increase in loans, net	(13,694)	(13,544)	(10,238)
Increase in Federal funds sold and securities purchased under resale agreements, net	(505)	(1,271)	(481)
Investments available-for-sale:			
Purchases	(25,930)	(28,967)	(27,209)
Proceeds from maturities and payments	22,836	22,485	26,350
Proceeds from sales	2,757	1,703	1,669
Other investments held-to-maturity:			
Purchases	(813)	(234)	(433)
Proceeds from maturities and payments	221	239	408
Other investments available-for-sale:			
Purchases	(84)	(87)	(107)
Proceeds from maturities, payments and sales	121	143	153
Premiums paid to the Insurance Fund	(213)	(341)	(373)
Distributions by Insurance Fund to System institutions	66	176	
Other, net	(257)	(185)	(99)
Net cash used in investing activities	(15,495)	(19,883)	(10,360)
Cash flows from financing activities			
Systemwide bonds issued	157,572	98,018	91,199
Systemwide bonds and medium-term notes retired	(142,135)	(78,820)	(79,696)
Systemwide discount notes issued	206,904	210,491	186,792
Systemwide discount notes retired	(210,441)	(213,450)	(190,864)
Subordinated debt retired			(500)
Other bonds issued (retired), net	144	(133)	(481)
(Decrease) increase in notes payable and other interest-bearing liabilities, net	(6)	(118)	36
(Decrease) increase in collateral held from derivative counterparties	(101)	50	(35)
Preferred stock issued	331	549	400
Preferred stock retired	(341)	(471)	(366)
Capital stock and participation certificates issued	86	78	118
Capital stock, participation certificates and retained earnings retired	(206)	(208)	(212)
Preferred stock dividends paid	(171)	(166)	(160)
Cash patronage paid	(1,980)	(1,777)	(1,335)
Net cash provided by financing activities	9,656	14,043	4,896
Net (decrease) increase in cash	(429)	120	(427)
Cash at beginning of year	2,933	2,813	3,240
Cash at end of year	$ 2,504	$ 2,933	$ 2,813

FARM CREDIT SYSTEM

COMBINED STATEMENT OF CASH FLOWS — (continued)
(in millions)

	For the Year Ended December 31,		
	2019	**2018**	**2017**
Supplemental schedule of non-cash investing and financing activities:			
Loans transferred to other property owned	$ 39	$ 81	$ 32
Patronage and dividends distributions payable	2,451	2,264	1,833
Transfer of retained earnings to additional paid-in-capital related to Association mergers			2,321
Redemption of mission-related and other investments held-to-maturity for loans		16	
Redemption of mission-related and other investments available-for-sale for loans		119	
Transfer of mission-related and other investments held-to-maturity to mission-related and other investments available-for-sale		352	
Reclassification of stranded tax effects from accumulated other comprehensive loss to retained earnings		(27)	
Supplemental non-cash fair value changes related to hedging activities:			
Increase (decrease) in Systemwide bonds and medium-term notes	240	38	(63)
Other, net	(264)	(56)	118
Supplemental disclosure of cash flow information:			
Cash paid during the year for:			
Interest	6,848	5,379	3,752
Taxes	40	41	91

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

NOTES TO COMBINED FINANCIAL STATEMENTS
(dollars in millions, except as noted)

NOTE 1 — ORGANIZATION, OPERATIONS AND PRINCIPLES OF COMBINATION

Organization and Operations

The Farm Credit System (System) is a federally chartered network of interdependent, borrower-owned lending institutions (Banks and Associations) and affiliated service organizations. The System was established by Acts of Congress and is subject to the provisions of the Farm Credit Act of 1971, as amended (Farm Credit Act). The Farm Credit Act provides authority for changes in the organizational structure and operations of the System and its entities.

At December 31, 2019, the System consisted of: (1) three Farm Credit Banks (AgFirst Farm Credit Bank; AgriBank, FCB; and Farm Credit Bank of Texas) and their affiliated Associations, (2) one Agricultural Credit Bank (CoBank, ACB) and its affiliated Associations, (3) the Federal Farm Credit Banks Funding Corporation (Funding Corporation) and (4) various service and other organizations. Substantially all Associations are structured as Agricultural Credit Associations (ACA) parent companies, with Federal Land Credit Associations (FLCA) and Production Credit Associations (PCA) subsidiaries. ACA parent companies provide financing and related services to customers through their FLCA and PCA subsidiaries. Generally, FLCAs make long-term loans secured by agricultural real estate or rural home loans. PCAs make short- and intermediate-term loans for agricultural production or operating purposes.

The Associations are cooperatives owned by their borrowers and the Farm Credit Banks are cooperatives primarily owned by their affiliated Associations. CoBank is a cooperative principally owned by cooperatives, other eligible borrowers and its affiliated Associations. Each Bank and Association manages and controls its own business activities, operations and financial performance. Each Bank and Association has its own board of directors and is not commonly owned or controlled.

A Bank and its affiliated Associations are financially and operationally interdependent as the Bank is statutorily required to serve as an intermediary between the financial markets and the retail lending activities of its affiliated Associations. The Banks are the primary source of funds for the Associations. Associations are not legally authorized to accept deposits and they may not borrow from other financial institutions without the approval of their affiliated Bank. The Banks are not legally authorized to accept deposits and they principally obtain their funds through the issuance of Systemwide Debt Securities. As a result, the loans made by the Associations are substantially funded by the issuance of Systemwide Debt Securities by the Banks. The repayment of Systemwide Debt Securities is dependent upon the ability of borrowers to repay their loans from the Associations. In addition, CoBank makes retail loans and leases directly to agricultural and rural infrastructure cooperatives and businesses, and other eligible borrowers, and the Banks purchase retail loan participations from Associations and other lenders, including other System Banks. Therefore, the repayment of Systemwide Debt Securities is also dependent upon the ability of these retail borrowers to repay their loans.

As required by the Farm Credit Act, the System specializes in providing financing and related services to qualified borrowers in the agricultural and rural sectors and to certain related entities. The System makes credit available in all 50 states, the Commonwealth of Puerto Rico, and U.S. territories under conditions set forth in the Farm Credit Act, which provides both geographic and agricultural sector diversification.

The Banks or Associations jointly own several organizations that were created to provide a variety of services for the System. The Funding Corporation provides for the issuance, marketing and handling of Systemwide Debt Securities, using a selling group, and prepares and distributes the Farm Credit System Quarterly and Annual Information Statements. The Farm Credit System Building Association is a partnership of the Banks that owns premises and other fixed assets that are leased to the Farm Credit Administration, the System’s regulator.

Most System institutions provide financially related services to their customers, including credit, appraisal, estate planning, record keeping services, tax planning and preparation, and consulting. Also, many System institutions serve as agent or broker to provide crop, mortgage life and disability insurance.

The Farm Credit Act provided for the establishment of the Farm Credit System Insurance Corporation (Insurance Corporation). As more fully described in Note 7, the Farm Credit Insurance Fund (Insurance Fund) is under the direct control of the Insurance Corporation.

The Farm Credit Administration is delegated authority by Congress to regulate the activities of the Banks, Associations and certain other System institutions. The Farm Credit Administration examines the activities of System institutions to ensure their compliance with the Farm Credit Act, Farm Credit Administration regulations, and safe and sound banking practices. The Farm Credit Administration has statutory enforcement and related authorities with respect to System institutions.

Principles of Combination

The accompanying System combined financial statements include the accounts of the Banks, the affiliated Associations, the Funding Corporation and the Insurance Fund and reflect the investments in, and allocated earnings of, the service organizations owned jointly by the Banks or Associations. The System combined financial statements include the equity investments of the Farm Credit System Building Association. All significant intra-System transactions and balances have been eliminated in combination. Combined financial statements of the System are presented because of the financial and operational interdependence of the Banks and Associations. Notwithstanding the presentation in the accompanying combined financial statements, the joint and several liability for Systemwide Debt Securities is limited to the Banks, as more fully described in Notes 8, 9, 12 and 21.

NOTE 2 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Accounting Principles and Reporting Practices

The accounting and reporting policies of the System conform to accounting principles generally accepted in the United States of America (GAAP) and prevailing practices within the banking industry. The preparation of combined financial statements in conformity with GAAP requires the managements of System institutions to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates are discussed in these footnotes, where applicable. Actual results could differ from those estimates.

Certain amounts in prior years' combined financial statements have been reclassified to conform to the current year presentation.

Recently Adopted or Issued Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board (FASB) issued guidance entitled "Simplifying the Accounting for Income Taxes." This guidance eliminates certain intra period tax allocations, foreign deferred tax recognition and interim period tax calculations. In addition, the guidance simplifies disclosure regarding capital and franchise taxes, the allocation of goodwill in business combinations, subsidiary financial statements and other disclosures. The new guidance is intended to eliminate and/or simplify certain aspects of income tax accounting that are complex or that require significant judgment in application or presentation. The guidance becomes effective for fiscal years beginning after December 15, 2021. Early adoption of the guidance is permitted and the System adopted this guidance on January 1, 2020. The adoption of this guidance did not materially impact the System's financial condition or results of operations.

In August 2018, the FASB issued guidance entitled "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Cost." The guidance aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by this guidance. This guidance becomes effective for interim and annual periods beginning after December 15, 2019. The guidance also requires an entity (customer) to expense the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. It further specifies where to present expense and payments in the financial statements. Early adoption is permitted. The guidance is to be applied on a retrospective or prospective basis to all implementation costs incurred after the date of adoption. The System adopted this guidance on January 1, 2020. The adoption of this guidance did not materially impact the System's financial condition or results of operations.

In August 2018, the FASB issued guidance entitled "Disclosure Framework — Changes to the Disclosure Requirements for Defined Benefit Plans." The guidance modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. This guidance becomes effective for fiscal years ending after December 15, 2020. Early adoption is permitted. The guidance is to be applied on a retrospective basis for all periods. The adoption of this guidance will not impact the System's financial condition or its results of operations, but will impact the employee benefit plan disclosures.

In August 2018, the FASB issued guidance entitled "Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement." The guidance modifies the requirements on fair value measurements by removing, modifying or adding to the disclosures. This guidance becomes effective for interim and annual periods beginning after December 15, 2019. Early adoption is permitted and an entity is permitted to early adopt any removal or modified disclosures and delay adoption of the additional disclosures until their effective date. The adoption of this guidance will not impact the System's financial condition or its results of operations, but will impact the fair value measurements disclosures. The System early adopted the removal and modified disclosures in 2018.

In August 2017, the FASB issued guidance entitled "Targeted Improvements to Accounting for Hedging Activities." The guidance better aligns an entity's risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results. The amendments in this guidance require an entity to present the earnings effect of the hedging instrument in the same income statement line item in which the earnings effect of the hedged item is reported. This guidance also addresses the timing of effectiveness testing, qualitative and quantitative effectiveness testing and components that can be excluded from effectiveness testing. This guidance became effective for interim and annual periods beginning after December 15, 2018. The adoption of this guidance did not impact the System's financial condition or its results of operations, but did impact the derivative products and hedging activities disclosures.

In June 2016, the FASB issued guidance entitled "Measurement of Credit Losses on Financial Instruments." The guidance replaces the current incurred loss impairment methodology with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. Credit losses relating to available-for-sale securities would also be recorded through an allowance for credit losses. For public business entities that are not U.S. Securities and Exchange Commission filers, this guidance was to become effective for interim and annual periods beginning after December 15, 2020, with early application permitted. On October 16, 2019, the FASB approved deferral of the effective date for certain entities for this guidance by two years, which will result in the new credit loss standard becoming effective for interim and annual reporting periods beginning after December 15, 2022. System institutions qualify for the delay in the adoption date. The System continues to evaluate the impact of adoption on the System's financial condition and its results of operations.

In February 2016, the FASB issued guidance entitled "Leases." The guidance requires the recognition by lessees of lease assets and lease liabilities on the balance sheet for the rights and obligations created by those leases. Leases with lease terms of more than 12 months are impacted by this guidance. In July 2018, the FASB issued an update entitled "Leases — Targeted Improvements," which provides entities with an additional (and optional) transition method to adopt the new leases standard. Under this new transition method, an entity initially applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The guidance and related amendments in this update became effective for interim and annual periods beginning after December 15, 2018. The System adopted this guidance on January 1, 2019. Upon adoption, the System recorded $183 million in right of use assets, $191 million in lease liabilities and a $9 million adjustment to retained earnings.

Cash

Cash, as included in the financial statements, represents cash on hand, deposits at banks and money market funds.

Investments and Federal Funds

The Banks and Associations, as permitted under Farm Credit Administration regulations, hold investments for the purposes of maintaining a liquidity reserve, managing short-term surplus funds, and managing interest rate risk. These investments are generally classified as available-for-sale and carried at fair value, and unrealized holding gains and losses are netted and reported as a separate component of capital. Changes in the fair value of these investments are reflected as direct charges or credits to other comprehensive income, unless the investment is deemed to be other-than-temporarily impaired. Impairment is considered to be other-than-temporary if the present value of cash flows expected to be collected from the debt security is less than the amortized cost basis of the security (any such shortfall is referred to as a "credit loss"). If an entity intends to sell an impaired debt security or is more likely than not to be required to sell the security before recovery of its amortized cost basis less any current-period credit loss, the impairment is other-than-temporary and the loss is recognized currently in earnings in an amount equal to the entire difference between fair value and amortized cost. If a credit loss exists, but an entity does not intend to sell the impaired debt security and is not more likely than not to be required to sell before recovery, the impairment is other-than-temporary and is separated into (1) the estimated amount relating to credit loss and (2) the amount relating to all other factors. Only the estimated credit loss amount is recognized currently in earnings, with the remainder of the loss amount recognized in other comprehensive income.

In subsequent periods, if the present value of cash flows expected to be collected is less than the amortized cost basis, the Bank or Association would record an additional other-than-temporary impairment and adjust the yield of the security prospectively. The amount of total other-than-temporary impairment for an available-for-sale security that previously was impaired is determined as the difference between its carrying amount prior to the determination of other-than-temporary impairment and its fair value.

Gains and losses on the sales of available-for-sale investments are determined using the specific identification method. Premiums and discounts are amortized or accreted into interest income over the term of the respective issues. Neither the Banks nor the Associations hold investments for trading purposes.

All or a portion of the unrealized holding gain or loss of an available-for-sale security that is designated as a hedged item in a fair value hedge must be recognized in earnings during the period of the hedge.

Banks and Associations may also hold additional investments in accordance with other investment programs approved by the Farm Credit Administration. These programs allow Banks and Associations to make investments that further the System's mission to support rural America. These investments are not included in the Banks' liquidity calculations and are not covered by the eligible investment limitations specified by the Farm Credit Administration regulations. Other investments for which the System institution has the intent and ability to hold to maturity are classified as held-to-maturity and carried at cost, adjusted for the amortization of premiums and accretion of discounts.

Loans, Allowance for Loan Losses and Reserve for Unfunded Commitments

Loans are generally carried at their principal amount outstanding adjusted for charge-offs, deferred loan fees or costs, and valuation adjustments relating to hedging activities. Loan origination fees and direct loan origination costs are netted and capitalized, on a combined System basis, and the net fee or cost is amortized over the average life of the related loan as an adjustment to interest income. Loan prepayment fees are reported in interest income. Interest on loans is accrued and credited to interest income based on the daily principal amount outstanding.

Loans acquired in a business combination are initially recognized at fair value, and therefore, no "carryover" of the allowance for loan losses is permitted. Those loans with evidence of credit quality deterioration at purchase are required to follow the authoritative accounting guidance on "Accounting for Certain Loans or Debt Securities Acquired in a Transfer." This guidance addresses accounting for differences between contractual cash flows and cash flows expected to be collected from the initial investment in loans if those differences are attributable, at least in part, to credit quality. The initial fair values for these types of loans are determined by discounting both principal and interest cash flows expected to be collected using an observable discount rate for similar instruments with adjustments that management believes a market participant would consider in determining fair value. Subsequent decreases to expected principal cash flows will result in a charge to the provision for loan losses and a corresponding increase to allowance for loan losses. Subsequent increases in expected principal cash flows will result in recovery of any previously recorded allowance for loan losses, to the extent applicable, and a reclassification from nonaccretable difference to accretable yield for any remaining increase. For variable rate loans, expected future cash flows were initially based on the rate in effect at acquisition; expected future cash flows are recalculated as rates change over the lives of the loans.

Impaired loans are loans for which it is probable that all principal and interest will not be collected according to the original contractual terms and are generally considered substandard or doubtful, which is in accordance with the loan rating model, as described below. Impaired loans include nonaccrual loans, restructured loans and loans past due 90 days or more and still accruing interest. A loan is considered contractually past due when any principal repayment or interest payment required by the loan instrument is not received on or before the due date. A loan shall remain contractually past due until it is formally restructured or until the entire amount past due, including principal, accrued interest, and penalty interest incurred as the result of past due status, is collected or otherwise discharged in full.

A restructured loan constitutes a troubled debt restructuring if for economic or legal reasons related to the debtor's financial difficulties the Bank or Association grants a concession to the debtor that it would not otherwise consider.

Impaired loans are generally placed in nonaccrual status when principal or interest is delinquent for 90 days (unless adequately secured and in the process of collection) or when circumstances indicate that collection of principal and interest is in doubt. Additionally, all loans over 180 days past due are placed in nonaccrual status. When a loan is placed in nonaccrual status, accrued interest that is considered uncollectible is reversed (if accrued in the current year) or charged against the allowance for loan losses (if accrued in prior years). Loans are charged-off at the time they are determined to be uncollectible.

When loans are in nonaccrual status, interest payments received in cash are generally recognized as interest income if the collectibility of the loan principal is fully expected and certain other criteria are met. Otherwise, payments received on nonaccrual loans are applied against the recorded investment in the loan asset. Nonaccrual loans may be returned to accrual status when principal and interest are current, the borrower has demonstrated payment performance, there are no unrecovered prior charge-offs and collection of future payments is no longer in doubt. If previously unrecognized interest income exists at the time the loan is transferred to accrual status, cash received at the time of or subsequent to the transfer should first be recorded as interest income until such time as the recorded balance equals the contractual indebtedness of the borrower.

The Banks and Associations use a two-dimensional loan rating model based on an internally generated combined System risk rating guidance that incorporates a 14-point risk-rating scale to identify and track the probability of borrower default and a separate scale addressing loss given default over a period of time. Probability of default is the probability that a borrower will experience a default within 12 months from the date of the determination of the risk rating. A default is considered to have occurred if the lender believes the borrower will not be able to pay its obligation in full or the borrower is past due more than 90 days. The loss given default is management's estimate as to the anticipated economic loss on a specific loan assuming default has occurred or is expected to occur within the next 12 months.

Each of the probability of default categories carries a distinct percentage of default probability. There are nine acceptable categories that range from a borrower of the highest quality to a borrower of minimally acceptable quality. The probability of default between one and nine is very narrow and would reflect almost no default to a minimal default percentage. The probability of default grows more rapidly as a loan moves from a "nine" to other assets especially mentioned and grows significantly as a loan moves to a substandard (viable) level. A sub-standard (non-viable) rating indicates that the probability of default is almost certain.

The credit risk rating methodology is a key component of each Bank's and Association's allowance for loan losses evaluation, and is generally incorporated into the institution's loan underwriting standards and internal lending limit. The allowance for loan losses is maintained at a level considered adequate to provide for probable and estimable losses inherent in the loan portfolios. The allowance for loan losses represents the aggregate of each System entity's individual evaluation of its allowance for loan losses requirements. Although aggregated in the combined financial statements, the allowance for loan losses of each System entity is particular to that institution and is not available to absorb losses realized by other System entities. The allowance is increased through provisions for loan losses and loan recoveries and is decreased through loan loss reversals and loan charge-offs.

The allowance is based on a periodic evaluation of the loan portfolio in which numerous factors are considered, including economic conditions, collateral values, borrowers' financial conditions, loan portfolio composition and prior loan loss experience. The allowance for loan losses encompasses various judgments, evaluations and appraisals with respect to the System's loans and their underlying collateral that, by their nature, contain elements of uncertainty and imprecision. Changes in the agricultural economy and their impact on borrower repayment capacity will cause these various judgments, evaluations and appraisals to change over time. Accordingly, actual circumstances could vary significantly from System institutions' expectations and predictions of those circumstances. Managements consider a number of factors in determining and supporting the levels of System institutions' allowances for loan losses, which include, but are not limited to, the System's concentration of lending in agriculture, combined with uncertainties associated with farmland values, commodity prices, exports, government assistance programs, regional economic effects and weather-related influences.

The allowance for loan losses includes components for loans individually evaluated for impairment, loans collectively evaluated for impairment and loans acquired with deteriorated credit quality. Generally, for loans individually evaluated the allowance for loan losses represents the difference between the recorded investment in the loan and the present value of the cash flows expected to be collected discounted at the loan's effective interest rate, or at the fair value of the collateral, if the loan is collateral dependent. For those loans collectively evaluated for impairment, the allowance for loan losses is determined using the two-dimensional loan rating model. In addition, Banks and Associations consider borrower, industry, geographic and portfolio concentrations, along with current developments within certain sectors, and modeling imprecision in the determination of the allowance for loan losses for those loans collectively evaluated.

Certain Banks and Associations have established a reserve for unfunded commitments that provides for potential losses related to unfunded commitments and is maintained at a level that is considered the best estimate of the amount required to absorb estimated probable losses related to these unfunded commitments. The reserve is determined using a methodology similar to that used for the allowance for loan losses. The reserve for unfunded commitments is recorded as a liability in the Combined Statement of Condition.

Premises and Equipment

Premises and equipment are carried at cost, less accumulated depreciation and amortization, which is provided on the straight-line method over the estimated useful lives of the assets. Gains and losses on dispositions are reflected in current operations. Maintenance and repairs are charged to operating expenses and improvements are capitalized.

Other Assets

In connection with past foreclosure and sale proceedings, some Banks and Associations acquired certain mineral interests and equity positions in land from which revenues are received in the form of lease bonuses, rentals and leasing and production royalties. These intangible assets are recorded at nominal or no value in the Combined Statement of Condition. The Farm Credit Act requires that mineral rights acquired through foreclosure in 1986 and later years be sold to the buyer of the land surface rights.

Employee Benefit Plans

Substantially all employees of System institutions participate in various retirement plans. System institutions generally provide defined benefit or defined contribution retirement plans for their employees. For financial reporting purposes, System institutions use the projected unit credit actuarial method for defined benefit retirement plans.

The Banks and Associations provide certain healthcare and life insurance benefits to eligible retired employees. Employees of System institutions may become eligible for those benefits if they reach normal retirement age while working for the institution. The authoritative accounting guidance requires the accrual of the expected cost of providing postretirement benefits other than pensions (primarily healthcare benefits) to an employee and an employee's beneficiaries and covered dependents during the years that the employee renders service necessary to become eligible for these benefits.

Income Taxes

The Farm Credit Banks, a portion of CoBank's earnings, FLCAs, FLCA subsidiaries of ACAs, and the income related to the Insurance Fund are exempt from federal and other income taxes as provided in the Farm Credit Act. The remaining portion of CoBank's earnings, the ACA parent company and the PCA subsidiaries of ACAs and service organizations are not exempt from federal and certain other income taxes. These non-exempt taxable institutions are eligible to operate as cooperatives that qualify for tax treatment under Subchapter T of the Internal Revenue Code. Under specified conditions, these cooperatives can exclude from taxable income amounts distributed as qualified patronage distributions in the form of cash, stock or allocated retained earnings. Provisions for income taxes are made only on those earnings that will not be distributed as qualified patronage distributions. System institutions whose patronage distributions are based on book income recognize the tax effect of all temporary differences based on the assumption that these temporary differences are retained by the institution and will therefore impact future tax payments. Certain taxable System institutions have provided a valuation allowance for deferred tax assets to the extent that it is more likely than not that the deferred tax assets will not be realized.

Deferred income taxes have not been provided by the taxable Associations on pre-1993 (the adoption date of the FASB guidance on income taxes) earnings from their related Bank when management's intent is to permanently invest these undistributed earnings in the Bank and to indefinitely postpone their conversion to cash, or if distributed by the related Bank, to pass these earnings through to Association borrowers through qualified patronage allocations.

Deferred income taxes have not been provided for the Banks' post-1992 earnings allocated to taxable Associations to the extent that the earnings will be passed through to Association borrowers through qualified patronage allocations. No deferred income taxes have been provided for the Banks' post-1992 unallocated earnings. The Banks currently have no plans to distribute unallocated Bank earnings and do not contemplate circumstances that, if distributions were made, would result in taxes being paid at the Association level.

Derivative Products and Hedging Activity

The Banks and certain Associations are party to derivative financial products, primarily interest rate swaps, which are used as hedges against interest rate and liquidity risks and to lower the overall cost of funds. Derivatives are recorded on the combined statement of condition as assets or liabilities, measured at fair value. Derivative contracts may be netted by counterparty pursuant to acceptable master netting arrangements.

Changes in the fair value of a derivative are recorded in current period earnings or accumulated other comprehensive income (loss) depending on the use of the derivative and whether it qualifies for hedge accounting. For fair-value hedge transactions, which hedge changes in the fair value of assets, liabilities, or firm commitments, changes in the fair value of the derivative are reflected in current period earnings and are generally offset by changes in the hedged item's fair value. For cash-flow hedge transactions, which hedge the variability of future cash flows related to a floating-rate asset, liability, or a forecasted transaction, changes in the fair value of the derivative are deferred and reported in accumulated other comprehensive income (loss). The gains and losses on the derivative that are deferred and reported in accumulated other comprehensive income (loss) are reclassified as earnings in the periods in which earnings are impacted by the variability of the cash flows of the hedged item. The ineffective portion of fair value hedges is recorded in current period earnings. For derivatives not designated as a hedging instrument, the related change in fair value is recorded in current period earnings.

System institutions that enter into derivatives designated as hedging relationships formally document all relationships between hedging instruments and hedged items, as well as the risk management objective and strategy for undertaking various hedge transactions. This process includes linking all derivatives that are designated as fair value or cash flow hedges to (1) specific assets or liabilities on the balance sheet or (2) firm commitments or forecasted transactions. These institutions also formally assess (both at the hedge's inception and on an ongoing basis, at least quarterly) whether the derivatives that are used in hedging transactions have been highly effective in offsetting changes in the fair value or cash flows of hedged items and whether those derivatives may be expected to remain highly effective in future periods. Typically regression analyses or other statistical analyses are used to assess the effectiveness of hedges. Hedge accounting is discontinued prospectively when it is determined that a hedge has not been or is not expected to be effective as a hedge. For discontinued cash flow hedges, any remaining accumulated other comprehensive income (loss) is amortized into earnings over the remaining life of the original hedged item. For discontinued fair value hedges, changes in the fair value of the derivative are recorded in current period earnings. In all situations in which hedge accounting is discontinued and the derivative remains outstanding, the derivative is carried at its fair value on the balance sheet, recognizing changes in fair value in current period earnings.

Fair Value Measurement

The fair value guidance defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measurements. It describes three levels of inputs that may be used to measure fair value:

Level 1 — Quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 1 assets and liabilities include debt and equity securities and derivative contracts that are traded in an active exchange market, as well as certain U.S. government and agency mortgage-backed debt securities that are highly liquid and are actively traded in over-the-counter markets. Also included in Level 1 are assets held in trust funds, which relate to deferred compensation and the supplemental retirement plan. The trust funds include investments that are actively traded and have quoted net asset values that are observable in the marketplace. Pension plan assets that are invested in equity securities, including mutual funds, and fixed-income securities that are actively traded are also included in Level 1.

Level 2 — Observable inputs other than quoted prices included within Level 1 that are observable for the asset or liability either directly or indirectly. Level 2 inputs include the following: (1) quoted prices for similar assets or liabilities in active markets; (2) quoted prices for identical or similar assets or liabilities in markets that are not active; (3) inputs other than quoted prices that are observable such as interest rates and yield curves, prepayment speeds, credit risks and default rates; and (4) inputs derived principally from or corroborated by observable market data by correlation or other means. This category generally includes certain U.S. Treasury, other U.S. government and agency mortgage-backed debt securities, corporate debt securities, and derivative contracts. The market value of collateral assets and liabilities is their face value, plus accrued interest, as these instruments are cash balances; therefore, fair value approximates face value. Pension plan assets that are derived from observable inputs, including corporate bonds and mortgage-backed securities are reported in Level 2.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. These unobservable inputs reflect the reporting entity's own assumptions about assumptions that market participants would use in pricing the asset or liability. Level 3 assets and liabilities include financial instruments whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation. This category generally includes certain private equity investments, retained residual interests in securitizations, asset-backed securities and certain mortgage-backed securities, highly structured or long-term derivative contracts, certain loans and other property owned. Pension plan assets, such as certain mortgage-backed securities that are supported by little or no market data in determining the fair value, are included in Level 3.

Merger Accounting

The FASB guidance on business combinations applies to all transactions in which an entity obtains control of one or more businesses. The guidance requires the acquirer to recognize assets acquired, the liabilities assumed, and any non-controlling interest in the acquiree at their fair values as of the acquisition date.

For System Banks and Associations, because the stock in each institution is fixed in value, the stock issued pursuant to the merger provides no basis for estimating the fair value of the consideration transferred pursuant to the merger. In the absence of a purchase price determination, the acquiring institution would identify and estimate the acquisition date fair value of the equity interests (net assets) of the acquired institution instead of the acquisition date fair value of the equity interests transferred as consideration. The fair value of the assets acquired, including specific intangible assets and liabilities assumed, are measured based on various estimates using assumptions that management believes are reasonable utilizing information currently available. The excess value received, by the acquiring institution from the acquired institution, over the par value of capital stock and participation certificates issued in the merger is considered to be additional paid-in capital or a reduction in retained earnings.

Off-Balance-Sheet Credit Exposures

Commitments to extend credit are agreements to lend to customers, generally having fixed expiration dates or other termination clauses that may require payment of a fee. Commercial letters of credit are conditional commitments issued to guarantee the performance of a customer to a third party. These letters of credit are issued to facilitate commerce and typically result in the commitment being funded when the underlying transaction is consummated between the customer and third party. The credit risk associated with commitments to extend credit and commercial letters of credit is substantially the same as that involved with extending loans to customers and is subject to normal credit policies. Collateral may be obtained based on management's assessment of the customer's creditworthiness.

(dollars in millions, except as noted)

NOTE 3 — INVESTMENTS

Available-for-Sale

The following is a summary of available-for-sale investments held by the Banks for maintaining a liquidity reserve, managing short-term surplus funds and managing interest rate risk:

	December 31, 2019				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Weighted Average Yield
Commercial paper, bankers' acceptances, certificates of deposit and other securities	$ 7,068	$ 14	$ (1)	$ 7,081	2.14%
U.S. Treasury securities	19,052	186	(16)	19,222	1.99
U.S. agency securities	3,004	59	(9)	3,054	2.29
Mortgage-backed securities	25,996	145	(96)	26,045	2.37
Asset-backed securities	4,192	42	(5)	4,229	2.62
Total	$59,312	$446	$(127)	$59,631	2.23

	December 31, 2018				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Weighted Average Yield
Commercial paper, bankers' acceptances, certificates of deposit and other securities	$ 6,803	$ 1	$ (4)	$ 6,800	2.70%
U.S. Treasury securities	18,946	21	(189)	18,778	1.98
U.S. agency securities	2,501	3	(24)	2,480	2.38
Mortgage-backed securities	27,237	60	(362)	26,935	2.54
Asset-backed securities	3,483	10	(10)	3,483	2.76
Total	$58,970	$95	$(589)	$58,476	2.39

The System realized gross gains of $14 million and gross losses of $1 million during the year ended December 31, 2019 and realized gross gains of $49 million and gross losses of $1 million during the year ended December 31, 2018 from sales of available-for-sale investment securities.

(dollars in millions, except as noted)

A summary of the fair value and amortized cost of investments available-for-sale at December 31, 2019 by contractual maturity is as follows:

	Due in 1 Year or Less		Due After 1 Year Through 5 Years		Due After 5 Years Through 10 Years		Due After 10 Years		Total	
	Amount	Weighted Average Yield	Amount	Weighted Average Yield	Amount	Weighted Average Yield	Amount	Weighted Average Yield	Amount	Weighted Average Yield
Commercial paper, bankers' acceptances, certificates of deposit and other securities	$ 6,449		$ 367		$ 265				$ 7,081	2.14%
U.S. Treasury securities	7,134		9,377		2,711				19,222	1.99
U.S. agency securities	142		1,428		1,176		$ 308		3,054	2.29
Mortgage-backed securities	4		2,005		4,679		19,357		26,045	2.37
Asset-backed securities	265		2,165		439		1,360		4,229	2.62
Total fair value	$13,994	2.00%	$15,342	2.11%	$9,270	2.32%	$21,025	2.44%	$59,631	2.23
Total amortized cost	$13,985		$15,243		$9,159		$20,925		$59,312	

Substantially all mortgage-backed securities have contractual maturities in excess of ten years. However, expected and actual maturities for mortgage-backed securities will typically be shorter than contractual maturities because borrowers generally have the right to prepay the underlying mortgage obligations with or without prepayment penalties.

Other Investments Held-to-Maturity

The Banks and Associations may hold other investments for managing risk. The following is a summary of other investments held-to-maturity:

	December 31, 2019				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Weighted Average Yield
Mortgage-backed securities	$1,260	$28	$(3)	$1,285	4.02%
Asset-backed securities	464	1	(3)	462	2.93
Other securities	73	7		80	5.97
Total	$1,797	$36	$(6)	$1,827	3.82

	December 31, 2018				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Weighted Average Yield
Mortgage-backed securities*	$1,054	$ 6	$(16)	$1,044	3.91%
Asset-backed securities*	83	1	(2)	82	3.01
Other securities	79	5		84	5.96
Total	$1,216	$12	$(18)	$1,210	3.98

* Mortgage-backed securities totaling $1.173 billion and asset-backed securities of $261 million were reclassified as loans on January 1, 2019 to conform with the Farm Credit Administration's new regulation on investment eligibility for Banks and Associations.

(dollars in millions, except as noted)

A summary of the fair value and amortized cost of other investments held-to-maturity at December 31, 2019 by contractual maturity is as follows:

	Due After 1 Year Through 5 Years		Due After 5 Years Through 10 Years		Due After 10 Years		Total	
	Amount	Weighted Average Yield	Amount	Weighted Average Yield	Amount	Weighted Average Yield	Amount	Weighted Average Yield
Mortgage-backed securities	$37		$ 81		$1,142		$1,260	4.02%
Asset-backed securities	13		253		198		464	2.93
Other securities	19		4		50		73	5.97
Total amortized cost	$69	4.20%	$338	3.15%	$1,390	3.96%	$1,797	3.82
Total fair value	$70		$337		$1,420		$1,827	

Other Investments Available-for-Sale

The following is a summary of other investments available-for-sale:

	December 31, 2019				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Weighted Average Yield
Mortgage-backed securities	$415	$8	$(2)	$421	3.13%
U.S. Treasury securities	15			15	1.72
Other securities	14	—	—	14	5.34
Total	$444	$8	$(2)	$450	3.15

	December 31, 2018				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Weighted Average Yield
Mortgage-backed securities	$475	$4	$(18)	$461	3.18%
Other securities	7	—	(1)	6	5.68
Total	$482	$4	$(19)	$467	3.21

A summary of the fair value and amortized cost of other investments available-for-sale at December 31, 2019 by contractual maturity is as follows:

	Due After 1 Year Through 5 Years		Due After 5 Years Through 10 Years		Due After 10 Years		Total	
	Amount	Weighted Average Yield	Amount	Weighted Average Yield	Amount	Weighted Average Yield	Amount	Weighted Average Yield
Mortgage-backed securities	$12		$17		$392		$421	3.13%
U.S. Treasury securities	15						15	1.72
Other securities	5		1		8		14	5.34
Total fair value	$32	3.28%	$18	5.05%	$400	3.05%	$450	3.15
Total amortized cost	$32		$18		$394		$444	

(dollars in millions, except as noted)

Other-Than-Temporarily Impaired Investments Evaluation

The following tables show the gross unrealized losses and fair value of the System's investment securities that have been in a continuous unrealized loss position. An investment is considered impaired if its fair value is less than its cost. The continuous loss position is based on the date the impairment was first identified.

	Less Than 12 Months		12 Months or More	
December 31, 2019	**Fair Value**	**Unrealized Losses**	**Fair Value**	**Unrealized Losses**
Commercial paper, bankers' acceptances, certificates of deposit and other securities	$ 1,241	$ (1)		
U.S. Treasury securities	2,394	(9)	$ 3,569	$ (7)
U.S. agency securities	577	(6)	648	(3)
Mortgage-backed securities	7,948	(34)	7,233	(67)
Asset-backed securities	1,091	(6)	316	(2)
Total	$13,251	$(56)	$11,766	$(79)

	Less Than 12 Months		12 Months or More	
December 31, 2018	**Fair Value**	**Unrealized Losses**	**Fair Value**	**Unrealized Losses**
Commercial paper, bankers' acceptances, certificates of deposit and other securities	$ 3,725	$ (3)	$ 57	$ (2)
U.S. Treasury securities	3,749	(5)	11,817	(184)
U.S. agency securities	154	(1)	1,583	(23)
Mortgage-backed securities	4,557	(19)	16,209	(377)
Asset-backed securities	1,108	(3)	788	(9)
Total	$13,293	$(31)	$30,454	$(595)

As more fully discussed in Note 2, the guidance for other-than-temporary impairment contemplates numerous factors in determining whether an impairment is other-than-temporary including: (1) whether or not an entity intends to sell the security, (2) whether it is more likely than not that an entity would be required to sell the security before recovering its costs, or (3) whether or not an entity expects to recover the security's entire amortized cost basis (even if it does not intend to sell).

System institutions perform an evaluation quarterly on a security-by-security basis considering all available information. If a Bank or Association intends to sell the security or it is more likely than not that it would be required to sell the security, the impairment loss equals the full difference between amortized cost and fair value of the security. When a Bank or Association does not intend to sell securities in an unrealized loss position, other-than-temporary impairment is considered using various factors, including the length of time and the extent to which the fair value is less than cost, adverse conditions specifically related to the industry, geographic area and the condition of the underlying collateral, payment structure of the security, ratings by rating agencies, the creditworthiness of bond insurers and volatility of the fair value changes. A Bank or Association uses estimated cash flows over the remaining lives of the underlying collateral to assess whether credit losses exist. In estimating cash flows, it considers factors such as expectations of relevant market and economic data, including underlying loan level data for mortgage-backed and asset-backed securities and credit enhancements.

(dollars in millions, except as noted)

NOTE 4 — LOANS AND ALLOWANCE FOR LOAN LOSSES

The System is limited by statute to providing credit and related services to farmers, ranchers, producers and harvesters of aquatic products, rural homeowners, certain farm-related businesses, agricultural and aquatic cooperatives (or to other entities for the benefit of the cooperatives) and their customers, rural utilities, other eligible borrowers, and entities engaging in certain agricultural export finance transactions.

Loans outstanding by portfolio segment and class consisted of the following:

	December 31, 2019	December 31, 2018
Real estate mortgage*	$132,215	$126,310
Production and intermediate-term**	59,997	57,077
Agribusiness	50,049	46,113
Rural infrastructure	29,669	29,160
Rural residential real estate	7,405	7,308
Other***	7,629	7,410
Total loans	$286,964	$273,378

* Mortgage-backed securities totaling $1.173 billion and asset-backed securities of $261 million were reclassified as loans on January 1, 2019 to conform with the Farm Credit Administration's new regulation on investment eligibility for Banks and Associations.

** Includes lease receivables.

*** Includes agricultural export finance loans and loans to other financing institutions.

Approximately 40% of the loan volume at December 31, 2019 and 2018 contained terms under which the interest rate on the outstanding balance may be adjusted from time-to-time during the term of the loan. These floating-rate loans are comprised of administered-rate loans that may be adjusted at the discretion of the lending institution and indexed/adjustable loans that are periodically adjusted based on changes in specified indices. Fixed-rate loans comprised the remaining 60% of loans outstanding at December 31, 2019 and 2018.

The Farm Credit Administration Uniform Loan Classification System includes five categories: acceptable, other assets especially mentioned (OAEM), substandard, doubtful and loss. The following table shows loans and related accrued interest classified under the Farm Credit Administration Uniform Loan Classification System as a percentage of total loans and related accrued interest receivable by loan type as of:

	December 31, 2019	December 31, 2018
Real estate mortgage		
Acceptable	92.8%	92.9%
OAEM	3.6	3.4
Substandard/doubtful	3.6	3.7
	100.0	100.0
Production and intermediate-term		
Acceptable	88.9	89.4
OAEM	5.5	4.9
Substandard/doubtful	5.6	5.7
	100.0	100.0
Agribusiness		
Acceptable	94.4	95.7
OAEM	3.1	1.9
Substandard/doubtful	2.5	2.4
	100.0	100.0
Rural infrastructure		
Acceptable	96.6	97.8
OAEM	1.6	1.1
Substandard/doubtful	1.8	1.1
	100.0	100.0
Rural residential real estate		
Acceptable	96.9	96.8
OAEM	1.1	1.2
Substandard/doubtful	2.0	2.0
	100.0	100.0
Other		
Acceptable	99.3	98.5
OAEM	0.7	1.5
Substandard/doubtful	0.0	0.0
	100.0	100.0
Total Loans		
Acceptable	92.9	93.4
OAEM	3.6	3.1
Substandard/doubtful	3.5	3.5
	100.0	100.0

(dollars in millions, except as noted)

Impaired loans (which consist of nonaccrual loans, accruing restructured loans and accruing loans 90 days or more past due) are loans for which it is probable that not all principal and interest will be collected according to the contractual terms of the loan. The following tables present information concerning impaired loans and include both the principal outstanding and the related accrued interest receivable on these loans.

	December 31,	
	2019	2018
Nonaccrual loans:		
Current as to principal and interest	$1,147	$1,229
Past due	763	654
Total nonaccrual loans	1,910	1,883
Impaired accrual loans:		
Restructured accrual loans	294	272
Accrual loans 90 days or more past due	71	43
Total impaired accrual loans	365	315
Total impaired loans	$2,275	$2,198

(dollars in millions, except as noted)

Total nonperforming assets consist of the following:

	December 31, 2019	December 31, 2018
Nonaccrual loans:		
Real estate mortgage	$ 912	$ 830
Production and intermediate-term	578	523
Agribusiness	315	398
Rural infrastructure	55	79
Rural residential real estate	50	53
Total nonaccrual loans	1,910	1,883
Accruing restructured loans:		
Real estate mortgage	198	173
Production and intermediate-term	82	86
Agribusiness	5	5
Rural infrastructure	2	
Rural residential real estate	7	8
Total accruing restructured loans	294	272
Accruing loans 90 days or more past due:		
Real estate mortgage	53	31
Production and intermediate-term	12	11
Agribusiness	4	1
Rural infrastructure	2	
Total accruing loans 90 days or more past due	71	43
Total nonperforming loans	2,275	2,198
Other property owned	72	84
Total nonperforming assets	$2,347	$2,282

The following table reflects certain related credit quality statistics:

	December 31, 2019	December 31, 2018
Nonaccrual loans as a percentage of total loans	0.67%	0.69%
Nonperforming assets as a percentage of total loans and other property owned	0.82	0.83
Nonperforming assets as a percentage of capital	3.80	3.90

Commitments to lend additional funds to borrowers whose loans were classified as impaired were $91 million and $103 million at December 31, 2019 and 2018.

(dollars in millions, except as noted)

Additional impaired loan information by class is as follows:

	December 31, 2019			December 31, 2018		
	Recorded Investment*	Unpaid Principal Balance**	Related Allowance	Recorded Investment*	Unpaid Principal Balance**	Related Allowance
Impaired loans with a related allowance for loan losses:						
Real estate mortgage	$ 103	$ 112	$ 29	$ 116	$ 124	$ 31
Production and intermediate-term	239	266	69	225	257	74
Agribusiness	248	296	85	214	245	101
Rural infrastructure	55	71	25	78	84	34
Rural residential real estate	7	7	1	7	8	2
Total	652	752	209	640	718	242
Impaired loans with no related allowance for loan losses:						
Real estate mortgage	1,060	1,207		918	1,060	
Production and intermediate-term	433	619		395	606	
Agribusiness	76	127		190	237	
Rural infrastructure	4	11		1	8	
Rural residential real estate	50	59		54	63	
Total	1,623	2,023		1,558	1,974	
Total impaired loans:						
Real estate mortgage	1,163	1,319	29	1,034	1,184	31
Production and intermediate-term	672	885	69	620	863	74
Agribusiness	324	423	85	404	482	101
Rural infrastructure	59	82	25	79	92	34
Rural residential real estate	57	66	1	61	71	2
Total	$2,275	$2,775	$209	$2,198	$2,692	$242

* The recorded investment is the face amount of the receivable increased or decreased by applicable accrued interest and unamortized premium, discount, finance charges, or acquisition costs and may also reflect a previous direct write-down of the investment.

** Unpaid principal balance represents the contractual principal balance of the loan.

(dollars in millions, except as noted)

	For the Year Ended					
	December 31, 2019		December 31, 2018		December 31, 2017	
	Average Impaired Loans	Interest Income Recognized	Average Impaired Loans	Interest Income Recognized	Average Impaired Loans	Interest Income Recognized
Impaired loans with a related allowance for loan losses:						
Real estate mortgage	$ 112	$ 2	$ 132	$ 4	$ 139	$ 2
Production and intermediate-term	243	3	242	4	216	3
Agribusiness	256	1	197	2	112	
Rural infrastructure	66	1	74		7	
Rural residential real estate	7		6		6	
Other			2		1	
Total	684	7	653	10	481	5
Impaired loans with no related allowance for loan losses:						
Real estate mortgage	1,007	48	963	52	943	49
Production and intermediate-term	471	34	405	31	452	33
Agribusiness	142	7	147	8	70	5
Rural infrastructure	1			8	11	5
Rural residential real estate	51	3	53	3	53	2
Total	1,672	92	1,568	102	1,529	94
Total impaired loans:						
Real estate mortgage	1,119	50	1,095	56	1,082	51
Production and intermediate-term	714	37	647	35	668	36
Agribusiness	398	8	344	10	182	5
Rural infrastructure	67	1	74	8	18	5
Rural residential real estate	58	3	59	3	59	2
Other			2		1	
Total	$2,356	$99	$2,221	$112	$2,010	$99

(dollars in millions, except as noted)

The following tables provide an aging analysis of past due loans (including accrued interest) by portfolio segment:

	December 31, 2019					
	30-89 Days Past Due	90 Days or More Past Due	Total Past Due	Not Past Due or less than 30 Days Past Due	Total Loans and Accrued Interest	Recorded Investment >90 Days and Accruing
Real estate mortgage	$523	$341	$ 864	$132,923	$133,787	$53
Production and intermediate-term	311	246	557	60,175	60,732	12
Agribusiness	21	60	81	50,172	50,253	4
Rural infrastructure	31	15	46	29,720	29,766	2
Rural residential real estate	97	16	113	7,319	7,432	
Other				7,659	7,659	
Total	$983	$678	$1,661	$287,968	$289,629	$71

	December 31, 2018					
	30-89 Days Past Due	90 Days or More Past Due	Total Past Due	Not Past Due or less than 30 Days Past Due	Total Loans and Accrued Interest	Recorded Investment >90 Days and Accruing
Real estate mortgage	$471	$307	$ 778	$127,014	$127,792	$31
Production and intermediate-term	370	235	605	57,182	57,787	11
Agribusiness	28	16	44	46,275	46,319	1
Rural infrastructure	1	21	22	29,240	29,262	
Rural residential real estate	70	19	89	7,247	7,336	
Other				7,443	7,443	
Total	$940	$598	$1,538	$274,401	$275,939	$43

Interest income on nonaccrual and accruing restructured loans that would have been recorded if the loans had been current in accordance with their original terms:

	December 31,		
	2019	2018	2017
Interest income that would have been recognized under original terms	$181	$ 189	$153
Less: interest income recognized	(93)	(109)	(96)
Interest income not recognized	$ 88	$ 80	$ 57

(dollars in millions, except as noted)

A summary of changes in the allowance for loan losses and the recorded investment for loans outstanding by portfolio segment follows:

	Real estate mortgage	Production and intermediate-term	Agribusiness	Rural infrastructure	Rural residential real estate	Other	Total
Allowance for Loan Losses:							
Balance at December 31, 2018	$ 481	$ 501	$ 475	$ 217	$ 19	$ 20	$ 1,713
Charge-offs	(11)	(57)	(12)	(7)	(1)		(88)
Recoveries	6	18	3	1	1		29
Provision for loan losses (loan loss reversal)	19	90	52	6	(1)	3	169
Reclassification (to) from reserve for unfunded commitments*	(3)	(6)	(10)	2			(17)
Balance at December 31, 2019	$ 492	$ 546	$ 508	$ 219	$ 18	$ 23	$ 1,806
Balance at December 31, 2017	$ 450	$ 489	$ 420	$ 200	$ 20	$ 17	$ 1,596
Charge-offs	(20)	(66)	(29)	(3)	(2)		(120)
Recoveries	9	17	3	1	1		31
Provision for loan losses	42	60	77	12		3	194
Reclassification (to) from reserve for unfunded commitments*		1	4	7			12
Balance at December 31, 2018	$ 481	$ 501	$ 475	$ 217	$ 19	$ 20	$ 1,713
Ending Balance at December 31, 2019:							
Individually evaluated for impairment	$ 29	$ 69	$ 85	$ 25	$ 1		$ 209
Collectively evaluated for impairment	463	477	423	194	17	$ 23	1,597
Balance at December 31, 2019	$ 492	$ 546	$ 508	$ 219	$ 18	$ 23	$ 1,806
Ending Balance at December 31, 2018:							
Individually evaluated for impairment	$ 31	$ 74	$ 101	$ 34	$ 2		$ 242
Collectively evaluated for impairment	450	427	374	183	17	$ 20	1,471
Balance at December 31, 2018	$ 481	$ 501	$ 475	$ 217	$ 19	$ 20	$ 1,713
Recorded Investments in Loans Outstanding:							
Ending balance at December 31, 2019:							
Loans individually evaluated for impairment	$ 1,342	$ 680	$ 327	$ 56	$1,068	$ 103	$ 3,576
Loans collectively evaluated for impairment	132,445	60,052	49,926	29,710	6,364	7,556	286,053
Balance at December 31, 2019	$133,787	$60,732	$50,253	$29,766	$7,432	$7,659	$289,629
Ending balance at December 31, 2018:							
Loans individually evaluated for impairment	$ 1,236	$ 633	$ 409	$ 79	$1,319	$ 110	$ 3,786
Loans collectively evaluated for impairment	126,556	57,154	45,910	29,183	6,017	7,333	272,153
Balance at December 31, 2018	$127,792	$57,787	$46,319	$29,262	$7,336	$7,443	$275,939

* Represents reclassifications between the allowance for loan losses and the reserve for unfunded commitments as a result of advances on or repayments of seasonal lines of credit or other loans.

(dollars in millions, except as noted)

A restructuring of a loan constitutes a troubled debt restructuring, also known as formally restructured, if the creditor for economic or legal reasons related to the borrower's financial difficulties grants a concession to the borrower that it would not otherwise consider. Concessions vary by program and are borrower-specific and may include interest rate reductions, term extensions, payment deferrals or the acceptance of additional collateral in lieu of payments. In limited circumstances, principal may be forgiven. When a restructured loan constitutes a troubled debt restructuring, these loans are included within our impaired loans under nonaccrual or accruing restructured loans. All impaired loans are analyzed within our allowance for loan losses.

The following table presents additional information regarding troubled debt restructurings that occurred during the past three years:

	For the Year Ended December 31,					
	2019		2018		2017	
	Pre-modification Outstanding Recorded Investment*	Post-modification Outstanding Recorded Investment*	Pre-modification Outstanding Recorded Investment*	Post-modification Outstanding Recorded Investment*	Pre-modification Outstanding Recorded Investment*	Post-modification Outstanding Recorded Investment*
Troubled debt restructurings:						
Real estate mortgage	$ 87	$ 87	$ 55	$ 55	$ 49	$ 49
Production and intermediate-term	93	93	71	67	70	70
Agribusiness	34	34	203	195	4	4
Rural infrastructure	2	2				
Rural residential real estate	2	2	2	2	2	2
Total	$218	$218	$331	$319	$125	$125

* Pre-modification represents the recorded investment just prior to restructuring and post-modification represents the recorded investment immediately following the restructuring. The recorded investment is the face amount of the receivable increased or decreased by applicable accrued interest and unamortized premium, discount, finance charges, or acquisition costs and may also reflect a previous direct write-down of the investment.

The following table presents information regarding troubled debt restructurings that occurred within the previous 12 months and for which there was a payment default during the period:

	Recorded Investment at December 31,		
	2019	2018	2017
Troubled debt restructurings that subsequently defaulted:			
Real estate mortgage	$5	$ 6	$ 9
Production and intermediate-term	1		3
Agribusiness		121	
Rural residential real estate	1	1	
Total	$7	$128	$12

(dollars in millions, except as noted)

The following table provides information on outstanding loans restructured in troubled debt restructurings at period end. These loans are included as impaired loans in the impaired loan table:

	Loans Modified as Troubled Debt Restructurings		Troubled Debt Restructurings in Nonaccrual Status*	
	December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Real estate mortgage	$291	$242	$ 93	$ 69
Production and intermediate-term	165	141	83	55
Agribusiness	155	179	150	174
Rural infrastructure	2			
Rural residential real estate	12	12	5	4
Total	$625	$574	$331	$302

* Represents the portion of loans modified as troubled debt restructurings that are in nonaccrual status.

Additional commitments to lend to borrowers whose loans have been modified in troubled debt restructurings were $54 million and $51 million at December 31, 2019 and 2018.

Loans held for sale were $36 million and $23 million at December 31, 2019 and 2018. Such loans are included in other assets and are carried at the lower of cost or fair value.

NOTE 5 — PREMISES AND EQUIPMENT

Premises and equipment consisted of the following:

	December 31, 2019	December 31, 2018
Land, buildings and improvements	$1,533	$1,409
Furniture and equipment	876	792
	2,409	2,201
Less: accumulated depreciation	(920)	(864)
Total	$1,489	$1,337

NOTE 6 — OTHER ASSETS AND OTHER LIABILITIES

Other assets consisted of the following:

	December 31, 2019	December 31, 2018
Equipment held for lease	$ 606	$ 662
Interest rate swaps and other derivatives	385	284
Accounts receivable	318	212
Assets held in non-qualified benefits trusts	204	179
Operating lease right-of-use assets	182	
Collateral pledged to derivative counterparties	152	8
Investments in rural business investment companies	131	101
Equity investments in other System institutions	127	131
Prepaid expenses	76	58
Other property owned	72	84
Loans held for sale	36	23
Net deferred tax assets	13	13
Other	78	78
Total	$2,380	$1,833

(dollars in millions, except as noted)

Other liabilities consisted of the following:

	December 31, 2019	December 31, 2018
Patronage and dividends payable	$2,214	$1,915
Pension and other postretirement benefit plan liabilities	1,251	1,138
Accounts payable	482	512
Net deferred tax liabilities	431	331
Interest rate swaps and other derivatives	351	183
Accrued salaries and employee benefits	322	283
Operating lease liabilities	195	
Reserve for unfunded commitments	169	152
Bank drafts payable	138	129
Liabilities held in non-qualified benefit trusts	124	109
Collateral held from derivative counterparties		101
Other	275	222
Total	$5,952	$5,075

NOTE 7 — FARM CREDIT INSURANCE FUND

The assets in the Insurance Fund are designated as restricted assets and the related capital is designated as restricted capital. The classification of the Insurance Fund as restricted assets (and as restricted capital) in the System's combined financial statements is based on the statutory requirement that the amounts in the Insurance Fund are to be used solely for purposes specified in the Farm Credit Act, as amended, all of which benefit Banks and Associations. The Insurance Fund is under the direct control of the Farm Credit System Insurance Corporation (Insurance Corporation), an independent U.S. government-controlled corporation, and not under the control of any System institution. A board of directors consisting of the Farm Credit Administration Board directs the Insurance Corporation.

The Insurance Corporation's primary asset is the Insurance Fund and the primary sources of funds for the Insurance Fund are:

- premiums paid by the Banks, which may be passed on to the Associations, and
- earnings on assets in the Insurance Fund.

Premiums will be due until the assets in the Insurance Fund for which no specific use has been identified or designated reach the "secure base amount," which is defined in the Farm Credit Act as 2% of the aggregate outstanding insured obligations (adjusted to reflect the System's reduced risk on loans and investments guaranteed by federal or state governments) or such other percentage of the aggregate outstanding insured obligations as the Insurance Corporation, in its sole discretion, determines to be actuarially sound.

The Insurance Corporation is required to expend funds in the Insurance Fund to:

- insure the timely payment of principal and interest on Systemwide Debt Securities, and
- ensure the retirement of protected borrower stock at par value.

The Insurance Corporation is authorized to use the Insurance Fund to cover its operating costs. Subject to the "least-cost determination" described below, the Insurance Corporation is authorized, in its sole discretion, to expend amounts in the Insurance Fund to:

- provide assistance to a financially stressed Bank or Association,
- make loans on the security of, or may purchase, and liquidate or sell, any part of the assets of any Bank or Association that is placed in receivership because of the inability of the institution to pay the principal or interest on any of its notes, bonds, debentures, or other obligations in a timely manner, or
- provide assistance to qualified merging institutions.

The Insurance Corporation cannot provide discretionary assistance to an eligible institution as described above unless the means of providing the assistance is the least costly means of all possible alternatives available to the Insurance Corporation. The alternatives may include liquidation of the eligible institution (taking into account, among other factors, payment of the insured obligations issued on behalf of the institution).

In the event a Bank is unable to pay on a timely basis an insured debt obligation for which that Bank is primarily liable, the Insurance Corporation must expend amounts in the Insurance Fund to the extent available to insure the timely payment of principal and interest on the debt obligation. The provisions of the Farm Credit Act providing for joint and several liability of the Banks on the obligation cannot be invoked until the Insurance Fund is exhausted. However, because of other mandatory and discretionary uses of the Insurance Fund, there is no assurance that there will be sufficient funds to pay principal or interest on the insured debt obligation. The insurance provided through use of the Insurance Fund is not an obligation of and is not a guarantee by the U.S. government.

The System does not have a guaranteed line of credit from the U.S. Treasury or the Federal Reserve. However, the Insurance Corporation has an agreement with the Federal Financing Bank, a federal instrumentality subject to the supervision and direction of the U.S. Treasury, pursuant to which the Federal Financing Bank would advance funds to the Insurance Corporation. Under its existing statutory authority, the Insurance Corporation may use these funds to provide assistance to the System Banks in exigent market circumstances that threaten the Banks' ability to pay maturing debt obligations. The agreement provides for advances of up to $10 billion and terminates on September 30, 2020, unless otherwise renewed. The decision whether to seek funds from the Federal Financing Bank is at the discretion of the Insurance Corporation, and each funding obligation of the Federal Financing Bank is subject to various terms and conditions and, as a result, there can be no assurance that funding would be available if needed by the System.

At December 31, 2019, total assets in the Insurance Fund aggregated $5.202 billion and consisted of cash and cash equivalents of $104 million, which includes investments in U.S. Treasury obligations with original maturities of 90 days or less, investments of $4.853 billion, accrued interest receivable of $22 million and premiums receivable from System institutions of $223 million accrued on the basis of adjusted outstanding insured debt at December 31, 2019.

If at the end of any calendar year, the aggregate amount in the Insurance Fund exceeds the secure base amount, the Insurance Corporation is required to reduce premiums, as necessary, to maintain the Insurance Fund at the 2% level. Also, at that time, the Insurance Corporation is required to establish Allocated Insurance Reserves Accounts for each Bank.

As determined by the Insurance Corporation, at December 31, 2019, 2018 and 2017, the assets in the Insurance Fund were 2.03%, 2.03% and 2.08% of adjusted insured obligations, which constitutes $63 million, $66 million and $176 million above the secure base amount (after deduction of prospective operating expenses). Consequently, the excess amounts were transferred at the end of the respective year to Allocated Insurance Reserves Accounts. After the transfers, the assets in the Insurance Fund for which no specific use has been identified or designated was 2.00% of adjusted insured obligations at December 31, 2019, 2018 and 2017. In early 2019 and 2018, the Insurance Corporation distributed the $66 million and $176 million to System institutions. The Insurance Corporation's board of directors will consider using its discretionary authority to make payments from the Allocated Insurance Reserves Accounts in 2020.

(dollars in millions, except as noted)

At December 31, 2019 and 2018, the investments in the Insurance Fund, which are classified as restricted assets and are carried at amortized cost, consisted of the following:

	December 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasury obligations	$4,853	$16	$(3)	$4,866

	December 31, 2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasury obligations	$4,437	$0	$(41)	$4,396

The amortized cost and fair value at December 31, 2019 by contractual maturity were as follows:

	Amortized Cost	Fair Value
Due in one year or less	$2,197	$2,199
Due one year through five years	2,656	2,667
	$4,853	$4,866

NOTE 8 — SHORT-TERM BORROWINGS

The System uses short-term borrowings as a source of funds. The following table shows short-term borrowings by category:

	2019		2018	
	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Systemwide discount notes:				
Outstanding at December 31	$18,998	1.82%	$22,582	2.40%
Average during year	18,776	2.37	21,460	1.84
Maximum month-end balance during year	20,549		23,582	
Systemwide bonds(1):				
Outstanding at December 31	25,626	1.80	18,393	2.20
Average during year	23,218	2.14	14,920	1.80
Maximum month-end balance during year	25,626		18,393	

(1) Represents bonds issued with a maturity of one year or less.

(dollars in millions, except as noted)

NOTE 9 — SYSTEMWIDE DEBT SECURITIES AND OTHER BONDS

Aggregate maturities and the weighted average interest rate of Systemwide Debt Securities were as follows at December 31, 2019:

	Bonds		Medium-term notes		Discount notes		Total	
	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
2020	$ 95,129	1.91%			$18,998	1.82%	$114,127	1.90%
2021	75,797	2.01	$ 4	7.32%			75,801	2.01
2022	26,519	2.06					26,519	2.06
2023	16,866	2.32					16,866	2.32
2024	13,041	2.23					13,041	2.23
2025 and thereafter	47,102	2.94	82	5.75			47,184	2.94
Total	$274,454	2.17	$86	5.82	$18,998	1.82	$293,538	2.15

Included in Systemwide Debt Securities at December 31, 2019 are callable debt securities, which are summarized below:

Year of Maturity/Next Call Date	Maturing Amount	Callable Amount
2020	$11,082	$72,451
2021	11,954	2,234
2022	11,167	1,175
2023	7,906	700
2024	7,398	1,305
2025 and thereafter	28,408	50
Total	$77,915	$77,915

Systemwide Debt Securities are the joint and several obligations of the Banks. Payments of principal and interest to the holders of Systemwide Debt Securities are insured by amounts held in the Insurance Fund as described in Note 7.

The average maturity of Systemwide discount notes was 3.6 months and 4.0 months at December 31, 2019 and 2018. Pursuant to authorizations by the Farm Credit Administration, the maximum amount of Systemwide discount notes, medium-term notes and global debt securities that Banks in the aggregate may have outstanding at any one time is currently $60 billion, $40 billion and $5 billion. There is no limit on the amount of Systemwide bonds that may be outstanding at any one time.

Certain other bonds are debt issued directly by individual Banks and are the obligations solely of the issuing Bank. Payments on other bonds are not insured by the Farm Credit Insurance Corporation. The aggregate amount of bonds issued directly by the Banks was $1.961 billion at December 31, 2019 and $1.817 billion at December 31, 2018. All of these bonds mature in the following year, and had a weighted average interest rate of 0.89% for 2019 and 1.58% for 2018.

The Farm Credit Act and Farm Credit Administration regulations require each Bank to maintain specified eligible assets at least equal in value to the total amount of debt securities outstanding for which it is primarily liable as a condition for participation in the issuance of Systemwide Debt Securities. Each Bank was in compliance with these requirements as of December 31, 2019. At December 31, 2019, the combined Banks had specified eligible assets of $317.8 billion, as compared with $296.5 billion of Systemwide Debt Securities and other bonds, and accrued interest payable at that date. The specified eligible asset requirement does not provide holders of the securities with a security interest in any assets of the Banks.

Farm Credit Administration regulations provide that, in the event a Bank is placed in liquidation, holders of Systemwide Debt Securities have claims against the Bank's assets, whether or not these holders file individual claims. Under these regulations, the claims of these holders are junior to claims relating to costs incurred by the receiver in connection with the administration of the receivership, claims for taxes, claims of secured creditors and claims of holders of bonds issued by the Bank individually to the extent such bonds are collateralized in accordance with the requirements of the Farm Credit Act. These regulations further provide that the claims of holders of Systemwide Debt Securities are senior to all claims of general creditors.

Amounts paid to dealers in connection with the sale of Systemwide Debt Securities are deferred and amortized to interest expense using the straight-line method (which approximates the interest method) over the term of the related indebtedness.

NOTE 10 — SUBORDINATED DEBT

As of December 31, 2019 and 2018, the System did not have any subordinated debt outstanding. On June 15, 2017, CoBank redeemed $500 million of its three-month LIBOR plus 0.60% subordinated debt at par plus accrued interest due in 2022.

NOTE 11 — MERGERS OF SYSTEM INSTITUTIONS

The primary reason for System entity mergers is based on a determination that the combined organization would be financially and operationally stronger with an enhanced ability to fulfill its mission.

System Banks and Associations are cooperatives that are owned and controlled by their members who use the cooperatives' products or services. As such, their capital stock provides no significant interest in corporate earnings or growth. Specifically, due to restrictions in applicable regulations and their bylaws, the capital stock is not tradable, and the capital stock can be retired only for the lesser of par value or book value. In these and other respects, the shares of capital stock in one institution that were converted to shares of another institution had identical rights and attributes. For this reason, the outstanding capital stock and other equities of the acquired institutions were converted into a like amount of capital stock and equities of the acquiring institutions. Management believes that because the stock is fixed in value, the stock issued pursuant to the mergers provides no basis for estimating the fair value of the consideration transferred pursuant to the mergers. In the absence of a purchase price determination, the acquiring institutions identified and estimated the acquisition date fair value of the equity interests (net assets) of the acquired institution instead of the acquisition date fair value of the equity interests transferred as consideration. The fair value of the net assets acquired, including specific intangible assets and liabilities assumed, were measured based on various estimates using assumptions that management believes are reasonable utilizing information currently available. These evaluations produced a fair value of identifiable assets acquired and liabilities assumed that was substantially equal to the fair value of the member interests transferred in the mergers. The difference between the fair value of identifiable net assets acquired and the fair value of member interests transferred was recorded as additional paid-in capital or a reduction in retained earnings. The mergers did not have a material impact on the System's financial condition or results of operations because the incomes of the acquired institutions were previously reflected in the Combined Statement of Income.

No Bank or Association mergers occurred during 2019 and 2018. However, effective July 1, 2019, two Associations in the CoBank District completed their plan of combination with one Association acquiring all the assets and liabilities of another Association. Effective January 1, 2017, two Associations within the CoBank District merged and, on July 1, 2017, two separate mergers were consummated in the AgriBank District. One of the two mergers in the AgriBank District combined three Associations, while the other merger combined two Associations in that District. As a result, the number of Associations within the AgriBank District was reduced by three. Also, on October 1, 2017, two Associations within the CoBank District merged.

(dollars in millions, except as noted)

The following table summarizes the fair values of the identifiable assets acquired and liabilities assumed as of:

	Fair Value		
Merger Date	Total Assets Acquired	Total Liabilities Assumed	Net Assets Acquired
October 1, 2017	$ 343	$ 273	$ 70
July 1, 2017	11,662	9,357	2,305
January 1, 2017	736	571	165

The following table summarizes the loans acquired in the merger transactions:

Merger Date	Loans Acquired at Fair Value	Loans Acquired at Contractual Amount
October 1, 2017	$ 324	$ 325
July 1, 2017	10,779	11,033
January 1, 2017	675	684

All gross contractual amounts related to loans acquired in the above mergers are expected to be collected.

NOTE 12 — CAPITAL STRUCTURE

Capital consisted of the following at December 31, 2019:

	Combined Banks	Combined Associations	Combination Entries	System Combined
Preferred stock	$ 2,499	$ 622		$ 3,121
Capital stock and participation certificates	6,940	583	$(5,514)	2,009
Additional paid-in-capital	59	3,679		3,738
Restricted capital — Insurance Fund			5,202	5,202
Accumulated other comprehensive loss	(2)	(167)	(1,171)	(1,340)
Retained earnings	11,169	37,971	(140)	49,000
Total capital	$20,665	$42,688	$(1,623)	$61,730

Combined System retained earnings reflected net eliminations of $140 million representing transactions between the Banks, the Associations and/or the Insurance Fund. The Associations owned capital stock and participation certificates of the Banks amounting to approximately $5.5 billion. These amounts have been eliminated in the accompanying combined financial statements. Restricted capital is only available for the uses described in Note 7 and is not available for payment of dividends or patronage distributions.

Preferred Stock

As of December 31, 2019, $2.619 billion of preferred stock was issued and outstanding by the four Banks and two Associations, plus an additional $502 million of Class H stock was issued and outstanding by four other Associations. The preferred stock is generally held by institutional investors or knowledgeable, high net worth individuals. The purchase of the Class H preferred stock is limited to existing common stockholders of each issuing Association. Each Association's board of directors sets the dividend rate on Class H preferred stock, and at its discretion, may retire the stock.

(dollars in millions, except as noted)

The following table presents the general terms of the preferred stock outstanding issued by the Banks and two Associations as of December 31, 2019 (par amount in whole dollars):

Bank	Issue Date	Amount	Shares Issued and Outstanding	Par Amount	Security Type and Dividend Rate	Key Terms
AgFirst	June 2007	$ 49.25	49,250	$1,000	Non-cumulative perpetual three-month LIBOR plus 1.13% payable quarterly	Redeemable on June 15, 2012, and each five year anniversary thereafter.
AgriBank	October 2013	250.00	2,500,000	100	Non-cumulative perpetual 6.875% payable quarterly	Beginning January 1, 2024, dividends will accrue at an annual rate equal to 3-month USD LIBOR plus 4.225%. Redeemable on January 1, 2024 and any dividend payment date thereafter.
Texas	August 2010	300.00	300,000	1,000	Non-cumulative subordinated perpetual 10.00% payable semi-annually	Redeemable after the dividend payment date in June 2020.
Texas	July 2013	300.00	3,000,000	100	Non-cumulative perpetual 6.75% payable quarterly	Beginning September 15, 2023, dividends will accrue at an annual rate equal to 3-month USD LIBOR plus 4.01%. Redeemable on September 15, 2023 and any dividend payment date thereafter.
Texas	June 2018	100.00	100,000	1,000	Non-cumulative perpetual 6.20% payable quarterly	Beginning June 15, 2028, dividends will accrue at an annual rate equal to 3-month USD LIBOR plus 3.223%. Redeemable on June 15, 2028 and any dividend payment date thereafter.
CoBank	January 2012	225.00	225,000	1,000	Non-cumulative perpetual three-month LIBOR plus 1.18% payable quarterly	Redeemable on July 10, 2012 and each five year anniversary thereafter.
CoBank	October 2012	400.00	4,000,000	100	Non-cumulative perpetual 6.25% payable quarterly	Beginning October 1, 2022, dividends will accrue at an annual rate equal to 3-month USD LIBOR plus 4.557%. Redeemable on October 1, 2022 and any dividend payment date thereafter.
CoBank	April 2013	200.00	2,000,000	100	Non-cumulative perpetual 6.125% payable quarterly	Redeemable on July 1, 2018 and any dividend payment date thereafter.
CoBank	November 2014	300.00	3,000,000	100	Non-cumulative perpetual 6.20% payable quarterly	Beginning January 1, 2025, dividends will accrue at an annual rate equal to 3-month USD LIBOR plus 3.744%. Redeemable on January 1, 2025 and any dividend payment date thereafter.
CoBank	April 2016	375.00	375,000	1,000	Non-cumulative perpetual 6.25% payable semi-annually	Beginning October 1, 2026, dividends will accrue at an annual rate equal to 3-month USD LIBOR plus 4.66% payable quarterly. Redeemable on October 1, 2026 and any dividend payment date thereafter.
AgTexas Farm Credit Services	March 2017	20.00	20,000,000	1	Cumulative perpetual 5.00% payable semi-annually	Beginning March 24, 2027, dividends will accrue at an annual rate equal to 6-month USD LIBOR plus 5.00% payable semi-annually. Redeemable on March 24, 2022 and thereafter.
Compeer Financial, ACA	May 2013	100.00	100,000	1,000	Non-cumulative perpetual 6.75% payable quarterly	Beginning August 15, 2023, dividends will accrue at an annual rate equal to 3-month USD LIBOR plus 4.58%. Redeemable on August 15, 2023 and any dividend payment date thereafter.
Total		$2,619.25				

(dollars in millions, except as noted)

Non-cumulative perpetual preferred stock is not mandatorily redeemable at any time but is redeemable at par value, in whole or in part, at a Bank's or Association's option. Dividends will be payable, when, as and if declared by the board of directors in its sole discretion.

Capital Stock and Participation Certificates

In accordance with the Farm Credit Act, each borrower, as a condition of borrowing, is generally required to invest in capital stock or participation certificates of the Bank or Association that makes the loan. The statutory minimum amount of capital investment required for borrowers is 2% of the loan or one thousand dollars, whichever is less. The Associations are required to purchase stock in their affiliated Bank. The different classes of capital stock and participation certificates and the manner in which capital stock and participation certificates are issued, retired and transferred are set forth in the respective Bank's or Association's bylaws. The Bank or Association generally has a first lien on the capital stock and participation certificates as collateral for the repayment of the borrower/stockholder loan.

The retirement of at-risk capital is solely at the discretion of the board of directors and not based on a date certain or on the occurrence of any event, such as the repayment of the borrower's loan.

The boards of directors of individual Banks and Associations generally may authorize the payment of dividends or patronage distributions as provided for in their respective bylaws. The payment of dividends or distribution of earnings is subject to regulations that establish minimum at-risk capital standards.

Additional Paid-In-Capital

The majority of additional paid-in-capital relates to Association mergers and represents the excess value received by the acquiring Association from the acquired Association over the par-value of capital stock and participation certificates issued. The amount recognized by the Combined Banks represents the excess over par value received by one Bank for its repurchase of non-cumulative fixed-to-floating preferred stock.

Additional paid-in-capital is considered unallocated retained earnings for purposes of shareholder distributions. Generally, patronage is paid out of current year earnings and as such, this would not be paid out in the form of patronage. In the case of liquidation, additional paid-in-capital would be treated as unallocated retained earnings and distributed to shareholders after other obligations had been satisfied.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss, net of tax, at December 31, 2019 and 2018 was comprised of the following components:

	December 31, 2019			December 31, 2018		
	Before Tax	Deferred Tax	Net of Tax	Before Tax	Deferred Tax	Net of Tax
Unrealized gains/losses on investments available-for-sale, net	$ 323	$(38)	$ 285	$ (509)	$28	$ (481)
Unrealized gains/losses on cash flow hedges, net	(204)	9	(195)	(6)	8	2
Pension and other benefit plans	(1,453)	23	(1,430)	(1,277)	21	(1,256)
	$(1,334)	$ (6)	$(1,340)	$(1,792)	$57	$(1,735)

(dollars in millions, except as noted)

The following tables present the activity in the accumulated other comprehensive loss, net of tax, by component:

	Unrealized gains/losses on investments available-for-sale, net	Unrealized gains/losses on cash flow hedges, net	Pension and other benefit plans	Accumulated other comprehensive loss
Balance at December 31, 2018	$(481)	$ 2	$(1,256)	$(1,735)
Other comprehensive income before reclassifications	779	(212)	(267)	300
Amounts reclassified from accumulated other comprehensive loss to income	(13)	15	93	95
Net current period other comprehensive income	766	(197)	(174)	395
Balance at December 31, 2019	$ 285	$(195)	$(1,430)	$(1,340)

	Unrealized losses on investments available-for-sale, net	Unrealized gains on other-than-temporarily impaired investments available-for-sale	Unrealized gains/losses on cash flow hedges, net	Pension and other benefit plans	Accumulated other comprehensive loss
Balance at December 31, 2017	$(276)	$ 3	$(53)	$(1,413)	$(1,739)
Reclassification of stranded tax effects from accumulated other comprehensive loss to retained earnings	(10)	—	(4)	(13)	(27)
Balance at January 1, 2018	(286)	3	(57)	(1,426)	(1,766)
Other comprehensive income before reclassifications	(152)	3	33	42	(74)
Amounts reclassified from accumulated other comprehensive loss to income	(43)	(6)	26	128	105
Net current period other comprehensive income	(195)	(3)	59	170	31
Balance at December 31, 2018	$(481)	$ 0	$ 2	$(1,256)	$(1,735)

(dollars in millions, except as noted)

The following table represents reclassifications out of accumulated other comprehensive income (loss):

	For the Year Ended December 31, 2019	2018	Location of Gain/Loss Recognized in Combined Statement of Income
Unrealized gains/losses on investments available-for-sale, net:			
Sales gains and losses	$ 13	$ 43	Net gains on sales of investments and other assets
Net amounts reclassified	13	43	
Unrealized gains on other-than-temporarily impaired investments available-for-sale:			
Sales gains and losses		6	Net gains on sales of investments and other assets
Net amounts reclassified	0	6	
Unrealized gains/losses on cash flow hedges, net:			
Interest rate contracts	(13)	(28)	Interest expense
Other contracts	(2)	3	Interest income
Deferred tax		(1)	Provision for income taxes
Net amounts reclassified	(15)	(26)	
Pension and other benefit plans:			
Net actuarial loss	(99)	(131)	Other expense
Prior service cost	5	1	Salaries and employee benefits
Deferred tax	1	2	Provision for income taxes
Net amounts reclassified	(93)	(128)	
Total reclassifications	$(95)	$(105)	

As discussed in Notes 9 and 21, only the Banks are statutorily liable for the payment of principal and interest on Systemwide Debt Securities. Under each Bank's bylaws, the Bank is authorized under certain circumstances to require its affiliated Associations and certain other equity holders to purchase additional Bank equities. In most cases, the Banks are limited as to the amounts of these purchases that may be required, generally with reference to a percentage of the Association's or other equity holder's direct loan from the Bank, and calls for additional equity investments may be subject to other limits or conditions. However, the Banks also generally possess indirect access to certain financial resources of their affiliated Associations through loan-pricing provisions and through Bank-influenced District operating and financing policies and agreements.

In case of liquidation or dissolution, preferred stock, capital stock, participation certificates and unallocated retained earnings would be distributed to equity holders, after the payment of all liabilities in accordance with Farm Credit Administration regulations, in the following order: (1) retirement of preferred stock at par, (2) retirement of all common stock and participation certificates at par, (3) retirement of all patronage surplus in amounts equal to the face amount of the applicable nonqualified written notices of allocation or such other notice, and (4) remaining unallocated retained earnings and reserves would be paid to the holders of voting stock, nonvoting stock and participation certificates in proportion to patronage to the extent possible.

Regulatory Capital Requirements

Farm Credit Administration's capital regulations require that the Banks and Associations maintain minimum regulatory capital ratio requirements. At December 31, 2019, all System institutions reported compliance with these standards.

(dollars in millions, except as noted)

The following set forth the regulatory capital ratio requirements and ratios at December 31, 2019:

Ratio	Primary Components of Numerator	Denominator	Minimum Requirement	Minimum with Buffer*	Banks**	Associations
Common Equity Tier 1 (CET1) Capital	Unallocated retained earnings (URE) and common cooperative equities (qualifying capital stock and allocated equity)[1]	Risk-weighted assets	4.5%	7.0%	9.9% - 18.9%	12.2% - 37.1%
Tier 1 Capital	CET1 Capital and non-cumulative perpetual preferred stock	Risk-weighted assets	6.0%	8.5%	14.8% - 19.3%	12.2% - 37.1%
Total Capital	Tier 1 Capital, allowance for loan losses[2], other common cooperative equities[3], and term preferred stock and subordinated debt[4]	Risk-weighted assets	8.0%	10.5%	15.9% - 19.5%	13.6% - 38.3%
Tier 1 Leverage***	Tier 1 Capital	Total assets	4.0%	5.0%	5.5% - 7.5%	10.4% - 34.8%
Permanent Capital	Retained earnings, common stock, non-cumulative perpetual preferred stock and subordinated debt, subject to certain limits	Risk-weighted assets	7.0%	N/A	15.0% - 19.3%	13.3% - 37.5%
Other requirements:						
Unallocated Retained Earnings and URE Equivalents (UREE) Leverage	URE and URE Equivalents	Total assets	1.5%	N/A	3.0% - 6.2%	8.3% - 35.5%

* These capital requirements became effective January 1, 2017 and have a three-year phase-in of the capital conservation buffer applied to the risk-adjusted capital ratios. There is no phase-in of the leverage buffer. Amounts shown reflect the full capital conservation buffer.

** See Note 21 for each Bank's Total Capital ratio and Tier 1 Leverage ratio at December 31, 2019 and 2018.

*** Must include the regulatory minimum requirement for the URE and UREE Leverage ratio.

[1] Equities outstanding 7 or more years

[2] Capped at 1.25% of risk-weighted assets and inclusive of the reserve for unfunded commitments

[3] Outstanding 5 or more years, but less than 7 years

[4] Outstanding 5 or more years

System institutions are prohibited from reducing capital by retiring stock (other than protected borrower stock) or making certain distributions to shareholders if, after or due to the retirement or distribution, the institution would not meet the minimum capital adequacy standards established by the Farm Credit Administration under the Farm Credit Act.

By regulation, the Farm Credit Administration is empowered to direct a transfer of funds or equities by one or more Banks or Associations to another Bank or Association, under specified circumstances. The System has never been called on to initiate any transfers pursuant to this regulation and is not aware of any proposed action under this regulation.

NOTE 13 — EMPLOYEE BENEFIT PLANS

The Banks and substantially all Associations participate in defined benefit retirement plans. The Banks and Associations, except for CoBank and certain affiliated Associations, generally have governmental plans that cover many System institutions and as such cannot be attributed to any individual entity. Thus, these plans are generally recorded at the combined District level. Although these plans are aggregated in the System's combined financial statements, the plan assets are particular to each plan's obligations. These retirement plans are noncontributory and benefits are based on salary and years of service. The Banks and Associations have closed their defined benefit pension plans to new participants and offer defined contribution retirement plans to all employees hired subsequent to the close of their respective defined benefit pension plans. In addition, certain System institutions provide healthcare and other postretirement benefits to eligible retired employees. Employees of System institutions may become eligible for healthcare and other postretirement benefits if they reach normal retirement age while working for the System.

(dollars in millions, except as noted)

The following tables set forth the funding status and the amounts recognized in the System's Combined Statement of Condition for pension and other postretirement benefit plans:

	Pension Benefits December 31,		Other Benefits December 31,	
	2019	2018	2019	2018
Change in benefit obligation:				
Benefit obligation at beginning of year	$3,984	$4,349	$ 282	$ 327
Service cost	62	72	3	4
Interest cost	163	150	12	12
Plan participants' contributions			4	4
Plan amendments	2			(8)
Actuarial (gain) loss	577	(321)	34	(41)
Benefits and premiums paid	(236)	(266)	(16)	(16)
Benefit obligation at end of year	$4,552	$3,984	$ 319	$ 282
Change in plan assets:				
Fair value of plan assets at beginning of year	$3,129	$3,313		
Actual return on plan assets	537	(132)		
Employer contributions	191	214	$ 12	$ 12
Plan participants' contributions			4	4
Benefits and premiums paid	(236)	(266)	(16)	(16)
Fair value of plan assets at end of year	$3,621	$3,129	$ 0	$ 0
Funded status at end of year	$ (931)	$ (855)	$(319)	$(282)
Amounts recognized in the balance sheet consist of:				
Pension asset	$ 1	$ 1		
Pension liability	(932)	(856)	$(319)	$(282)
Net amount recognized	$ (931)	$ (855)	$(319)	$(282)

The accumulated benefit obligation for all defined benefit pension plans was $4.224 billion, $3.641 billion and $3.905 billion at December 31, 2019, 2018 and 2017.

The following represent the amounts included in accumulated other comprehensive loss (pre-tax) at December 31:

	Pension Benefits		Other Benefits	
	2019	2018	2019	2018
Net actuarial loss	$1,414	$1,279	$49	$ 15
Prior service costs	(1)	(6)	(9)	(11)
Total amount recognized in AOCL	$1,413	$1,273	$40	$ 4

Information for pension plans with an accumulated benefit obligation in excess of plan assets:

	December 31,	
	2019	2018
Projected benefit obligation	$4,551	$3,884
Accumulated benefit obligation	4,223	3,550
Fair value of plan assets	3,619	3,036

(dollars in millions, except as noted)

The net periodic pension cost for defined benefit plans and other postretirement benefit plans included in the Combined Statement of Income and changes in plan assets and benefit obligations recognized in other comprehensive income (loss) are as follows:

	Pension Benefits For The Year Ended December 31,			Other Benefits For The Year Ended December 31,		
	2019	2018	2017	2019	2018	2017
Net periodic benefit cost:						
Service cost	$ 62	$ 72	$ 69	$ 3	$ 4	$ 4
Interest cost	163	150	155	12	12	13
Expected return on plan assets	(195)	(201)	(181)			
Net amortization and deferral	97	126	113	(2)	4	1
Curtailments		5	5			
Net periodic benefit cost	127	152	161	13	20	18
Other changes in plan assets and benefit obligations:						
Net actuarial loss (gain)	235	12	121	34	(41)	23
Prior service cost (credit)	2		6		(8)	
Amortization of net actuarial loss	(100)	(131)	(113)		(5)	(4)
Amortization of prior service credit (cost)	3		(1)	2	1	3
Total recognized in other comprehensive income (loss)	140	(119)	13	36	(53)	22
Total recognized in net periodic benefit cost and other comprehensive income (loss)	$ 267	$ 33	$ 174	$49	$(33)	$40

The components of net periodic benefit cost other than the service cost component are included in the line item other expense in the Combined Statement of Income.

The estimated net loss for the defined benefit pension plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost over the next year is $146 million and an estimated prior service cost of $1 million for pension benefits. The estimated prior service credit for the other defined benefit postretirement plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost over the next year is $2 million and an estimated net loss of $4 million for other benefits.

Weighted average assumptions used to determine benefit obligations at December 31:

	Pension Benefits			Other Benefits		
	2019	2018	2017	2019	2018	2017
Discount rate	3.11%-3.34%	4.26%-4.46%	3.59%-3.75%	2.81%-3.45%	4.02%-4.75%	3.36%-4.00%
Rate of compensation increase	3.50%-6.75%	3.60%-5.50%	3.60%-5.50%	N/A	N/A	N/A

(dollars in millions, except as noted)

Weighted average assumptions used to determine net periodic benefit cost for years ended December 31:

	Pension Benefits			Other Benefits		
	2019	2018	2017	2019	2018	2017
Discount rates:						
Single weighted average rate	4.35%-4.46%	3.71%-4.75%	4.20%-4.31%	4.45%-4.75%	3.75%-4.00%	4.30%-4.60%
Spot rate						
Projected benefit obligation	4.26%-4.40%	3.59%-3.72%	4.06%-4.30%	4.02%-4.43%	3.36%-3.73%	3.70%-4.28%
Service cost	4.40%-4.49%	3.74%-3.81%	4.33%-4.48%	4.56%-4.62%	3.86%-3.89%	4.55%-4.63%
Interest cost	3.88%-4.08%	3.18%-3.40%	3.35%-3.72%	3.68%-4.04%	2.97%-3.36%	3.05%-3.60%
Expected long-term return on plan assets	5.25%-6.50%	5.92%-6.75%	5.54%-6.75%	N/A	N/A	N/A
Rate of compensation increase	3.60%-5.50%	3.60%-5.50%	4.08%-5.50%	N/A	N/A	N/A

The discount rates used by certain plans to estimate service and interest components of net periodic benefit cost are calculated using a full yield curve method developed by an independent actuary. The approach maps a high-quality bond yield curve to the duration of the plans' liabilities, thus approximating each cash flow of the liability stream to be discounted at an interest rate specifically applicable to its respective period in time.

The expected long-term rate of return assumption is determined independently for each defined benefit pension plan. Generally, plan trustees use historical return information to establish a best-estimate range for each asset class in which the plans are invested. Plan trustees select the most appropriate rate for each plan from the best-estimate range, taking into consideration the duration of plan benefit liabilities and plan sponsor investment policies.

For measurement purposes, an annual rate increase of 6.00%-7.40% in the per capita cost of covered health benefits was assumed for 2020. The rates were assumed to step down to 4.50%-5.00% in various years beginning in 2026-2029, and remain at that level thereafter.

Assumed healthcare trend rates have a significant effect on the amounts reported for the healthcare plans. A one percentage point change in the assumed healthcare cost trend rates would have the following effects:

	1% Increase	1% Decrease
Effect on postretirement benefit obligation	$50	$(40)
Effect on total of service and interest cost	3	(2)

Plan Assets

The trustees of each defined benefit pension plan and other postretirement benefit plan set investment policies and strategies for each plan, including target allocation percentages for each category of plan asset. Generally, the funding objectives of the pension plans are to achieve and maintain plan assets adequate to cover the accumulated benefit obligations and to provide competitive investment returns and reasonable risk levels when measured against appropriate benchmarks. Plan trustees develop asset allocation policies based on plan objectives, characteristics of pension liabilities, capital market expectations, and asset-liability projections. Substantially all postretirement healthcare plans have no plan assets and are funded on a current basis by employer contributions and retiree premium payments.

Asset Category	Pension Benefits Target Allocation for Next Year
Equity securities	33%-75%
Debt securities	25%-63%
Other	0%-25%

(dollars in millions, except as noted)

The fair values of the System's pension plan assets at December 31, 2019 and 2018 by asset category are as follows:

December 31, 2019	Fair Value Measurement Using Level 1	Level 2	Level 3	Total Fair Value
Cash and cash equivalents	$ 40			$ 40
Mutual Funds:				
International funds	46	$ 405		451
Fixed income funds		743		743
Domestic funds	103	244		347
Bond funds	110	120		230
Real estate equity funds		30	$ 5	35
Other funds	34		66	100
Investment insurance contracts			5	5
Total	$333	$1,542	$76	1,951
Investments measured at net asset value*				1,670
Total assets at fair value				$3,621

December 31, 2018	Fair Value Measurement Using Level 1	Level 2	Level 3	Total Fair Value
Cash and cash equivalents	$ 59			$ 59
Mutual Funds:				
International funds	40	$ 328		368
Fixed income funds		546		546
Domestic funds	84	201		285
Bond funds	115	107		222
Real estate equity funds		25	$ 3	28
Other funds	28		50	78
Investment insurance contracts			5	5
Total	$326	$1,207	$58	1,591
Investments measured at net asset value*				1,538
Total assets at fair value				$3,129

* The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the net assets in the pension plans.

There were no material changes in Level 3 pension plan assets for the years ended December 31, 2019 and 2018. In addition, there were no plan assets for other benefit plans at December 31, 2019 and 2018.

(dollars in millions, except as noted)

Concentrations of Credit Risk

The plan assets are diversified into various investment types as shown in the preceding table. The plan assets are primarily spread among various mutual funds, with numerous fund managers. Diversification is also obtained by selecting fund managers whose funds are not concentrated in individual stock, or individual countries for the international funds.

Contributions

The Banks and Associations expect to contribute $220 million to their pension plans and $13 million to their other postretirement benefit plans in 2020.

The Banks and Associations expect to pay the following benefit payments, which reflect expected future service, as appropriate.

Year	Pension Benefits	Other Benefits
2020	$ 271	$13
2021	278	14
2022	271	14
2023	277	15
2024	278	15
2025 to 2029	1,407	80

The Banks and Associations also participate in defined contribution savings plans. Certain plans require Banks and Associations to match a percentage of employee contributions. Employer contributions to these plans were $121 million, $109 million and $101 million for the years ended December 31, 2019, 2018 and 2017.

NOTE 14 — INCOME TAXES

The provision for income taxes was comprised of the following amounts:

	For The Year Ended December 31,		
	2019	2018	2017
Current:			
Federal	$ 61	$ 50	$ 191
State and local	6	(3)	31
Deferred:			
Federal	52	59	(179)
State	(16)	20	(5)
Provision for income taxes	$103	$126	$ 38

The provision for income taxes for 2017 included the benefit of $162 million in tax adjustments resulting from the enactment of federal tax legislation which, among other things, lowered the federal corporate tax rate from 35% to 21% beginning on January 1, 2018. In accordance with GAAP, the change to the lower corporate tax rate led to a remeasurement of the deferred tax liabilities and deferred tax assets in 2017, the period of enactment.

(dollars in millions, except as noted)

The deferred income tax provision (benefit) results from differences between amounts of assets and liabilities as measured for income tax return and financial reporting purposes. The significant components of deferred tax assets and liabilities at December 31, 2019 and 2018 were as follows:

	December 31,	
	2019	2018
Deferred tax assets:		
Allowance for loan losses	$ 274	$ 265
Employee benefit plan obligations	67	58
Loss carryforwards	66	71
Nonaccrual loan interest	16	15
Loan origination fees	15	11
Unrealized net losses on investments available-for-sale		36
Other	66	39
Gross deferred tax assets	504	495
Less: valuation allowance	(166)	(167)
Deferred tax assets, net of valuation allowance	338	328
Deferred tax liabilities:		
Direct financing leases	(642)	(599)
Patronage allocated by Banks to Associations	(38)	(16)
Unrealized net gains on investments available-for-sale	(30)	
Pensions	(21)	(15)
Depreciation	(2)	(2)
Other	(23)	(14)
Gross deferred tax liabilities	(756)	(646)
Net deferred tax liability	$(418)	$(318)
System entities with net deferred tax assets (included in other assets)	$ 13	$ 13
System entities with net deferred tax liabilities (included in other liabilities)	(431)	(331)
	$(418)	$(318)

The provision for income taxes differs from the amount of income tax determined by applying the applicable U.S. statutory federal income tax rate to pretax income from continuing operations as a result of the following differences:

	Year Ended December 31,		
	2019	2018	2017
Federal tax at statutory rate	$1,165	$1,146	$ 1,829
State tax, net	(8)	20	18
Effect of nontaxable entities	(797)	(793)	(1,273)
Patronage distributions allocated by taxable entities	(227)	(224)	(344)
Impact of tax reform		(16)	(162)
Other	(30)	(7)	(30)
Provision for income taxes	$ 103	$ 126	$ 38

System entities have unrecognized tax benefits of $5 million for each of the three years ended at December 31, 2019, 2018 and 2017 for which liabilities have been established.

System entities recognize interest and penalties related to unrecognized tax benefits as an adjustment to income tax expense. The amounts of interest and penalties recognized in 2019, 2018 and 2017 were not significant. System entities did not have any positions for which it is reasonably possible that the total amounts of unrecognized tax benefits will significantly increase or decrease within the next 12 months. The tax years that remain open for federal and major state income tax jurisdictions are 2015 and forward.

NOTE 15 — FAIR VALUE MEASUREMENTS

Accounting guidance defines fair value as the exchange price that would be received for an asset or paid to transfer a liability in an orderly transaction between market participants in the principal or most advantageous market for the asset or liability. See Note 2 — Summary of Significant Accounting Policies for additional information.

(dollars in millions, except as noted)

Assets and liabilities measured at fair value on a recurring basis at December 31, 2019 and 2018 for each of the fair value hierarchy levels are summarized below:

December 31, 2019	Fair Value Measurement Using Level 1	Level 2	Level 3	Total Fair Value
Assets:				
Federal funds sold and securities purchased under resale agreements		$ 3,884		$ 3,884
Commercial paper, bankers' acceptances, certificates of deposit and other securities		7,081	$ 14	7,095
U.S. Treasury securities		19,237		19,237
U.S. agency securities		3,054		3,054
Mortgage-backed securities		26,338	128	26,466
Asset-backed securities		4,229		4,229
Derivative assets		385		385
Assets held in non-qualified benefits trusts	$204			204
Total assets	$204	$64,208	$142	$64,554
Liabilities:				
Derivative liabilities		$ 351		$ 351
Standby letters of credit			$ 13	13
Total liabilities	$ 0	$ 351	$ 13	$ 364

December 31, 2018	Fair Value Measurement Using Level 1	Level 2	Level 3	Total Fair Value
Assets:				
Federal funds sold and securities purchased under resale agreements		$ 3,379		$ 3,379
Commercial paper, bankers' acceptances, certificates of deposit and other securities		6,800	$ 6	6,806
U.S. Treasury securities		18,778		18,778
U.S. agency securities		2,480		2,480
Mortgage-backed securities		27,247	149	27,396
Asset-backed securities		3,477	6	3,483
Derivative assets		284		284
Assets held in non-qualified benefits trusts	$179			179
Total assets	$179	$62,445	$161	$62,785
Liabilities:				
Derivative liabilities		$ 183		$ 183
Collateral liabilities	$ 2	99		101
Standby letters of credit			$ 12	12
Total liabilities	$ 2	$ 282	$ 12	$ 296

(dollars in millions, except as noted)

The tables below summarize the activity of all Level 3 assets and liabilities measured at fair value on a recurring basis:

	Commercial paper, bankers' acceptances, certificates of deposit and other securities	Mortgage-backed securities	Asset-backed securities	Standby letters of credit
Balance at December 31, 2018	$ 6	$149	$ 6	$ 12
Total gains or (losses) realized/unrealized:				
Included in earnings		(1)		
Included in other comprehensive loss	1	2		
Purchases	7	154	25	
Sales		(60)	(5)	
Issuances				13
Settlements		(23)	(1)	(12)
Transfers from Level 3 into Level 2		(93)	(25)	
Balance at December 31, 2019	$14	$128	$ 0	$ 13

	Commercial paper, bankers' acceptances, certificates of deposit and other securities	Mortgage-backed securities	Asset-backed securities	Standby letters of credit
Balance at December 31, 2017	$12	$ 574	$ 27	$13
Total gains or (losses) realized/unrealized:				
Included in earnings		38	8	
Included in other comprehensive loss	(1)	(18)	(8)	
Purchases		179		
Sales		(349)	(19)	
Issuances	3			8
Settlements	(8)	(64)	(2)	(9)
Redemption of investments for loans		(119)		
Transfers from Level 3 into Level 2		(92)		
Balance at December 31, 2018	$ 6	$ 149	$ 6	$12

There were no losses included in earnings during 2019 and 2018 that were attributable to the change in unrealized gains or losses relating to assets or liabilities still held at December 31, 2019 and 2018. The transfers between Level 3 and Level 2 during 2019 and 2018 were due to changes in the sources of pricing information.

Level 3 assets measured at fair value on a non-recurring basis included loans of $498 million and other property owned of $84 million at December 31, 2019, as compared to $430 million and $91 million at December 31, 2018.

(dollars in millions, except as noted)

Financial assets and financial liabilities measured at carrying amounts and not measured at fair value on the Combined Statement of Condition for each of the fair value hierarchy levels are summarized as follows:

	December 31, 2019				
	Total Carrying Amount	Fair Value Measurement Using			Total Fair Value
		Level 1	Level 2	Level 3	
Assets:					
Cash	$ 2,504	$2,504			$ 2,504
Other investments held-to-maturity	1,797		$314	$ 1,513	1,827
Net loans	285,158			294,851	294,851
Total assets	$289,459	$2,504	$314	$296,364	$299,182
Liabilities:					
Systemwide Debt Securities	$293,538			$295,988	$295,988
Other bonds	1,961			1,961	1,961
Other interest bearing liabilities	1,155		$ 6	1,170	1,176
Total liabilities	$296,654	$ 0	$ 6	$299,119	$299,125
Other financial instruments:					
Commitments to extend credit				$ 186	$ 186

	December 31, 2018				
	Total Carrying Amount	Fair Value Measurement Using			Total Fair Value
		Level 1	Level 2	Level 3	
Assets:					
Cash	$ 2,933	$2,933			$ 2,933
Other investments held-to-maturity	1,216		$117	$ 1,093	1,210
Net loans	271,665		9	276,362	276,371
Total assets	$275,814	$2,933	$126	$277,455	$280,514
Liabilities:					
Systemwide Debt Securities	$281,459			$279,719	$279,719
Other bonds	1,817			1,817	1,817
Other interest bearing liabilities	1,161		$ 4	1,167	1,171
Total liabilities	$284,437	$ 0	$ 4	$282,703	$282,707
Other financial instruments:					
Commitments to extend credit				$ 173	$ 173

(dollars in millions, except as noted)

Uncertainty of Fair Value Measurements

For recurring fair value measurements categorized within Level 3 of the fair value hierarchy, the significant unobservable inputs used in the fair value measurement of the mortgage-backed securities are prepayment rates, probability of default, and loss severity in the event of default. Significant increases (decreases) in any of those inputs in isolation would have resulted in a significantly lower (higher) fair value measurement.

Generally, a change in the assumption used for the probability of default would have been accompanied by a directionally similar change in the assumption used for the loss severity and a directionally opposite change in the assumption used for prepayment rates.

Quoted market prices are generally not available for the instruments presented below. Accordingly, fair values are based on judgments regarding anticipated cash flows, future expected loss experience, current economic conditions, risk characteristics of various financial instruments, and other factors. These estimates involve uncertainties and matters of judgment, and therefore cannot be determined with precision. Changes in assumptions could significantly affect the estimates.

Quantitative Information about Recurring and Nonrecurring Level 3 Fair Value Measurements

	Fair Value		Valuation Technique(s)	Unobservable Input	Range of Inputs	
	December 31, 2019	December 31, 2018			December 31, 2019	December 31, 2018
Commercial paper, bankers' acceptances, certificates of deposit and other securities	$ 14	$ 6	Discounted cash flow	Prepayment rate	0.0%	0.0%
Mortgage-backed securities	$ 29	$ 36	Discounted cash flow	Prepayment rate	2.4%-38.0%	2.3%-38.0%
	99	113	Vendor priced			
	$128	$149				
Asset-backed securities	$ 0	$ 6	Vendor priced			
Standby letters of credit	$ 13	$ 12	Discounted cash flow	Rate of funding	50%	50.0%
				Risk-adjusted spread	0.1%-1.3%	0.1%-1.5%

With regard to nonrecurring measurements for impaired loans and other property owned, it is not practicable to provide specific information on inputs as each collateral property is unique. System institutions utilize appraisals to value these loans and other property owned and take into account unobservable inputs such as income and expense, comparable sales, replacement cost and comparability adjustments.

Information about Recurring and Nonrecurring Level 2 Fair Value Measurements

	Valuation Technique(s)	Input
Federal funds sold and securities purchased under resale agreements	Carrying value	Par/principal and appropriate interest yield
Investment securities available-for-sale	Discounted cash flow	Constant prepayment rate Probability of default Loss severity
	Quoted prices	Price for similar security
Interest rate swaps, caps and floors	Discounted cash flow	Annualized volatility Counterparty credit risk Company's own credit risk

Valuation Techniques

As more fully discussed in Note 2 — Summary of Significant Accounting Policies, FASB guidance establishes a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The following represents a brief summary of the valuation techniques used by the System for assets and liabilities measured at fair value:

Investment Securities

Where quoted prices are available in an active market, available-for-sale securities would be classified as Level 1. If quoted prices are not available in an active market, the fair value of securities is estimated using pricing models that utilize observable inputs, quoted prices for similar securities received from pricing services or discounted cash flows. Generally, these securities would be classified as Level 2. This would include, but not limited to, U.S. Treasury, U.S. agency and the substantial majority of mortgage-backed and asset-backed securities. Where there is limited activity or less transparency around inputs to the valuation, the securities are classified as Level 3. Securities classified within Level 3 primarily consist of certain mortgage-backed securities including private label-FHA/VA securities and those issued by Farmer Mac.

To estimate the fair value of the majority of the investments held, the Banks and Associations obtain prices from third party pricing services. For the valuation of securities not actively traded, including certain mortgage-backed securities, the Banks and Associations utilize either a third party cash flow model or an internal model. The significant inputs for the valuation models include yields, probability of default, loss severity and prepayment rates.

Derivatives

Exchange-traded derivatives valued using quoted prices would be classified within Level 1 of the valuation hierarchy. However, few classes of derivative contracts are listed on an exchange; thus, the majority of the derivative positions are valued using internally developed models that use as their basis readily observable market parameters and are classified within Level 2 of the valuation hierarchy. Such derivatives include basic interest rate swaps and options.

The models used to determine the fair value of derivative assets and liabilities use an income approach based on observable market inputs, including the LIBOR and Overnight Index Swap curves and volatility assumptions about future interest rate movements.

Assets Held in Non-Qualified Benefits Trusts

Assets held in trust funds related to deferred compensation and supplemental retirement plans are classified within Level 1. The trust funds include investments that are actively traded and have quoted net asset values that are observable in the marketplace.

Standby Letters of Credit

The fair value of letters of credit approximate the fees currently charged for similar agreements or the estimated cost to terminate or otherwise settle similar obligations.

Loans Evaluated for Impairment

For certain loans evaluated for impairment under FASB impairment guidance, the fair value is based upon the underlying collateral since the loans are collateral-dependent loans for which real estate is the collateral. The fair value measurement process uses independent appraisals and other market-based information, but, in many cases, it also requires significant input based on management's knowledge of and judgment about current market conditions, specific issues relating to the collateral and other matters. As a result, a majority of these loans have fair value measurements that fall within Level 3 of the fair value hierarchy. When the value of the real estate, less estimated costs to sell, is less than the principal balance of the loan, a specific reserve is established. The fair value of these loans would fall under Level 2 of the hierarchy if the process uses independent appraisals and other market-based information.

Other Property Owned

Other property owned is generally classified as Level 3 of the fair value hierarchy. The process for measuring the fair value of other property owned involves the use of independent appraisals or other market-based information. Costs to sell represent transaction costs and are not included as a component of the asset's fair value.

Collateral Liabilities

Derivative contracts are supported by bilateral collateral agreements with counterparties requiring the posting of collateral in the event certain dollar thresholds of credit exposure are reached or are cleared through a futures commission merchant, with a clearinghouse (i.e., a central counterparty). The market value of collateral liabilities is its face value plus accrued interest that approximates fair value.

NOTE 16 — DERIVATIVE PRODUCTS AND HEDGING ACTIVITIES

The Banks and Associations maintain an overall interest rate risk management strategy that incorporates the use of derivative products to minimize significant unplanned fluctuations in earnings that are caused by interest rate volatility. The goal is to manage interest rate sensitivity by modifying the repricing or maturity characteristics of certain balance sheet assets and liabilities so that movements in interest rates do not adversely affect the net interest margin. As a result of interest rate fluctuations, hedged fixed-rate assets and liabilities will appreciate or depreciate in market value. The effect of this unrealized appreciation or depreciation is expected to be substantially offset by the gains or losses on the derivative instruments that are linked to these hedged assets and liabilities. Another result of interest rate fluctuations is that the interest income and interest expense of hedged floating-rate assets and liabilities will increase or decrease. The effect of this variability in earnings is expected to be substantially offset by the gains and losses on the derivative instruments that are linked to these hedged assets and liabilities. The strategic use of derivatives is considered to be a prudent method of managing interest rate sensitivity, as it prevents earnings from being exposed to undue risk resulting from changes in interest rates.

In addition, derivative transactions, particularly interest rate swaps, are entered into to lower funding costs, diversify sources of funding, alter interest rate exposures arising from mismatches between assets and liabilities, or better manage liquidity. Interest rate swaps allow us to issue medium-term debt at fixed rates, which are then swapped to floating rates that are lower than those available if floating-rate debt was issued directly. Under interest rate swap arrangements, the parties agree to exchange, at specified intervals, payment streams calculated on a specified notional principal amount, with at least one stream based on a specified floating rate index.

The Banks may enter into derivatives with their customers, including Associations, as a service to enable customers to transfer, modify or reduce their interest rate risk by transferring this risk to the Bank. The Banks substantially offset the market risk by concurrently entering into offsetting agreements with non-System institutional counterparties.

A substantial amount of the System's assets are interest-earning assets (principally loans and investments) that tend to be medium-term floating-rate instruments, while the related interest-bearing liabilities tend to be short- or medium-term fixed rate obligations. Given this asset-liability mismatch, interest rate swaps that pay floating rate and receive fixed rate (receive-fixed swaps) are used to reduce the impact of market fluctuations on net interest income. Because the size of swap positions needed to reduce the impact of market fluctuations varies over time, swaps that receive floating rate and pay fixed rate (pay-fixed swaps) are used to reduce net positions.

(dollars in millions, except as noted)

Interest rate options may be purchased in order to reduce the impact of rising interest rates on floating-rate debt (interest rate caps) or to reduce the impact of falling interest rates on floating-rate assets (interest rate floors). The primary types of derivative instruments used and the amount of activity (notional amount of derivatives) during 2019 and 2018 are summarized in the following tables:

	Receive-Fixed Swaps	Pay-Fixed and Amortizing Pay-Fixed Swaps	Floating-for-Floating and Amortizing Floating-for-Floating	Interest Rate Caps and Floors	Other Derivatives	Total
Balance at December 31, 2018	$13,947	$10,656	$2,500	$4,306	$ 7,893	$ 39,302
Additions	5,230	3,477		2,416	8,872	19,995
Maturities/amortization	(3,517)	(1,676)	(200)	(242)	(6,564)	(12,199)
Terminations		(664)			(664)	(1,328)
Balance at December 31, 2019	$15,660	$11,793	$2,300	$6,480	$ 9,537	$ 45,770

	Receive-Fixed Swaps	Pay-Fixed and Amortizing Pay-Fixed Swaps	Floating-for-Floating and Amortizing Floating-for-Floating	Interest Rate Caps and Floors	Other Derivatives	Total
Balance at December 31, 2017	$14,845	$ 8,947	$2,700	$5,080	$ 6,955	$ 38,527
Additions	4,589	2,881		182	9,183	16,835
Maturities/amortization	(5,487)	(899)	(200)	(356)	(7,972)	(14,914)
Terminations		(273)		(600)	(273)	(1,146)
Balance at December 31, 2018	$13,947	$10,656	$2,500	$4,306	$ 7,893	$ 39,302

Use of derivatives creates exposure to credit and market risk. If a counterparty fails to fulfill its performance obligations under a derivative contract, credit risk will equal the fair value gain in a derivative. Generally, when the fair value of a derivative contract is positive, this indicates that the counterparty owes us, thus creating a repayment (credit) risk. When the fair value of the derivative contract is negative, we owe the counterparty and, therefore, assume no repayment risk.

To minimize the risk of credit losses, credit standing and levels of exposure to individual counterparties are monitored and derivative transactions are almost exclusively entered into with non-customer counterparties that have an investment grade or better credit rating from a major rating agency. Nonperformance by any of these counterparties is not anticipated. We typically enter into master agreements that contain netting provisions. These provisions require the net settlement of covered contracts with the same counterparty in the event of default by the counterparty on one or more contracts. A majority of the derivative contracts are supported by collateral arrangements with counterparties. The System had a net exposure to counterparties of $5 million and $20 million at December 31, 2019 and 2018. The net exposure to counterparties at December 31, 2018 included $101 million of cash collateral held by the System.

Derivative transactions may also be cleared through a futures commission merchant (FCM) with a clearinghouse (i.e., a central counterparty (CCP)). When the swap is cleared by the two parties, the single bilateral swap is divided into two separate swaps with the CCP becoming the counterparty to both of the initial parties to the swap. CCPs have several layers of protection against default including margin, member capital contributions, and FCM guarantees of their customers' transactions with the CCP. FCMs also pre-qualify the counterparties to all swaps that are sent to the CCP from a credit perspective, setting limits for each counterparty and collecting initial and variation margin daily from each counterparty for changes in the value of cleared derivatives. The margin collected from both parties to the swap protects against credit risk in the event a counterparty defaults. The initial and variation margin requirements are set by and held for the benefit of the CCP. Additional initial margin may be required and held by the FCM, due to its guarantees of its customers' trades with the CCP.

Derivative activities are monitored by an Asset-Liability Management Committee (ALCO) at the various System institutions as part of its oversight of asset/liability and treasury functions. Each ALCO is responsible for approving hedging strategies that are developed within parameters established by the board of directors through analysis of data derived from financial simulation models and other internal and industry sources. The resulting hedging strategies are then incorporated into the overall interest rate risk-management strategies.

Fair Value Hedges

For derivative instruments that are designated and qualify as a fair value hedge, the gain or loss on the derivative as well as the offsetting loss or gain on the hedged item (principally, debt securities) attributable to the hedged risk are recognized in current earnings. The System includes the gain or loss on the hedged items in the same line item (interest expense) as the offsetting loss or gain on the related interest rate swaps. As of December 31, 2019, the following amounts were recorded on the Condensed Combined Statement of Condition related to cumulative basis adjustments for fair value hedges:

	Carrying Amount of the Hedged Item	Cumulative Amount of Fair Value Hedging Adjustment Included in the Carrying Amount of the Hedged Item
	December 31, 2019	December 31, 2019
Systemwide debt securities	$17,032	$171

Cash Flow Hedges

For derivative instruments that are designated and qualify as cash flow hedges, the gain or loss on the derivative is reported as a component of other comprehensive income and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings.

Derivatives not Designated as Hedges

For derivatives not designated as a hedging instrument, the related change in fair value is recorded in current period earnings in "other income" in the Combined Statement of Income.

(dollars in millions, except as noted)

Fair Values of Derivative Instruments

The following table represents the fair value of derivative instruments:

	Balance Sheet Classification Assets	Fair Value at December 31, 2019	Fair Value at December 31, 2018	Balance Sheet Classification Liabilities	Fair Value at December 31, 2019	Fair Value at December 31, 2018
Derivatives designated as hedging instruments:						
Receive-fixed swaps	Other assets	$ 184	$ 35	Other liabilities	$ 10	$105
Pay-fixed and amortizing pay-fixed swaps	Other assets	6	66	Other liabilities	133	35
Interest rate caps and floors	Other assets	39	43			
Floating-for-floating and amortizing floating-for-floating swaps				Other liabilities	4	3
Foreign exchange contracts	Other assets		1	Other liabilities	2	
Total derivatives designated as hedging instruments		229	145		149	143
Derivatives not designated as hedging instruments:						
Pay-fixed and amortizing pay-fixed swaps	Other assets	2	4	Other liabilities	2	
Derivatives entered into on behalf of customers	Other assets	300	165	Other liabilities	236	131
Other derivative products	Other assets		11			
Total derivatives not designated as hedging instruments		302	180		238	131
Variation margin settlement		(137)	(12)		(27)	(62)
Total derivatives		$ 394	$313		$360	$212

The following table sets forth the effect of derivative instruments in cash flow hedging relationships:

	Amount of Gain or (Loss) Recognized in OCI on Derivatives			Location of Gain or (Loss) Reclassification from AOCI into Income	Amount of Gain or (Loss) Reclassified from AOCI into Income		
	December 31,				December 31,		
Derivatives — Cash Flow Hedging Relationships	**2019**	**2018**	**2017**		**2019**	**2018**	**2017**
Pay-fixed and amortizing pay-fixed swaps	$(158)	$23	$ 12	Interest expense		$ (5)	$ (1)
Floating-for-floating and amortizing floating-for-floating swaps	(2)		(5)	Interest expense	$ (1)	(1)	
Interest rate caps and floors	(51)	5	(5)	Interest expense	(12)	(22)	(7)
Foreign exchange contracts	(1)	5	(18)	Interest income	(2)	3	(4)
Other derivative products				Interest income		(1)	
Total	$(212)	$33	$(16)		$(15)	$(26)	$(12)

(dollars in millions, except as noted)

The following table sets forth the effect of fair value and cash flow hedge accounting on the Combined Statement of Income:

	Location and Amount of Gain or Loss Recognized in Income on Fair Value and Cash Flow Hedging Relationships	
	For the Year Ended December 31, 2019	
	Interest Expense	Interest Income
Total amount of income and expense line items in which the effects of fair value or cash flow hedges are recorded	$6,753	$15,019
Effects of fair value and cash flow hedging:		
Fair value hedges:		
Receive-fixed swaps	(243)	
Systemwide Debt Securities	241	
Cash flow hedges:		
Floating-for-floating and amortizing floating-for-floating swaps	1	
Interest rate caps and floors	12	
Foreign exchange contracts		(2)
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value		1

The following table sets forth the amount of gains or losses recognized in the Combined Statement of Income related to derivatives not designated as hedging instruments:

Derivatives Not Designated as Hedging Instruments	Location of Gain or (Loss)	For The Year Ended December 31, 2019	2018	2017
Pay-fixed and amortizing pay-fixed swaps	Noninterest income	$ (4)		
Derivatives entered into on behalf of customers	Noninterest income	30	$ 4	$(10)
Other derivative products	Noninterest income	(9)	12	
Total		$17	$16	$(10)

(dollars in millions, except as noted)

NOTE 17 — ASSET/LIABILITY OFFSETTING

The following tables represent the offsetting of financial assets and liabilities:

December 31, 2019	Gross Amounts Recognized	Gross Amounts Offset in the Combined Statement of Condition	Net Amounts Presented in the Combined Statement of Condition	Gross Amounts Not Offset in the Combined Statement of Condition: Securities Received/ Pledged	Cash Collateral Received/ Pledged	Cleared Derivative Initial Margin Pledged	Net Amount
Assets:							
Interest rate swaps and other derivatives	$ 394	$(9)	$ 385			$ 30	$ 415
Federal Funds sold and securities purchased under resale agreements	3,884		3,884	$(775)			3,109
Liabilities:							
Interest rate swaps and other derivatives	360	(9)	351		$(152)	(62)	137

December 31, 2018	Gross Amounts Recognized	Gross Amounts Offset in the Combined Statement of Condition	Net Amounts Presented in the Combined Statement of Condition	Gross Amounts Not Offset in the Combined Statement of Condition: Securities Received/Pledged	Cash Collateral Received/Pledged	Cleared Derivative Initial Margin Pledged	Net Amount
Assets:							
Interest rate swaps and other derivatives	$ 313	$(29)	$ 284		$(101)	$ 21	$ 204
Federal Funds sold and securities purchased under resale agreements	3,379		3,379	$(100)			3,279
Liabilities:							
Interest rate swaps and other derivatives	212	(29)	183		(8)	(47)	128

NOTE 18 — RELATED PARTY TRANSACTIONS

In the normal course of business, the Banks and Associations may enter into loan transactions with their officers and directors and non-System organizations with which such persons may be associated. These loans are subject to special approval requirements contained in Farm Credit Administration regulations and are, in the view of the lending System institution's management, made on the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with unrelated borrowers. As of December 31, 2019 and 2018, all related party loans were made in accordance with established policies and on the same terms as those prevailing at the time for comparable transactions, except for one loan to a company affiliated with an individual who served as a System institution director at the time the loan was made, which was $1.3 million at December 31, 2018. The interest rate on this loan was marginally lower than the rate on similar loans to unrelated borrowers.

Total loans outstanding to related parties were $2.7 billion and $2.4 billion at December 31, 2019 and 2018. During 2019 and 2018, $3.5 billion and $2.7 billion of new loans were made to such persons and repayments totaled $3.2 billion and $2.5 billion. In the opinions of Bank and Association managements, all such loans outstanding at December 31, 2019 and 2018 did not involve more than a normal risk of collectability, except for loans to one Association director totaling $548 thousand in 2019 and four loans to Association directors totaling $12.7 million in 2018.

NOTE 19 — COMMITMENTS AND CONTINGENCIES

In June 2016, a lawsuit was commenced by the filing of a complaint in the United States District Court Southern District of New York against CoBank by a number of investors (the "Plaintiffs") who had held CoBank's 7.875% Subordinated Notes due in 2018 (the "Notes"). The Notes were redeemed at par plus accrued interest by CoBank in April 2016 due to the occurrence of a "Regulatory Event" (as defined under the terms of the Notes). The Plaintiffs have asserted a breach of contract claim and a breach of implied covenant of good faith and fair dealing claim alleging that CoBank impermissibly redeemed the Notes. The Plaintiffs have requested damages in an amount to be determined at trial, reasonable attorneys' fees and any other such relief as the court may deem just and proper. CoBank filed its answer in September 2016 and discovery concluded in January 2018. CoBank and Plaintiffs filed their respective motions for summary judgment in March 2018. There is presently no indication of when the court will rule on the motions for summary judgment. CoBank intends to vigorously defend against these allegations. The likelihood of any outcome of this proceeding cannot be determined at this time.

In November 2016, an alleged class action complaint was filed in New York state court against AgriBank by a purported beneficial owner of some of AgriBank's 9.125% subordinated notes due in 2019 ("Subordinated Notes"). The plaintiff asserted a breach of contract claim and a breach of implied covenant of good faith and fair dealing claim alleging that AgriBank impermissibly redeemed the Subordinated Notes. AgriBank removed the lawsuit to federal court in the Southern District of New York. Plaintiff requested damages in an amount to be determined at trial, reasonable attorneys' fees, and other relief. In October 2017, AgriBank filed an answer to the lawsuit. On July 31, 2018, the plaintiff filed an amended complaint adding a second named plaintiff. On August 30, 2018, AgriBank filed an answer to the amended complaint. On February 1, 2019, the plaintiffs filed a motion to certify the class and appoint the plaintiffs as co-class representatives. On March 18, 2019, AgriBank filed a motion opposing the plaintiffs' motion for class certification and appointment as class representatives. On September 11, 2019, the court issued an order denying Plaintiffs' joint motion to certify a class action on behalf of all purchasers of the notes and to appoint them as co-class representatives. On November 13, 2019, the court issued a scheduling order for a bench trial to start on June 1, 2020. AgriBank intends to vigorously defend against these allegations. The likelihood of any outcome of this proceeding cannot be determined at this time.

At December 31, 2019, various other lawsuits were pending or threatened against System institutions. Each System institution to which a pending or threatened lawsuit relates intends to vigorously defend against such action. In the opinion of management, based on information currently available and taking into account the advice of legal counsel, the ultimate liability, if any, of pending or threatened legal actions will not have a material adverse impact on the System's combined results of operations or financial condition.

The Banks and Associations may participate in financial instruments with off-balance-sheet risk to satisfy the financing needs of their borrowers and to manage their exposure to interest-rate risk. In the normal course of business, various commitments are made to customers, such as commitments to extend credit and letters of credit, which represent credit-related financial instruments with off-balance-sheet risk.

(dollars in millions, except as noted)

A summary of the contractual amount of credit-related instruments is presented in the following table:

	December 31, 2019
Commitments to extend credit	$81,782
Standby letters of credit	2,076
Commercial and other letters of credit	98

Since many of these commitments are expected to expire without being drawn upon, the total commitments do not necessarily represent future cash requirements. However, these credit-related financial instruments have off-balance-sheet credit risk because their contractual amounts are not reflected on the balance sheet until funded or drawn upon. Standby letters of credit are reflected on the balance sheet at fair value of the liability. The credit risk associated with issuing commitments and letters of credit is substantially the same as that involved in extending loans to borrowers and the same credit policies are applied by management. Upon fully funding a commitment, the credit risk amounts are equal to the contract amounts, assuming that borrowers fail completely to meet their obligations and the collateral or other security is of no value. The amount of collateral obtained, if deemed necessary upon extension of credit, is based on management's credit evaluation of the borrower.

NOTE 20 — QUARTERLY FINANCIAL DATA (UNAUDITED)

The unaudited results of operations by quarter for the past three years are presented below:

	2019 Quarter Ended			
	March 31	June 30	Sept. 30	Dec. 31
Net interest income	$2,026	$2,039	$2,085	$2,116
Provision for loan losses	(65)	(1)	(29)	(74)
Net noninterest expense	(634)	(614)	(621)	(679)
(Provision for) benefit from income taxes	(39)	(44)	(48)	28
Net income	$1,288	$1,380	$1,387	$1,391

	2018 Quarter Ended			
	March 31	June 30	Sept. 30	Dec. 31
Net interest income	$1,959	$1,973	$2,015	$2,029
Provision for loan losses	(69)	(18)	(59)	(48)
Net noninterest expense	(580)	(538)	(575)	(631)
Provision for income taxes	(44)	(34)	(18)	(30)
Net income	$1,266	$1,383	$1,363	$1,320

	2017 Quarter Ended			
	March 31	June 30	Sept. 30	Dec. 31
Net interest income	$1,888	$1,908	$1,956	$1,960
Provision for loan losses	(37)	(80)	(71)	(9)
Net noninterest expense	(552)	(560)	(594)	(582)
(Provision for) benefit from income taxes	(55)	(46)	(41)	104
Net income	$1,244	$1,222	$1,250	$1,473

(dollars in millions, except as noted)

NOTE 21 — COMBINING BANK-ONLY INFORMATION

The following condensed combining statements include the statement of condition, statement of comprehensive income and statement of changes in capital for the combined Banks without the affiliated Associations or other System institutions.

Combining Bank-Only Statement of Condition

December 31, 2019

	AgFirst Farm Credit Bank	AgriBank, FCB	Farm Credit Bank of Texas	CoBank, ACB	Combination Entries	Combined Banks
Assets						
Cash	$ 444	$ 676	$ 48	$ 949		$ 2,117
Federal funds sold and securities purchased under resale agreements	650	1,050	374	1,810		3,884
Investments (Note 3)	7,933	14,368	5,295	32,426		60,022
Loans						
To Associations(1)	16,830	89,068	12,935	54,357		173,190
To others(2)	8,282	9,230	6,563	54,497	$(330)	78,242
Less: allowance for loan losses	(18)	(32)	(11)	(655)		(716)
Net loans	25,094	98,266	19,487	108,199	(330)	250,716
Accrued interest receivable	95	727	80	454		1,356
Other assets	289	145	380	1,166	(33)	1,947
Total assets	$34,505	$115,232	$25,664	$145,004	$(363)	$320,042
Liabilities and Capital						
Systemwide Debt Securities (Notes 8 and 9):						
Due within one year	$12,076	$ 33,097	$ 9,315	$ 59,639		$114,127
Due after one year	19,648	74,022	14,159	71,582		179,411
Total Systemwide Debt Securities	31,724	107,119	23,474	131,221		293,538
Accrued interest payable	104	408	85	426		1,023
Other liabilities	346	1,523	261	2,790	$(104)	4,816
Total liabilities	32,174	109,050	23,820	134,437	(104)	299,377
Capital (Note 12)						
Preferred stock	49	250	700	1,500		2,499
Capital stock and participation certificates	325	2,872	388	3,622	(267)	6,940
Additional paid-in-capital	59					59
Accumulated other comprehensive (loss) income	48	(78)	(52)	94	(14)	(2)
Retained earnings	1,850	3,138	808	5,351	22	11,169
Total capital	2,331	6,182	1,844	10,567	(259)	20,665
Total liabilities and capital	$34,505	$115,232	$25,664	$145,004	$(363)	$320,042

(dollars in millions, except as noted)

Combining Bank-Only Statement of Condition

December 31, 2018

	AgFirst Farm Credit Bank	AgriBank, FCB	Farm Credit Bank of Texas	CoBank, ACB	Combination Entries	Combined Banks
Assets						
Cash	$ 422	$ 546	$ 130	$ 1,368		$ 2,466
Federal funds sold and securities purchased under resale agreements	100	1,698	281	1,300		3,379
Investments (Note 3)	7,981	13,998	5,715	31,293		58,987
Loans						
To Associations(1)	16,414	83,807	11,787	50,586		162,594
To others(2)	7,862	8,910	6,270	53,908	$(366)	76,584
Less: allowance for loan losses	(18)	(26)	(12)	(622)		(678)
Net loans	24,258	92,691	18,045	103,872	(366)	238,500
Accrued interest receivable	91	707	76	454		1,328
Other assets	226	132	282	729	68	1,437
Total assets	$33,078	$109,772	$24,529	$139,016	$(298)	$306,097
Liabilities and Capital						
Systemwide Debt Securities (Notes 8 and 9):						
Due within one year	$11,304	$ 31,643	$ 8,466	$ 57,815		$109,228
Due after one year	19,078	70,538	14,031	68,584		172,231
Total Systemwide Debt Securities	30,382	102,181	22,497	126,399		281,459
Accrued interest payable	110	406	87	433		1,036
Other liabilities	362	1,297	168	2,649	$ (57)	4,419
Total liabilities	30,854	103,884	22,752	129,481	(57)	286,914
Capital (Note 12)						
Preferred stock	49	250	700	1,500		2,499
Capital stock and participation certificates	318	2,551	362	3,416	(247)	6,400
Additional paid-in-capital	59					59
Accumulated other comprehensive loss	(52)	(50)	(82)	(363)	(12)	(559)
Retained earnings	1,850	3,137	797	4,982	18	10,784
Total capital	2,224	5,888	1,777	9,535	(241)	19,183
Total liabilities and capital	$33,078	$109,772	$24,529	$139,016	$(298)	$306,097

(1) These loans represent direct loans to Associations, not retail loans to borrowers. Since the Associations operate under regulations that require maintenance of certain minimum capital levels, adequate reserves, and prudent underwriting standards, these loans are considered to carry less risk. Accordingly, these loans typically have little or no associated allowance for loan losses. The majority of the credit risk resides with the Banks' and Associations' retail loans to borrowers. Association retail loans are not reflected in the combining Bank-only financial statements.

Further, the loans to the Associations are risk-weighted at 20% of the loan amount in the computation of each Bank's regulatory risk-adjusted capital ratios. Based upon the lower risk-weighting of these loans to the Associations, the Banks, especially AgFirst, AgriBank and Texas, typically operate with more leverage and lower earnings than would be expected from a traditional retail bank. In the case of CoBank, just over 50% of its loans are retail loans to cooperatives and other eligible borrowers.

(2) Loans to others represent retail loans held by the Banks. The Banks may purchase participations in loans to eligible borrowers made by Associations, other Banks and non-System lenders.

(dollars in millions, except as noted)

Combining Bank-Only
Statement of Comprehensive Income

For the year ended December 31,

	AgFirst Farm Credit Bank	AgriBank, FCB	Farm Credit Bank of Texas	CoBank, ACB	Combination Entries	Combined Banks
2019						
Interest income	$1,120	$ 3,143	$ 803	$ 4,468	$ 9	$ 9,543
Interest expense	(712)	(2,461)	(536)	(3,069)	37	(6,741)
Net interest income	408	682	267	1,399	46	2,802
(Provision for loan losses) loan loss reversal	1	(12)	1	(57)		(67)
Noninterest income	5	97	45	221	(102)	266
Noninterest expense	(142)	(139)	(110)	(404)	(35)	(830)
Provision for income taxes				(68)		(68)
Net income	272	628	203	1,091	(91)	2,103
Other comprehensive income (loss)	100	(28)	30	457	(2)	557
Comprehensive income	$ 372	$ 600	$ 233	$ 1,548	$ (93)	$ 2,660
2018						
Interest income	$1,011	$ 2,682	$ 691	$ 4,031	$ 10	$ 8,425
Interest expense	(601)	(2,091)	(438)	(2,600)	37	(5,693)
Net interest income	410	591	253	1,431	47	2,732
Provision for loan losses	(4)	(5)	(5)	(66)		(80)
Noninterest income	37	119	44	289	(104)	385
Noninterest expense	(137)	(127)	(101)	(363)	(38)	(766)
Provision for income taxes				(100)		(100)
Net income	306	578	191	1,191	(95)	2,171
Other comprehensive (loss) income	(27)	36	(30)	(104)	3	(122)
Comprehensive income	$ 279	$ 614	$ 161	$ 1,087	$ (92)	$ 2,049
2017						
Interest income	$ 861	$ 2,088	$ 548	$ 3,141	$ 10	$ 6,648
Interest expense	(414)	(1,500)	(300)	(1,748)	33	(3,929)
Net interest income	447	588	248	1,393	43	2,719
(Provision for loan losses) loan loss reversal	1	(9)	2	(42)		(48)
Noninterest income	23	73	41	175	(91)	221
Noninterest expense	(126)	(127)	(95)	(386)	(30)	(764)
Provision for income taxes				(15)		(15)
Net income	345	525	196	1,125	(78)	2,113
Other comprehensive loss	(23)	(6)	(19)	(112)	(1)	(161)
Comprehensive income	$ 322	$ 519	$ 177	$ 1,013	$ (79)	$ 1,952

NOTES TO COMBINED FINANCIAL STATEMENTS — (continued)
(dollars in millions, except as noted)

Combining Bank-Only
Statement of Changes in Capital

	AgFirst Farm Credit Bank	AgriBank, FCB	Farm Credit Bank of Texas	CoBank, ACB	Combination Entries	Combined Banks
Balance at December 31, 2016	$2,225	$5,486	$1,622	$ 8,574	$(183)	$17,724
Comprehensive income	322	519	177	1,013	(79)	1,952
Preferred stock dividends	(1)	(17)	(50)	(85)		(153)
Capital stock and participation certificates issued	11	161	18	76	(1)	265
Capital stock, participation certificates, and retained earnings retired	(2)		(1)	(26)		(29)
Patronage	(312)	(507)	(98)	(492)	48	(1,361)
Balance at December 31, 2017	2,243	5,642	1,668	9,060	(215)	18,398
Comprehensive income	279	614	161	1,087	(92)	2,049
Preferred stock issued, net			99			99
Preferred stock dividends	(2)	(17)	(55)	(87)		(161)
Capital stock and participation certificates issued	6	220	29	78		333
Capital stock, participation certificates, and retained earnings retired	(5)	(14)	(14)	(31)		(64)
Patronage	(297)	(557)	(111)	(572)	66	(1,471)
Balance at December 31, 2018	2,224	5,888	1,777	9,535	(241)	19,183
Adjustment to beginning balance due to the change in accounting for leases		1		9		10
Balance at January 1, 2019	2,224	5,889	1,777	9,544	(241)	19,193
Comprehensive income	372	600	233	1,548	(93)	2,660
Preferred stock dividends	(2)	(17)	(56)	(88)		(163)
Capital stock and participation certificates issued	7	92	21	122	(1)	241
Capital stock, participation certificates, and retained earnings retired	(3)		(3)	(44)	5	(45)
Patronage	(267)	(382)	(128)	(515)	71	(1,221)
Balance at December 31, 2019	$2,331	$6,182	$1,844	$10,567	$(259)	$20,665

(dollars in millions, except as noted)

Certain Bank-only ratios and other information is as follows:

	AgFirst Farm Credit Bank	AgriBank, FCB	Farm Credit Bank of Texas	CoBank, ACB
December 31, 2019				
Return on average assets	0.81%	0.56%	0.81%	0.79%
Return on average capital	11.14%	10.36%	10.86%	10.77%
Nonperforming assets as a percentage of loans and other property owned	0.17%	0.07%	0.10%	0.23%
Allowance for loan losses as a percentage of loans	0.07%	0.03%	0.06%	0.60%
Capital as a percentage of total assets	6.76%	5.36%	7.19%	7.29%
Tier 1 Leverage ratio	7.10%	5.49%	7.26%	7.51%
Total Capital ratio	19.5%	17.9%	16.1%	15.9%
Permanent capital ratio	19.3%	17.8%	16.0%	15.0%
Liquidity in days	222	166	211	176
Average liquidity in days during 2019	229	153	227	177
December 31, 2018				
Return on average assets	0.95%	0.55%	0.81%	0.90%
Return on average capital	13.03%	9.94%	10.85%	13.13%
Nonperforming assets as a percentage of loans and other property owned	0.18%	0.06%	0.12%	0.31%
Allowance for loan losses as a percentage of loans	0.07%	0.03%	0.07%	0.60%
Capital as a percentage of total assets	6.72%	5.36%	7.24%	6.86%
Tier 1 Leverage ratio	7.53%	5.50%	7.39%	7.53%
Total Capital ratio	21.8%	18.6%	16.4%	15.6%
Permanent capital ratio	21.7%	18.5%	16.3%	14.7%
Liquidity in days	217	160	241	177
Average liquidity in days during 2018	223	152	229	176

Bank-only information is considered meaningful because only the Banks are jointly and severally liable for the payment of principal and interest on Systemwide Debt Securities (See Notes 7 and 9 for additional information.) That means that each Bank is primarily liable for the payment of principal and interest on Systemwide Debt Securities issued to fund its lending activities and is also jointly and severally liable with respect to Systemwide Debt Securities issued to fund the other Banks.

The Associations are the primary owners of the Farm Credit Banks. The Agricultural Credit Bank (CoBank) is principally owned by cooperatives, other eligible borrowers and its affiliated Associations. Due to the financial and operational interdependence of the Banks and Associations, capital at the Association level reduces the Banks' credit exposure with respect to the direct loans between the Banks and each of their affiliated Associations. However, capital of the Associations may not be available if the provisions of joint and several liability were to be invoked. There are various limitations and conditions with respect to each Bank's access to the capital of its affiliated Associations, as more fully discussed in Note 12.

In the event a Bank is unable to timely pay principal or interest on an insured debt obligation for which the Bank is primarily liable, the Insurance

Corporation must expend amounts in the Insurance Fund to the extent available to insure the timely payment of principal and interest on the insured debt obligation. The provisions of the Farm Credit Act providing for joint and several liability of the Banks on the obligation cannot be invoked until the amounts in the Insurance Fund have been exhausted. However, because of other mandatory and discretionary uses of the Insurance Fund, there is no assurance that there will be sufficient funds to pay the principal or interest on the insured debt obligation.

Once joint and several liability is triggered, the Farm Credit Administration is required to make "calls" to satisfy the liability first on all non-defaulting Banks in the proportion that each non-defaulting Bank's available collateral (collateral in excess of the aggregate of the Bank's collateralized obligations) bears to the aggregate available collateral of all non-defaulting Banks. If these calls do not satisfy the liability, then a further call would be made in proportion to each non-defaulting Bank's remaining assets. On making a call on non-defaulting Banks with respect to a Systemwide Debt Security issued on behalf of a defaulting Bank, the Farm Credit Administration is required to appoint the Insurance Corporation as the receiver for the defaulting Bank. The receiver would be required to expeditiously liquidate the Bank.

NOTE 22 — SUBSEQUENT EVENTS

The Banks and Associations have evaluated subsequent events through February 28, 2020, which is the date the financial statements were issued and determined that there were no other events requiring disclosure.

FARM CREDIT SYSTEM

SUPPLEMENTAL COMBINING INFORMATION

The following condensed Combining Statements of Condition and Comprehensive Income present Combined Bank-only and Insurance Fund information, as well as information related to the other entities included in the System's combined financial statements. As part of the combining process, all significant transactions between the Banks and the Associations, including loans made by the Banks to the Associations and the interest income/interest expense related thereto, and investments of the Associations in the Banks and the earnings related thereto, have been eliminated. These supplemental schedules have been prepared in accordance with the Farm Credit Administration regulations and are not intended to be presented in accordance with GAAP due to the exclusion of all required disclosures.

COMBINING STATEMENT OF CONDITION — (Condensed)
December 31, 2019
(in millions)

	Combined Banks	Combined Associations	Eliminations	Combined without Insurance Fund	Insurance Fund	System Combined
Cash and investments	$ 66,023	$ 2,243		$ 68,266		$ 68,266
Loans	251,432	208,775	$(173,243)	286,964		286,964
Less: allowance for loan losses	(716)	(1,090)		(1,806)		(1,806)
Net loans	250,716	207,685	(173,243)	285,158		285,158
Other assets	3,303	10,991	(7,561)	6,733		6,733
Restricted assets					$5,202	5,202
Total assets	$320,042	$220,919	$(180,804)	$360,157	$5,202	$365,359
Systemwide Debt Securities	$293,538			$293,538		$293,538
Other liabilities	5,839	$178,231	$(173,979)	10,091		10,091
Total liabilities	299,377	178,231	(173,979)	303,629		303,629
Capital						
Preferred stock	2,499	622		3,121		3,121
Capital stock and participation certificates	6,940	583	(5,514)	2,009		2,009
Additional paid-in-capital	59	3,679		3,738		3,738
Restricted capital					$5,202	5,202
Accumulated other comprehensive loss	(2)	(167)	(1,171)	(1,340)		(1,340)
Retained earnings	11,169	37,971	(140)	49,000		49,000
Total capital	20,665	42,688	(6,825)	56,528	5,202	61,730
Total liabilities and capital	$320,042	$220,919	$(180,804)	$360,157	$5,202	$365,359

FARM CREDIT SYSTEM

SUPPLEMENTAL COMBINING INFORMATION — (continued)

COMBINING STATEMENT OF CONDITION — (Condensed)
December 31, 2018
(in millions)

	Combined Banks	Combined Associations	Eliminations	Combined without Insurance Fund	Insurance Fund	System Combined
Cash and investments	$ 64,832	$ 1,639		$ 66,471		$ 66,471
Loans	239,178	196,809	$(162,609)	273,378		273,378
Less: allowance for loan losses	(678)	(1,035)		(1,713)		(1,713)
Net loans	238,500	195,774	(162,609)	271,665		271,665
Other assets	2,765	10,211	(7,074)	5,902		5,902
Restricted assets					$4,954	4,954
Total assets	$306,097	$207,624	$(169,683)	$344,038	$4,954	$348,992
Systemwide Debt Securities	$281,459			$281,459		$281,459
Other liabilities	5,455	$167,120	$(163,486)	9,089		9,089
Total liabilities	286,914	167,120	(163,486)	290,548		290,548
Capital						
Preferred stock	2,499	632		3,131		3,131
Capital stock and participation certificates	6,400	578	(5,041)	1,937		1,937
Additional paid-in-capital	59	3,653		3,712		3,712
Restricted capital					$4,954	4,954
Accumulated other comprehensive loss	(559)	(150)	(1,026)	(1,735)		(1,735)
Retained earnings	10,784	35,791	(130)	46,445		46,445
Total capital	19,183	40,504	(6,197)	53,490	4,954	58,444
Total liabilities and capital	$306,097	$207,624	$(169,683)	$344,038	$4,954	$348,992

FARM CREDIT SYSTEM

SUPPLEMENTAL COMBINING INFORMATION — (continued)

COMBINING STATEMENT OF COMPREHENSIVE INCOME — (Condensed)
For the Year Ended December 31,
(in millions)

	Combined Banks	Combined Associations	Eliminations	Combined without Insurance Fund	Insurance Fund	Combination Entries	System Combined
2019							
Net interest income	$2,802	$ 5,467	$ (3)	$ 8,266			$ 8,266
Provision for loan losses	(67)	(102)		(169)			(169)
Noninterest income	266	1,900	(1,484)	682	$318	$(289)(a)(b)	711
Noninterest expense	(830)	(2,850)	202	(3,478)	(4)	223 (a)	(3,259)
Provision for income taxes	(68)	(35)		(103)			(103)
Net income	2,103	4,380	(1,285)	5,198	314	(66)	5,446
Other comprehensive income (loss)	557	(17)	(145)	395			395
Comprehensive income	$2,660	$ 4,363	$(1,430)	$ 5,593	$314	$ (66)	$ 5,841
2018							
Net interest income	$2,732	$ 5,243	$ 1	$ 7,976			$ 7,976
Provision for loan losses	(80)	(114)		(194)			(194)
Noninterest income	385	1,876	(1,403)	858	$286	$(389)(a)(b)	755
Noninterest expense	(766)	(2,699)	177	(3,288)	(4)	213 (a)	(3,079)
Provision for income taxes	(100)	(26)		(126)			(126)
Net income	2,171	4,280	(1,225)	5,226	282	(176)	5,332
Other comprehensive income (loss)	(122)	17	136	31			31
Comprehensive income	$2,049	$ 4,297	$(1,089)	$ 5,257	$282	$(176)	$ 5,363
2017							
Net interest income	$2,719	$ 4,989	$ 4	$ 7,712			$ 7,712
Provision for loan losses	(48)	(149)		(197)			(197)
Noninterest income	221	1,680	(1,296)	605	$399	$(341)(a)	663
Noninterest expense	(764)	(2,594)	70	(3,288)	(4)	341 (a)	(2,951)
Provision for income taxes	(15)	(23)		(38)			(38)
Net income	2,113	3,903	(1,222)	4,794	395	0	5,189
Other comprehensive loss	(161)	(25)	(19)	(205)			(205)
Comprehensive income	$1,952	$ 3,878	$(1,241)	$ 4,589	$395	$ 0	$ 4,984

Combination entry (a) eliminates the Insurance Fund premiums of $223 million, $213 million, and $341 million expensed by the Banks during the years ended 2019, 2018, and 2017 and the related income recognized by the Insurance Corporation.

Combination entry (b) eliminates $66 million and $176 million of income recognized by System institutions for excess funds that were returned from the Insurance Corporation during the first quarters of 2019 and 2018.

The chartered territories of the Banks and their affiliated Associations (collectively, the District) include all or portions of the states and territories set forth below:

AgFirst Farm Credit Bank	Alabama, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Ohio, Pennsylvania, Puerto Rico, South Carolina, Tennessee, Virginia, and West Virginia
AgriBank, FCB	Arkansas, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Tennessee, Wisconsin, and Wyoming
Farm Credit Bank of Texas	Alabama, Louisiana, Mississippi, New Mexico, and Texas
CoBank, ACB	Supports eligible customers nationwide and Associations in the states of Alaska, Arizona, California, Colorado, Connecticut, Hawaii, Idaho, Kansas, Maine, Massachusetts, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Oklahoma, Oregon, Rhode Island, Utah, Vermont, Washington, and Wyoming

Although the Banks are not commonly owned or controlled, they fund their operations primarily through the issuance of Systemwide Debt Securities for which they are jointly and severally liable. Further, each District operates in such an interdependent manner that we believe the financial results of the Banks combined with their affiliated Associations are more meaningful to investors in Systemwide Debt Securities than providing financial information of the Banks and Associations on a stand-alone basis. For the purpose of additional analysis, the following presentation reflects each District, the Insurance Fund and combination entries. These schedules are not intended to be presented in accordance with GAAP due to the exclusion of all required disclosures.

FARM CREDIT SYSTEM

SUPPLEMENTAL COMBINING INFORMATION — (continued)

COMBINING BANK AND ASSOCIATION (DISTRICT)

STATEMENT OF CONDITION — (Condensed)
December 31, 2019
(in millions)

	AgFirst District Combined	AgriBank District Combined	Texas District Combined	CoBank District Combined	Insurance Fund and Combination Entries	System Combined
Cash and investments	$ 9,114	$ 17,852	$ 5,819	$ 35,479	$ 2	$ 68,266
Loans	30,719	115,179	26,337	119,995	(5,266)	286,964
Less: allowance for loan losses	(211)	(519)	(90)	(986)		(1,806)
Net loans	30,508	114,660	26,247	119,009	(5,266)	285,158
Other assets	710	2,721	781	2,704	(183)	6,733
Restricted assets					5,202	5,202
Total assets	$40,332	$135,233	$32,847	$157,192	$ (245)	$365,359
Systemwide Debt Securities	$31,724	$107,119	$23,474	$131,221		$293,538
Other liabilities	1,935	3,387	4,672	4,972	$(4,875)	10,091
Total liabilities	33,659	110,506	28,146	136,193	(4,875)	303,629
Capital						
Preferred stock	49	350	720	2,002		3,121
Capital stock and participation certificates	166	390	119	1,702	(368)	2,009
Additional paid-in-capital	83	2,085	225	1,345		3,738
Restricted capital					5,202	5,202
Accumulated other comprehensive loss	(314)	(557)	(153)	(254)	(62)	(1,340)
Retained earnings	6,689	22,459	3,790	16,204	(142)	49,000
Total capital	6,673	24,727	4,701	20,999	4,630	61,730
Total liabilities and capital	$40,332	$135,233	$32,847	$157,192	$ (245)	$365,359

FARM CREDIT SYSTEM

SUPPLEMENTAL COMBINING INFORMATION — (continued)

COMBINING BANK AND ASSOCIATION (DISTRICT)

STATEMENT OF CONDITION — (Condensed)
December 31, 2018
(in millions)

	AgFirst District Combined	AgriBank District Combined	Texas District Combined	CoBank District Combined	Insurance Fund and Combination Entries	System Combined
Cash and investments	$ 8,601	$ 17,463	$ 6,151	$ 34,261	$ (5)	$ 66,471
Loans	29,593	109,082	24,852	115,149	(5,298)	273,378
Less: allowance for loan losses	(210)	(491)	(82)	(930)		(1,713)
Net loans	29,383	108,591	24,770	114,219	(5,298)	271,665
Other assets	642	2,545	648	2,124	(57)	5,902
Restricted assets					4,954	4,954
Total assets	$38,626	$128,599	$31,569	$150,604	$ (406)	$348,992
Systemwide Debt Securities	$30,382	$102,181	$22,497	$126,399		$281,459
Other liabilities	1,770	2,928	4,541	4,692	$(4,842)	9,089
Total liabilities	32,152	105,109	27,038	131,091	(4,842)	290,548
Capital						
Preferred stock	49	350	720	2,012		3,131
Capital stock and participation certificates	159	379	112	1,627	(340)	1,937
Additional paid-in-capital	83	2,085	225	1,319		3,712
Restricted capital					4,954	4,954
Accumulated other comprehensive loss	(371)	(522)	(163)	(645)	(34)	(1,735)
Retained earnings	6,554	21,198	3,637	15,200	(144)	46,445
Total capital	6,474	23,490	4,531	19,513	4,436	58,444
Total liabilities and capital	$38,626	$128,599	$31,569	$150,604	$ (406)	$348,992

FARM CREDIT SYSTEM

SUPPLEMENTAL COMBINING INFORMATION — (continued)

COMBINING BANK AND ASSOCIATION (DISTRICT)

STATEMENT OF COMPREHENSIVE INCOME — (Condensed)

For the Year Ended December 31,
(in millions)

	AgFirst District Combined	AgriBank District Combined	Texas District Combined	CoBank District Combined	Insurance Fund and Combination Entries	System Combined
2019						
Net interest income	$1,055	$ 3,258	$ 815	$ 3,089	$ 49	$ 8,266
Provision for loan losses	(12)	(52)	(12)	(93)		(169)
Noninterest income	50	314	75	380	(108)	711
Noninterest expense	(539)	(1,308)	(394)	(1,201)	183	(3,259)
Provision for income taxes	(1)	(32)		(70)		(103)
Net income	553	2,180	484	2,105	124	5,446
Other comprehensive income (loss)	57	(35)	10	391	(28)	395
Comprehensive income	$ 610	$ 2,145	$ 494	$ 2,496	$ 96	$ 5,841
2018						
Net interest income	$1,035	$ 3,096	$ 793	$ 2,999	$ 53	$ 7,976
Provision for loan losses	(23)	(83)	(5)	(83)		(194)
Noninterest income	86	378	79	443	(231)	755
Noninterest expense	(511)	(1,240)	(382)	(1,108)	162	(3,079)
Provision for income taxes	(1)	(21)		(104)		(126)
Net income	586	2,130	485	2,147	(16)	5,332
Other comprehensive income (loss)	11	72		(96)	44	31
Comprehensive income	$ 597	$ 2,202	$ 485	$ 2,051	$ 28	$ 5,363
2017						
Net interest income	$1,039	$ 2,994	$ 767	$ 2,867	$ 45	$ 7,712
Provision for loan losses	(13)	(110)	(5)	(69)		(197)
Noninterest income	58	298	64	292	(49)	663
Noninterest expense	(375)	(1,239)	(386)	(1,104)	153	(2,951)
Provision for income taxes	(1)	(19)		(18)		(38)
Net income	708	1,924	440	1,968	149	5,189
Other comprehensive loss	(8)	(27)	(5)	(102)	(63)	(205)
Comprehensive income	$ 700	$ 1,897	$ 435	$ 1,866	$ 86	$ 4,984

FARM CREDIT SYSTEM

SUPPLEMENTAL COMBINING INFORMATION — (continued)

COMBINING BANK AND ASSOCIATION (DISTRICT)

STATEMENT OF CHANGES IN CAPITAL — (Condensed)
(in millions)

	AgFirst District Combined	AgriBank District Combined	Texas District Combined	CoBank District Combined	Insurance Fund and Combination Entries	System Combined
Balance at December 31, 2016	$5,881	$20,792	$4,099	$17,339	$4,200	$52,311
Comprehensive income	700	1,897	435	1,866	86	4,984
Preferred stock issued, net			20	14		34
Preferred stock dividends	(1)	(25)	(50)	(94)		(170)
Capital stock and participation certificates issued	31	84	9	10	(16)	118
Capital stock, participation certificates, and retained earnings retired	(39)	(57)	(8)	(34)	11	(127)
Equity issued or recharacterized upon Association mergers		2,109		237		2,346
Equity retired or recharacterized upon Association mergers		(2,124)		(245)		(2,369)
Patronage	(323)	(596)	(226)	(661)	61	(1,745)
Balance at December 31, 2017	6,249	22,080	4,279	18,432	4,342	55,382
Comprehensive income	597	2,202	485	2,051	28	5,363
Preferred stock issued (retired), net			99	(21)		78
Preferred stock dividends	(2)	(24)	(56)	(98)		(180)
Capital stock and participation certificates issued	28	53	9	8	(20)	78
Capital stock, participation certificates, and retained earnings retired	(42)	(33)	(9)	(38)		(122)
Patronage	(356)	(788)	(276)	(821)	86	(2,155)
Balance at December 31, 2018	6,474	23,490	4,531	19,513	4,436	58,444
Adjustment to beginning balance due to the change in accounting for leases	(1)	1		9		9
Balance at January 1, 2019	6,473	23,491	4,531	19,522	4,436	58,453
Comprehensive income	610	2,145	494	2,496	96	5,841
Preferred stock retired, net				(10)		(10)
Preferred stock dividends	(2)	(24)	(58)	(99)		(183)
Capital stock and participation certificates issued	40	37	10	7	(8)	86
Capital stock, participation certificates, and retained earnings retired	(36)	(27)	(9)	(50)	4	(118)
Equity issued or recharacterized upon Association combination				26		26
Equity retired or recharacterized upon Association combination				(26)		(26)
Patronage	(412)	(895)	(267)	(867)	102	(2,339)
Balance at December 31, 2019	$6,673	$24,727	$4,701	$20,999	$4,630	$61,730

FARM CREDIT SYSTEM

SUPPLEMENTAL FINANCIAL INFORMATION
(unaudited)

COMBINED BANK AND ASSOCIATION (DISTRICT)

SELECTED KEY FINANCIAL RATIOS

The following combined key financial ratios related to each District are intended for the purpose of additional analysis.

	AgFirst District Combined	AgriBank District Combined	Texas District Combined	CoBank District Combined
December 31, 2019				
Return on average assets	1.40%	1.67%	1.50%	1.40%
Return on average capital	8.10%	8.98%	10.09%	10.18%
Net interest margin	2.73%	2.54%	2.59%	2.08%
Operating expense as a % of net interest income and noninterest income	48.52%	36.50%	44.18%	34.61%
Net loan charge-offs as a % of average loans	0.04%	0.02%	0.02%	0.02%
Nonperforming assets as a % of loans and other property owned	1.36%	0.88%	0.70%	0.61%
Allowance for loan losses as a % of loans	0.69%	0.45%	0.34%	0.82%
Capital as a % of total assets	16.55%	18.28%	14.31%	13.36%
Capital and allowance for loan losses as a % of loans	22.41%	21.92%	18.19%	18.32%
Debt to capital	5.04:1	4.47:1	5.99:1	6.49:1
December 31, 2018				
Return on average assets	1.55%	1.72%	1.58%	1.50%
Return on average capital	9.03%	9.25%	10.64%	11.29%
Net interest margin	2.79%	2.54%	2.65%	2.12%
Operating expense as a % of net interest income and noninterest income	45.47%	35.62%	43.98%	32.21%
Net loan charge-offs as a % of average loans	0.02%	0.02%	0.03%	0.05%
Nonperforming assets as a % of loans and other property owned	1.40%	0.87%	0.63%	0.66%
Allowance for loan losses as a % of loans	0.71%	0.45%	0.33%	0.81%
Capital as a % of total assets	16.76%	18.27%	14.35%	12.96%
Capital and allowance for loan losses as a % of loans	22.59%	21.98%	18.56%	17.75%
Debt to capital	4.97:1	4.47:1	5.97:1	6.72:1

The table below reflects the combined results of each District's measurement under market value of equity and net interest income sensitivity analysis in accordance with their respective asset/liability management policies and District limits.

	Change in Market Value of Equity			Change in Net Interest Income		
	December 31, 2019			December 31, 2019		
District	**-78**	**+100**	**+200**	**-78**	**+100**	**+200**
AgFirst	3.07%	-3.33%	-7.84%	3.17%	4.18%	5.66%
AgriBank	1.62	-3.58	-7.35	-0.93	0.58	1.66
Texas	4.02	-5.72	-12.39	3.25	2.04	3.31
CoBank	2.29	-3.44	-6.72	-0.55	1.70	3.57

	Change in Market Value of Equity				Change in Net Interest Income			
	December 31, 2018				December 31, 2018			
District	**-120**	**-100**	**+100**	**+200**	**-120**	**-100**	**+100**	**+200**
AgFirst	4.35%	3.58%	-4.02%	-8.19%	-2.01%	-1.91%	1.45%	2.22%
AgriBank	6.66	5.24	-3.70	-7.05	-2.41	-2.03	0.25	1.72
Texas	7.78	6.38	-6.04	-11.84	-0.23	-0.69	1.35	2.54
CoBank	3.63	3.11	-3.24	-6.34	-2.73	-2.40	2.69	5.29

SUPPLEMENTAL FINANCIAL INFORMATION — (continued)
(unaudited)

SELECTED ASSOCIATION KEY FINANCIAL INFORMATION

The Banks serve as financial intermediaries between the capital markets and the retail lending activities of their affiliated Associations. Accordingly, in addition to the supplemental District information provided on pages F-73 to F-76, selected financial information regarding Associations with asset size greater than $1.5 billion is provided below for the purpose of additional analysis.

December 31, 2019
($ in millions)

	Total Assets	Gross Loans	Return on Average Assets	Return on Average Capital	Net Interest Margin	Allowance for Loan Losses as a % of Gross Loans	Nonperforming Assets as a % of Gross Loans and Other Property Owned	Total Capital Ratio
AgFirst District								
MidAtlantic Farm Credit, ACA	$ 2,917	$ 2,845	2.22%	9.74%	2.61%	1.13%	2.78%	21.81%
First South Farm Credit, ACA	2,359	2,235	1.93	10.06	2.61	0.67	0.36	17.79
AgChoice Farm Credit, ACA	2,202	2,147	2.54	12.50	2.74	0.72	0.57	18.41
AgCredit, ACA	2,057	1,968	2.76	15.15	2.75	0.57	0.98	21.31
AgSouth Farm Credit, ACA	1,924	1,835	2.81	13.34	3.48	0.89	1.42	21.97
Farm Credit of the Virginias, ACA	1,846	1,789	2.47	10.19	2.96	0.90	1.70	24.23
Carolina Farm Credit, ACA	1,680	1,604	2.39	11.29	3.33	0.47	1.52	20.87
AgriBank District								
Farm Credit Services of America, ACA	31,269	29,748	2.23	11.60	2.69	0.55	1.04	17.24
Farm Credit Mid-America, ACA	25,003	23,484	1.76	8.73	2.21	0.33	1.37	21.21
Compeer Financial, ACA	22,184	19,904	1.87	10.58	2.38	0.39	0.84	15.95
GreenStone FCS, ACA	9,728	9,398	2.24	11.89	2.64	1.02	0.83	17.64
AgCountry, ACA	8,182	7,774	2.02	9.02	2.61	0.35	0.30	18.92
FCS Financial, ACA	4,562	4,365	1.88	9.23	2.52	0.39	0.33	18.38
Farm Credit of Illinois, ACA	4,522	4,286	1.74	7.48	2.32	0.20	0.15	20.20
AgHeritage Farm Credit Services, ACA	1,525	1,460	1.98	9.36	2.83	0.53	0.69	18.42
Texas District								
Capital Farm Credit, ACA	8,084	7,821	2.31	13.81	3.10	0.39	0.99	15.03
AgTexas Farm Credit Services	2,192	2,013	1.65	12.66	2.33	0.30	1.27	13.62
Lone Star, ACA	1,666	1,632	1.75	7.99	2.88	0.44	0.27	20.14
CoBank District								
Northwest Farm Credit Services, ACA	12,774	12,058	2.41	11.19	2.95	0.60	0.66	18.60
American AgCredit ACA	12,663	11,845	1.75	8.93	2.86	0.22	0.51	13.60
Farm Credit West, ACA	11,240	10,720	2.40	10.99	2.96	0.69	1.23	15.00
Farm Credit East, ACA	7,750	7,435	2.50	12.18	3.14	1.13	0.60	18.63
Yosemite Farm Credit, ACA	3,384	3,191	1.98	11.63	2.82	0.31	0.84	14.17
Frontier Farm Credit, ACA	2,174	2,041	2.18	9.58	2.81	0.47	0.75	18.95
Farm Credit of New Mexico, ACA	1,961	1,861	1.63	7.16	2.89	0.80	2.17	21.82
Golden State, ACA	1,761	1,647	1.90	9.79	2.81	0.27	0.25	15.60

SUPPLEMENTAL FINANCIAL INFORMATION — (continued)
(unaudited)

SELECTED ASSOCIATION KEY FINANCIAL INFORMATION
December 31, 2018
($ in millions)

	Total Assets	Gross Loans	Return on Average Assets	Return on Average Capital	Net Interest Margin	Allowance for Loan Losses as a % of Gross Loans	Nonperforming Assets as a % of Gross Loans and Other Property Owned	Total Capital Ratio
AgFirst District								
MidAtlantic Farm Credit, ACA	$ 2,882	$ 2,803	2.43%	10.84%	2.59%	1.07%	2.36%	21.09%
First South Farm Credit, ACA	2,200	2,073	2.12	10.89	2.68	0.67	0.44	18.29
AgCredit, ACA	2,059	1,960	3.08	17.56	2.76	0.56	0.66	20.25
AgChoice Farm Credit, ACA	2,007	1,946	2.72	12.95	2.78	0.74	0.62	18.99
Farm Credit of the Virginias, ACA	1,910	1,851	2.81	11.97	3.11	0.83	1.50	23.10
AgSouth Farm Credit, ACA	1,885	1,793	2.94	14.49	3.45	0.86	1.32	20.92
Carolina Farm Credit, ACA	1,611	1,531	2.55	11.96	3.33	0.46	1.27	21.12
AgriBank District								
Farm Credit Services of America, ACA	29,849	28,387	2.22	11.83	2.72	0.55	0.84	16.63
Farm Credit Mid-America, ACA	23,361	22,318	1.74	8.57	2.25	0.46	1.44	21.39
Compeer Financial, ACA	20,754	18,754	2.03	11.48	2.49	0.32	0.71	15.63
GreenStone FCS, ACA	8,919	8,620	2.13	11.34	2.63	0.98	1.20	17.34
AgCountry, ACA	7,641	7,250	2.26	10.40	2.75	0.25	0.51	18.48
Farm Credit of Illinois, ACA	4,416	4,193	1.71	7.60	2.43	0.21	0.16	19.16
FCS Financial, ACA	4,254	4,076	2.03	9.86	2.56	0.39	0.23	18.81
Texas District								
Capital Farm Credit, ACA	7,636	7,389	2.50	15.09	3.19	0.35	0.82	15.14
AgTexas Farm Credit Services	2,046	1,958	1.71	12.80	2.45	0.23	0.83	13.40
Lone Star, ACA	1,594	1,559	1.75	8.31	2.94	0.55	0.37	20.44
CoBank District								
Northwest Farm Credit Services, ACA	11,987	11,346	2.61	12.27	2.99	0.69	0.81	18.46
American AgCredit, ACA	10,914	10,215	1.68	7.86	2.83	0.21	0.49	14.94
Farm Credit West, ACA	10,615	10,113	2.44	11.28	2.85	0.61	1.12	14.66
Farm Credit East, ACA	7,263	6,964	2.54	12.57	3.09	1.13	0.72	18.92
Yosemite Farm Credit, ACA	3,186	3,006	2.20	12.85	2.81	0.25	0.90	14.38
Frontier Farm Credit, ACA	2,113	1,977	2.28	10.44	2.83	0.45	0.56	18.00
Farm Credit of New Mexico, ACA	1,826	1,728	1.66	7.13	2.83	0.72	0.99	22.16
Golden State, ACA	1,615	1,515	1.99	10.28	2.82	0.27	0.24	16.35

Young, Beginning and Small Farmers and Ranchers

In line with our mission, we have policies and programs for making credit available to young, beginning and small farmers and ranchers.

The definitions of young, beginning and small farmers and ranchers (YBS) are:

- Young: A farmer, rancher, or producer or harvester of aquatic products who is age 35 or younger as of the date the loan was originally made.
- Beginning: A farmer, rancher, or producer or harvester of aquatic products who has 10 years or less farming or ranching experience as of the date the loan was originally made.
- Small: A farmer, rancher or producer or harvester of aquatic products who normally generates less than $250 thousand in annual gross sales of agricultural or aquatic products at the date the loan was originally made.

It is important to note that farmers/ranchers may be included in multiple categories since they are included in each category in which the definition is met.

The following table summarizes information regarding loans to young and beginning farmers and ranchers:

	At December 31, 2019	
	Number of loans	Volume
	($ in millions)	
Total loans and commitments	914,387	$279,976
Loans and commitments to young farmers and ranchers	177,590	$ 31,043
% of loans and commitments to young farmers and ranchers	19.4%	11.1%
Loans and commitments to beginning farmers and ranchers	272,654	$ 48,645
% of loans and commitments to beginning farmers and ranchers	29.8%	17.4%

The following table summarizes information regarding new loans made during 2019 to young and beginning farmers and ranchers:

	For The Year Ended December 31, 2019	
	Number of new loans	Volume
	($ in millions)	
Total new loans and commitments	269,941	$91,880
New loans and commitments to young farmers and ranchers	49,104	$10,085
% of new loans and commitments to young farmers and ranchers	18.2%	11.0%
New loans and commitments to beginning farmers and ranchers	67,088	$14,283
% of new loans and commitments to beginning farmers and ranchers	24.9%	15.5%

The following table summarizes information regarding loans to small farmers and ranchers at December 31, 2019:

	Loan Size				
	$50 thousand or less	$50 to $100 thousand	$100 to $250 thousand	Over $250 thousand	Total
			($ in millions)		
Total number of loans and commitments	349,554	163,995	204,919	195,919	914,387
Number of loans and commitments to small farmers and ranchers	213,139	93,578	102,873	50,304	459,894
% of loans and commitments to small farmers and ranchers	61.0%	57.1%	50.2%	25.7%	50.3%
Total loan and commitment volume	$ 7,430	$ 11,756	$ 32,248	$228,542	$279,976
Total loan and commitment volume to small farmers and ranchers	$ 4,461	$ 6,581	$ 15,509	$ 25,318	$ 51,869
% of loan and commitment volume to small farmers and ranchers	60.0%	56.0%	48.1%	11.1%	18.5%

The following table summarizes information regarding new loans made during 2019 to small farmers and ranchers:

	Loan Size				
	$50 thousand or less	$50 to $100 thousand	$100 to $250 thousand	Over $250 thousand	Total
			($ in millions)		
Total number of new loans and commitments	96,122	50,244	59,363	64,212	269,941
Number of new loans and commitments to small farmers and ranchers	62,057	25,705	23,077	12,665	123,504
% of new loans and commitments to small farmers and ranchers	64.6%	51.2%	38.9%	19.7%	45.8%
Total new loan and commitment volume	$ 2,401	$ 3,832	$ 9,951	$75,696	$ 91,880
Total new loan and commitment volume to small farmers and ranchers	$ 1,502	$ 1,922	$ 3,685	$ 7,315	$ 14,424
% of loan and commitments volume to small farmers and ranchers	62.6%	50.2%	37.0%	9.7%	15.7%

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(unaudited)

DIRECTORS AND MANAGEMENT

Boards of Directors

Each Bank is governed by a board of directors that is responsible for establishing policies and procedures for the operation of the Bank. Each Bank's bylaws provide for the number, term, manner of election and qualifications of the members of the Bank's board. Farm Credit Administration regulations require at least two members of each Bank's board of directors be appointed by the other directors. Appointed members cannot be a director, officer, employee or stockholder of a System institution.

The following information sets forth the directors of each Bank as of December 31, 2019. The information includes the director's name, age, and business experience, including principal occupation and employment during at least the past five years. For additional discussion and information on the compensation of each Bank's board of directors, see the Bank's annual report.

AgFirst Farm Credit Bank

Jack W. Bentley, Jr., 62, from Tignall, Georgia, owns and operates A&J Dairy, a dairy, pasture, crop and timberland operation. Mr. Bentley is a director of AgGeorgia Farm Credit, ACA. Mr. Bentley also serves on the boards of the following agricultural and dairy trade and promotion organizations: USDA Farm Service Agency, Southeast United Dairy Industry Association, American Dairy Association, Lone Star Milk Producers and the Wilkes County Farm Bureau. Mr. Bentley serves on the AgFirst Plan Sponsor Committee and the Board Audit Committee. Mr. Bentley became a director in 2019 and his term expires on December 31, 2022.

Jenny R. Black, 45, from Lakeland, Florida, is a Certified Project Manager and owns and operates Jenny Black Consulting, LLC, an information technology consulting company. Ms. Black also serves as the manager for the following citrus and agricultural operations: Ridge Investments, LLC, Black & Myers Properties, and BHB Holdings, LLC. She is a director of Farm Credit of Central Florida, ACA and serves on the board of The Farm Credit Council, a trade organization. She also serves as a director for the Polk County Florida 4-H Foundation Board, a youth agricultural organization, the Volunteers in Service to the Elderly Advisory Board, a non-profit whose mission is to assist the elderly with independent living, and All Saints Academy Independent School, an education organization. Ms. Black serves on the Board Risk Policy Committee. Ms. Black became a director in 2018 and her term expires on December 31, 2023.

William J. Franklin, Jr., 62, from Duffield, Virginia, owns and operates Franklin Farms, a beef cattle and hay farm. Mr. Franklin is also Chief Executive Officer of Scott County Telephone Cooperative, a telecommunications company. He serves on the boards of the Scott County Cattle Association, a trade organization, and the Southwest Virginia Workforce Development Board, which offers re-employment and training programs. Mr. Franklin also serves on the following telecommunication boards: Carolina-Virginia Telephone Membership Association, National Rural Broadband PAC Board, IRIS Networks Board, and LIT Networks Board. He is a member of Farm Credit of the Virginias, ACA. Mr. Franklin serves on the Board Risk Policy Committee. Mr. Franklin became a director in 2018 and his term expires on December 31, 2021.

Bonnie V. Hancock, 58, outside director for the Board, is from Raleigh, North Carolina. Ms. Hancock is Professor of Practice and Executive Director of the Enterprise Risk Management Initiative at North Carolina State University (NCSU) where she teaches courses in financial management, enterprise risk management and strategy and financial statement analysis. Prior to joining NCSU, she worked with Progress Energy, as senior vice president of finance and information technology and later as president of Progress Fuels, a subsidiary that produced and marketed gas, coal and synthetic fuels, and operated fuel terminals and ash management facilities. She is a member of the boards of Powell Industries, designer and manufacturer of electrical equipment systems for industrial facilities; the North Carolina Coastal Pines Girl Scouts Council, a leadership organization for girls, where she serves as board chair; and the National Association of Corporate Directors – Research Triangle Chapter, an organization for the advancement of exemplary board leadership, where she serves as program committee chair. Ms. Hancock serves on the Board Coordinating Committee and as Chair of the Board Risk Policy Committee. Ms. Hancock became a director in 2010 and her term expires on December 31, 2021.

Curtis R. Hancock, Jr., 73, Chairman of the Board, is from Fulton, Kentucky and is owner and operator of Hancock Farms. His operations consist of row crops including corn, wheat and soybeans. He serves on the board of The Farm Credit Council, a trade organization and Kentucky Small Grain Growers, a grain cooperative and is a member of River Valley, ACA. As Chairman of the Board for 2019, he served as chair of the Board Coordinating Committee and as an ex-officio member of all Board Committees. Mr. Hancock will serve on the Board Governance and the Board Compensation Committees in 2020. Mr. Hancock became a director in 2013 and his term expires on December 31, 2020.

Dale R. Hershey, 72, is from Manheim, Pennsylvania, where he is a partner in Hershey Brothers Dairy Farms. Mr. Hershey has served as senior partner in the ownership and management of the dairy and cropping enterprises since 1980. He serves on the board of directors of MidAtlantic Farm Credit, ACA, The Farm Credit Council, a trade organization and Farm Credit Council Services, a service provider. He also serves on the Ag Advisory Committee for his local municipal township and is a member of Pennsylvania Farm Bureau and the National Holstein Association. Mr. Hershey served on the Board Audit Committee. Mr. Hershey became a director in 2008 and his term expired on December 31, 2019.

Walter C. Hopkins, Sr., 72, from Lewes, Delaware, is the owner and operator of Green Acres Farm, Inc., a dairy and grain farming operation. He also manages Lyons LLC, a land holding company. He serves on the board of directors of MidAtlantic Farm Credit, ACA. Mr. Hopkins served on the Board Coordinating Committee and as chair of the Board Governance Committee in 2019. Mr. Hopkins will serve on the Board Compensation and the Board Governance Committees in 2020. Mr. Hopkins became a director in 2013 and his term expires on December 31, 2020.

William K. Jackson, 64, from New Salem, Pennsylvania, is a partner in Jackson Farms, a dairy operation with other farming interests, including corn, soybeans, and alfalfa. He is president of Jackson Farms 2, LLC, a small dairy processing facility that produces milk and makes ice cream marketed to area stores and sold via an on-site convenience store. Mr. Jackson is also president of Jackson Farms 3, LLC and Jackson Farms Limited Partnership, which are involved in the production of natural gas. He serves on the boards of AgChoice Farm Credit, ACA; The Farm Credit Council, a trade organization; the Fay Penn Economic Development Council, a local economic development committee; president of the Fayette County Agricultural Improvement Association Board, a local county fair; and the Penn State Fayette, Eberly Campus Advisory Board, which oversees campus community involvement. Mr. Jackson served on the Board Audit Committee in 2019 and will serve on the Board Compensation Committee, the Board Coordinating Committee and as chair of the Board Governance Committee in 2020. Mr. Jackson became a director in 2013 and his term expires on December 31, 2020.

J. Alvin Lyons, 62, from Georgetown, Kentucky, is the owner and operator of Lyons Family Farms, a farming operation of row crops including corn, soybeans, wheat, and hay. His farm also includes a commercial cow/calf herd and stockers. Mr. Lyons also serves as Magistrate of Scott County Fiscal Court, the legislative body for the county government. Mr. Lyons is a director of Central Kentucky AgCredit, ACA. He represents Central Kentucky on the Independent Associations' Retirement Plan Sponsor Committee and serves as chair. He is a director on the boards of Scott County Farm Bureau, an agricultural promotion organization, the Scott County Rural Land Management Board, which focuses on land preservation, and the Scott County Beef Improvement Association, which provides beef promotion and education. Mr. Lyons serves on the Board Audit Committee. Mr. Lyons became a director in 2018 and his term expires on December 31, 2021.

S. Alan Marsh, 65, from Madison, Alabama, is a partner in Marsh Farms, Inc., an operation consisting of row crops including cotton, soybeans, wheat and corn. Mr. Marsh is a director of First South Farm Credit, ACA and Limestone County Farmers Federation, an agricultural trade organization, and he is president and stockholder of South Limestone Co-op Gin, a cotton ginning operation and an association borrower. He is also an advisory board member for Staplcotn, a cotton cooperative association. Mr. Marsh served on both the Board Compensation and Board Governance Committees in 2019 and will serve on the Board Risk Policy Committee in 2020. Mr. Marsh became a director in 2010 and his term expires on December 31, 2021.

Fred R. Moore, Jr., 67, from Eden, Maryland, is president of Fred R. Moore & Son, Inc. d/b/a Collins Wharf Sod, a turf and grain operation, which grows sod (turf), corn, soybeans and wheat. He is also partner of F&E Properties, LLC, a rental business and partner in F&E Moore Properties, LLC, a land holding partnership. He currently serves on the boards of MidAtlantic Farm Credit, ACA, Wicomico Soil Conservation District, an environmental and conservation entity and Wicomico County Farm Bureau, an agricultural promotion organization. He currently serves as an active life member of the Allen Volunteer Fire Company. He serves on both the Board Compensation and Board Governance Committees and will serve as chair of the Board Compensation Committee in 2020. Mr. Moore will also serve on the Board Coordinating Committee in 2020. Mr. Moore became a director in 2014 and his term expires on December 31, 2021.

James M. Norsworthy, III, 69, from Jackson, Louisiana, runs 100 Cedars Cattle Farm, a cow/calf operation with other farming interests including a commercial hay operation and a pine and hardwood timber operation. He is a member of the board of directors of First South Farm Credit, ACA. He is a member of the board of directors for Centreville Academy, an educational institution, and served as a former mayor of the town of Jackson, Louisiana. Mr. Norsworthy also serves on the local board for Feliciana Farm Bureau, which promotes agriculture. He served on the Board Risk Policy Committee. Mr. Norsworthy became a director in 2008 and his term expired on December 31, 2019.

Katherine A. Pace, 58, outside director for the Board, is from Orlando, Florida. Ms. Pace is a certified public accountant and principal of Family Business Consulting, LLC, which provides financial and strategic planning for closely held businesses. In addition to her work through Family Business Consulting, she is the Chief Financial Officer/Treasurer of NASCAR Holding, Inc., a motorsports business. Ms. Pace also serves as CEO, President, and Chairman of the Board for Trivergent Trust Company, LLC, a trust company. Ms. Pace was the board designated financial expert and served on the Board Audit Committee. Ms. Pace became a director in 2006 and her term expired on December 31, 2019.

Thomas E. Porter, Jr., 66, from Concord, North Carolina, is president of Porter Farms, Inc., a farming operation consisting of a sow farrow unit and a wean swine operation, pullet houses, layer houses and a cow/calf operation. He also manages The Farm at Brush Arbor, LLC, an agritourism business on his farm. He currently serves on the Carolina Farm Credit, ACA, board of directors. Mr. Porter also holds board and leadership positions with the following agricultural trade and promotion organizations: board member on the Cabarrus County Ag advisory board, president of Cabarrus County Farm Bureau, chairman of Cabarrus County Extension Advisory Board, Cabarrus County Soil and Water Conservation District, the Water Committee for the American Farm Bureau, and the Food Innovation Committee. Mr. Porter also serves as a member of the Union Power Cooperative Board and a member of the Three Rivers Land Trust Board. He also serves on the Commissioners Circle for the North Carolina Commissioner of Agriculture. Mr. Porter serves on the Board Risk Policy Committee. Mr. Porter became a director in 2019 and his term expires on December 31, 2022.

William T. Robinson, 52, from St. Matthews, South Carolina, is the owner/operator of Robinson Family Farm, which consists of row crops, hay, cattle, and timber. Mr. Robinson is currently employed as Executive Director for the SEFA group, an engineering, construction, and transportation company, and he retired from the department of Treasury and Corporate Financial Planning at Santee Cooper, South Carolina's state owned electric and water utility. He serves on the board of the Orangeburg Area Cattlemen's Association, and Tri-County Electric Cooperative, He currently serves on the board of AgSouth Farm Credit, ACA. Mr. Robinson was a member of both the AgFirst Plan Sponsor Committee and the AgFirst/FCBT Plan Sponsor Committee in 2019 and served as chair of both Committees. Mr. Robinson serves on the Board Coordinating Committee and as chair of the Board Audit Committee. He became a director in 2016 and his term expires on December 31, 2023.

Michael T. Stone, 48, from Rowland, North Carolina, owns and operates P & S Farms, Inc. and Bo Stone Farms, LLC. The row crop units produce corn, wheat, and soybeans and the operations include a swine finishing unit under contract with Murphy Brown, a cow/calf herd, timber management and small produce for a roadside stand. Mr. Stone is a director of Cape Fear Farm Credit, ACA, a director of Southeastern Health hospital, a director of Dillon Christian School, and a member of the North Carolina Farm Bureau Energy and Transportation Committee. He also serves on the board of The Farm Credit Council, a trade organization. Mr. Stone is the Board appointed member of both the AgFirst Plan Sponsor Committee and the AgFirst/FCBT Plan Sponsor Committee in 2019 and 2020, and was elected chair of both Committees for 2020. He served as chair of the Board Compensation Committee in 2019 and continues to serve as a member of the committee in 2020. Mr. Stone was elected Vice Chairman of the Board for 2020 and also serves on the Board Coordinating and Board Governance Committees. Mr. Stone became a director in 2015 and his term expires on December 31, 2022.

Ellis W. Taylor, 50, Vice Chairman of the Board, from Roanoke Rapids, North Carolina, is the owner/operator of a row crop operation, Mush Island Farms, LLC, which consists of cotton, soybeans, wheat, corn and timber. He is also part owner of Roanoke Cotton Company, LLC, which operates cotton gins and a warehouse. He is a director on the boards of AgCarolina Farm Credit, ACA, and Northampton County Farm Bureau, which promotes agriculture, and the Federal Farm Credit Banks Funding Corporation. Mr. Taylor served on the Board Coordinating, Board Compensation and Board Governance Committees in 2019. He was elected Chairman of the Board for 2020 and will serve as chair of the Board Coordinating Committee and as an ex-officio member of all Board Committees. He became a director in 2012 and his term expires on December 31, 2023.

In 2019, each member of AgFirst FCB's board of directors received base compensation of $75,000 plus expenses. Additional honorarium was paid to some members for leadership positions on the board.

AgriBank, FCB

Joseph M. Busuttil, 55, appointed director and financial expert, is a consultant for Ernst & Young in New York, New York. Mr. Busuttil serves as the chair of the Audit Committee. Formerly, Mr. Busuttil was chief financial officer of Barclays Global Investment Bank and Barclays Americas, New York, New York. His current term began in 2018 and expires in March 2022.

Stan Claussen, 66, Board Vice Chair, is a self-employed grain, cattle, sugar beet and vegetable farmer in Montevideo, Minnesota. Mr. Claussen serves on the Audit Committee. Mr. Claussen also serves as Vice President on the Bushmills Ethanol Board and is a member of the boards of Fairland Management Company Board, AgriBank District Farm Credit Council Board and The Farm Credit Council, a trade organization. His current term began in 2016 and expires in March 2020.

Dale Crawford, 63, is a self-employed crop farmer in Sullivan, Illinois. Mr. Crawford serves as vice chair of the Risk Management Committee. His current term began in 2017 and expires in March 2021.

Christine Crumbaugh, 50, is a self-employed crop farmer in Gratiot, Michigan. Ms. Crumbaugh serves on the Governance Committee. Ms. Crumbaugh is also owner of Captured by Christine Crumbaugh, LLC, serves on the Greater Gratiot Development Board, President of the Gratiot Area Chamber of Commerce, and serves on the AgriBank District Farm Credit Council Board. Her current term began in 2018 and expires in March 2022.

Richard Davidson, 75, Board Chair, is a self-employed grain and livestock farmer in Washington Court House, Ohio. Mr. Davidson serves as the vice chair of the Compensation Committee. Mr. Davidson also serves as Director on the Board of the Federal Agricultural Mortgage Corporation (Farmer Mac) and serves on the Fayette County Charitable Foundation Board. His current term began in 2017 and expires in March 2021.

Ernie Diggs, 67, is a self-employed crop farmer in Paris, Tennessee. Mr. Diggs serves on the Risk Management Committee. His current term began in 2016 and expires in March 2020.

Natalie Laackman, 60, appointed director and financial expert, has over three decades of experience leading finance and information systems in global consumer products companies. Ms. Laackman serves as chair of the compensation committee. She recently was chief financial officer of Service Operations North America at Sodexo. Formerly, Ms. Laackman served as chief financial officer of The Shamrock Foods Company and prior to that served as chief financial officer and vice president of finance global information system and of the specialty channels division of The Kellogg Company. Ms. Laackman serves on the Chicago Zoological Society Brookfield Zoo Board. Her current term began in 2017 and expires in March 2021.

Brian Peterson, 61, is a self-employed dairy and crop farmer in Trenton, Missouri. Mr. Peterson serves as chair of the Risk Management Committee. He also serves as Treasurer on the Rural Dale Cemetery Association Board. Mr. Peterson serves on the AgriBank District Farm Credit Council Board. His current term began in 2016 and expires in March 2020.

Richard Price, 62, is a self-employed dairy and crop farmer in Stanley, Wisconsin. Mr. Price serves on the Audit Committee. His current term began in 2017 and expires in March 2021.

Timothy Rowe, 59, is a self-employed grain and livestock farmer in Elwood, Nebraska. Mr. Rowe serves as vice chair of the Governance Committee. Mr. Rowe is also the chair of Country Partners Cooperative Board, a local supply co-op, and serves on the Nebraska Cooperative Council Board. His current term began in 2017 and expires in March 2021.

John Schmitt, 63, is a self-employed grain and beef cattle farmer in Quincy, Illinois. Mr. Schmitt serves on the Governance Committee. Mr. Schmitt also serves on the AgriBank District Farm Credit Council Board. The Farm Credit Council Board, a trade organization, and the Adams County Farm Bureau Board. His current term began in 2019 and expires in March 2023.

Daniel Shaw, 63, is a self-employed livestock and grain farmer and grain merchandiser in Edgar, Nebraska. Mr. Shaw serves on the Compensation Committee. He also serves as the chair on the Edgar Township Board. His current term began in 2018 and expires in March 2022.

George Stebbins, 66, is a self-employed crop farmer in Englewood, Ohio. Mr. Stebbins serves as vice chair of the Audit Committee. He also serves as a director for the Miami County Zoning Commission. His term began in 2018 and expires in March 2022.

Rollin Tonneson, 67, is a self-employed grain farmer in Souris, North Dakota. Mr. Tonneson serves on the Compensation Committee. His term began in 2019 and expires in March 2023.

Nick Vande Weerd, 38, is a self-employed livestock and grain farmer in Brookings, South Dakota. Mr. Vande Weerd is chair of the Governance Committee. Mr. Vande Weerd is also a Major for the South Dakota Air National Guard and serves on the AgriBank District Farm Credit Council Board. His current term began in 2019 and expires in March 2023.

Matt Walther, 48, is a self-employed crop and cow/calf herd and finished cattle farmer in Centerville, Indiana. Mr. Walther serves the Audit Committee. Mr. Walther is a member of Buell Drainage, LLC and serves on the Federal Farm Credit Banks Funding Corporation Board. His current term began in 2019 and expires in March 2023.

Thomas Wilkie, III, 74, is a self-employed grain farmer, the owner/president of Wifco Inc. in Forrest City, Arkansas. Mr. Wilkie serves on the Risk Management Committee. Mr. Wilkie also serves on the AgriBank District Farm Credit Council Board, the Farm Credit Council Board, a trade organization, and as a member of the Farm Credit System Coordinating Committee, and owner and president of TW Wilkie, LLC, a land management and investment company. His current term began in 2018 and expires in March 2022.

In 2019, AgriBank, FCB board members received a standard annual retainer which is paid quarterly for attendance at meetings and other official activities which attendance was required or desirable. Additionally, a position retainer was paid for specified roles which involve an increased level of activity relative to the standard director duties. The roles designated to receive the position retainer are board chair, board vice chair and each committee chair. The AgriBank board in its sole discretion may designate different amounts to each position under the position retainer. In addition to the standard and position retainers, additional compensation may be provided for where such director has devoted extraordinary time and effort in the service of AgriBank and its shareholders. Director compensation ranged from $14,838 to $77,125 per director for 2019, plus expenses.

CoBank, ACB

Robert M. Behr, 65, is the Chief Executive Officer of Citrus World, Inc. (CWI), which processes and markets Florida's Natural brand citrus juices, and is located in Lake Wales, Florida. Dr. Behr is also the Chief Executive Officer of the following CWI subsidiaries: Citrus World Services, Inc., Florida's Natural Food Service, Inc., Florida's Natural Growers, Inc. and Hickory Branch Corporation, which produce, package and market Florida's Natural brand citrus juices. Dr. Behr is a director of Fresh N Natural Foods (PTE LTD), a distributor of Florida's Natural juice products in the Republic of Singapore, and chair of Florida's Natural Growers Foundation, Inc., a nonprofit organization. He is a director of Farm Credit of Central Florida, ACA. He is also a director and vice president of CUPS Coop, Inc., a citrus producer, and a director of Winter Haven Citrus Growers Association, a citrus processor and marketer. He serves on the board of the Graduate Institute of Cooperative Leadership, a nonprofit organization. He is also an owner of Behr Citrus Management Inc., Behr-Nolte, CPI 3034 LLC, MBN Property, Resurrection Grove LLC and Summer Breeze Fruit Co., owners of citrus groves. Dr. Behr served on the Board's Governance Committee in 2019. He became a director in 2013 and his term expires on December 31, 2020.

Michael S. Brown, 61, outside director, is a retired Managing Director, Global Head of Multinational Coverage, based in London, England, of JPMorgan Chase & Co. During a 30-plus year career with JPMorgan Chase & Co. and legacy organizations, he served as an international banking executive with over 25 years of experience in Asia, including Managing Director, Asia Pacific Corporate Banking Head, based in Hong Kong, and Managing Director, Chief Operating Officer and Branch Manager of J.P. Morgan Securities, and Regional Chief Executive, Asia Pacific, Bank One, both based in Tokyo, Japan. He is an owner and manager of Bayswater LLC, a property management company located in San Diego, California. He served as chair of the Board's Audit Committee and was a board designated financial expert in 2019. Mr. Brown became a director in 2017 and his term expires on December 31, 2020.

Russell G. Brown, 61, is the Market President, Northern Neck Region, of Atlantic Union Bank, a community bank in Warsaw, Virginia. He is also the owner of Cobham Hall Farm, a grain and timber farm. He is the vice chair of Northern Neck Electric Cooperative, an electric distribution cooperative. He also serves on the board of the VA-MD-DE Association of Electric Cooperatives, a trade association, and as the chair of the VA-MD-DE Association of Electric Cooperatives Educational Scholarship Foundation, a nonprofit organization. He is also the treasurer of the Richmond County Industrial Development Authority, an economic development organization. He served on the Board's Risk Committee in 2019. Mr. Brown became a director in 2017 and his term expires on December 31, 2020.

Everett M. Dobrinski, 73, is the owner and former operator (retired as operator in December 2018) of Dobrinski Farm, a cereal grain and oilseed farming operation in Makoti, North Dakota. He is a director of The Farm Credit Council, a national trade association, and a member of Farm Credit Services of North Dakota, ACA. He is also a director of the Federal Agricultural Mortgage Corporation and the North Dakota Coordinating Council for Cooperatives. He served on the Board's Audit Committee in 2019. Mr. Dobrinski became a director in 1999, and served as Board chair and chair of the Board's Executive Committee from 2008 through 2017. His term expired on December 31, 2019.

William M. Farrow, III, 64, outside director, retired in December 2017 as the founding director, President and Chief Executive Officer of the Urban Partnership Bank, a commercial bank serving Chicago and Detroit. In addition, he is the owner of Winston and Wolfe, LLC, a privately held technology development company, and a director of the Chicago Board of Options Exchange Global Markets, Echo Global Logistics, NorthShore University Health System and WEC Energy Group, an electric and natural gas distribution company. He is an advisor to Cedar Street Asset Management LLC and to Onyx Ventures. He was a board designated financial expert and served on the Board's Governance Committee in 2019. Mr. Farrow became a director in 2007 and his term expires on December 31, 2022.

Benjamin J. Freund, 64, is the owner and operator of Freund's Farm, Inc., a dairy farm, and an owner and managing member of Cow Pots, LLC, a manufacturer of biodegradable plantable pots, both located in East Canaan, Connecticut. He is a director of the Federal Farm Credit Banks Funding Corporation and a member and former director of Farm Credit East, ACA. He is a founding member and officer of Canaan Valley Agricultural Cooperative, Inc., a manure management cooperative. Mr. Freund is a member of the Connecticut Farmland Preservation Advisory Board located in Hartford, Connecticut, which advises the State Commissioner of Agriculture. He served on the Board's Governance Committee in 2019. Mr. Freund became a director in 2014 and his term expires on December 31, 2021.

Andrew J. Gilbert, 61, retired in January 2016 as the owner and operator of Adon Farms Operations, LLC, a dairy farm and grain operation, and of Adon Farms Real Estate Holdings, LLC, a real estate company, both located in Potsdam, New York. He is a member and past board chair of Farm Credit East, ACA. Mr. Gilbert is a financial consultant for NY FarmNet. He serves as a director of ACDI-VOCA, AV Ventures, and TANAGER, international development agencies. Mr. Gilbert is a member of the St. Lawrence County Development Study Advisory Board, a promoter of economic development, and of the St. Lawrence County Planning Board, a county planning organization. He served on the Board's Risk Committee in 2019. Mr. Gilbert became a director in 2016 and his term expired on December 31, 2019.

Daniel T. Kelley, 71, is the owner and operator of Kelley Farms, a corn and soybean farming operation in Normal, Illinois, and is a member of Compeer Financial, ACA. Mr. Kelley serves as chair of the Illinois Agricultural Leadership Foundation. Mr. Kelley is a director of Midwest Grain, LLC, Nationwide Mutual Insurance

Company and Nationwide Trust Company. He is also a director of Global Farmer Network and the Illinois 4-H Foundation, nonprofit organizations. He served as chair of the Board's Compensation and Human Resources Committee in 2019. Mr. Kelley became a director in 2004 and served as second vice chair of the Board in 2012 and as first vice chair of the Board from 2007 through 2011 and from 2013 through 2016. His term expires on December 31, 2021.

David J. Kragnes, 67, is the owner and operator of David Kragnes Farm, a corn and bean row crop farming operation located in Felton, Minnesota. He serves as a director of The Farm Credit Council, a national trade association, and as an advisory board member for the Quentin Burdick Center for Cooperatives. He served as chair of the Board's Governance Committee in 2019. Mr. Kragnes became a director in 2009 and his term expires on December 31, 2020.

Jon E. Marthedal, 63, is the owner and operator of Marthedal Farms, a grape, raisin, blueberry and almond farming operation, and of Keystone Blue Farms, LLC, a blueberry farming operation, both located in Fresno, California. He is also an owner and officer of Marthedal Enterprises, Inc., a provider of farm management and custom agriculture services. Mr. Marthedal serves as vice chair of The Farm Credit Council, a national trade association, and is a member of Fresno-Madera Farm Credit, ACA. Mr. Marthedal is a director and past chair of Sun-Maid Growers of California. He serves as President of the California Blueberry Association, vice chair of the California Raisin Marketing Board and of the Raisin Administrative Committee, and as a director of the California Blueberry Commission. He served as first vice chair of the Board in 2018 and 2019 and on the Board's Executive Committee in 2019. Mr. Marthedal became a director in 2013 and served as second vice chair of the Board in 2017. His term expires on December 31, 2021.

Catherine Moyer, 44, appointed director, is the Chief Executive Officer and General Manager of The Pioneer Telephone Association, Inc. (d/b/a Pioneer Communications) and the Chief Executive Officer of High Plains Telecommunications, Inc., telecommunications providers, both located in Ulysses, Kansas. She serves as vice chair of the Federal Communications Commission Precision Ag Connectivity Task Force in Washington, D.C. and as a non-legislative committee member on the Kansas Broadband Task Force. She is the chair of the Telcom Insurance Group and the Kansas Lottery Commission. She is also a director of the Rural Trust Insurance Company. She served on the Board's Compensation and Human Resources Committee in 2019. Ms. Moyer became a director in 2010 and her term expires on December 31, 2022.

David S. Phippen, 69, is an owner of almond farms operated by Phippen Brothers, LP, located in Ripon, California, and of Phippen/Gatzman Limited Partnership, Tap Land Company, LP, Travaille and Phippen, Inc. and Tri-P, Inc. as well as an owner of Primo Nut Company, LP, an almond processing and sales company, and Xcel Shelling, LP, an almond shelling company, all located in Manteca, California. He is a member of American AgCredit, ACA. He also serves as a director for the Almond Board of California and the San Joaquin County Farm Bureau. Mr. Phippen became a director of U.S. AgBank, FCB in 2006 and joined the CoBank board in 2012 following the merger of the two banks and served through 2015. He rejoined the CoBank board in 2019 and served on the Board's Compensation and Human Resources Committee. His term expires on December 31, 2022.

Ronald J. Rahjes, 68, is an officer of Wesley J. Rahjes & Sons, Inc. and an owner of R&D Farms, diversified family farming operations producing wheat, corn, soybeans, and grain sorghum, and an owner of R&C Tax Service, a tax preparation services firm, all located in Kensington, Kansas. Mr. Rahjes is a member of High Plains Farm Credit, ACA. He also serves as a director of Rural Telephone/Nextech, Inc., a telecommunications company. He served on the Board's Audit Committee in 2019. Mr. Rahjes became a director of the former U.S. AgBank, FCB in 2009, and joined the CoBank Board in 2012 following the merger of the two banks. His term expired on December 31, 2019.

Scheherazade S. Rehman, 56, appointed director, is a professor of International Finance/Business and of International Affairs, at The George Washington University in Washington, D.C. Dr. Rehman is also the founder and a director of the European Union Research Center and a director of the Executive MBA in Cyber-Security, both at The George Washington University. Dr. Rehman is also a director of the International Trade and Finance Association in Winnsboro, South Carolina and the American Consortium on European Studies in Washington, D.C. She is the President and Managing Partner of the International Consultants Group in Washington, D.C. Dr. Rehman became a director in 2019 and served on the Board's Risk Committee. Her term expires on December 31, 2022.

Kevin G. Riel, 54, is the President and former Chief Executive Officer (retired as Chief Executive Officer in January 2019) of Double 'R' Hop Ranches, Inc., a diversified farming operation primarily growing hops, together with apples, grapes and other row crops, in Harrah, Washington. He was the President and Chief Executive Officer of Tri-Gen Enterprises, Inc., an agricultural marketing company that was dissolved in September 2019. He is also managing partner of WLJ Investments, LLC, a land holding and management company. He is a past board chair of Northwest Farm Credit Services, ACA. He is a director of Hop Growers of America, a trade association, governance committee chair of Yakima Chief Hops, and a member of the Nationwide Insurance Board Advisory Council. He served as chair of the Board and chair of the Board's Executive Committee in 2018 and 2019. Mr. Riel became a director in 2014 and served as first vice chair of the Board in 2017. His term expires on December 31, 2021.

Karen L. Schott, 52, is the owner, operator and Secretary/Treasurer of Bar Four F Ranch, Inc., a dryland, small grains and lease pasture farming operation in Broadview, Montana. She is a member, director and past board chair of Northwest Farm Credit Services, ACA. She served on the Board's Audit Committee in 2019. Ms. Schott became a director in 2016 and her term expired on December 31, 2019.

Kevin A. Still, 62, is the President and Chief Executive Officer of Co-Alliance, LLP, a partnership of five cooperatives supplying energy, agronomy and animal nutrition, producing swine, and marketing grain in Avon, Indiana. He is also Chief Executive Officer and Treasurer of Excel Co-op, Inc., Frontier Co-op, Inc., IMPACT Co-op, Inc., LaPorte County Farm Bureau Cooperative Association and Midland Co-op, Inc., agricultural retail cooperatives. Mr. Still is President of Northwind Pork, LLC, a pork producing operation and of Michiana Agra, LLC, an agricultural retail cooperative, and an officer of Alliance Feed, LLC, an agricultural retail cooperative. He is also owner and President of Still Farms, LLC, a grain farm in Galesburg, Illinois. He is board chair of Local Harvest Food, a food broker, and a director of Wholestone Farms II, LLC, a food company. He served as second vice chair of the Board in 2018 and 2019 and on the Board's Executive Committee in 2019. Mr. Still became a director in 2002 and served as the Board's second vice chair in 2015 and 2016 and as chair of the Board's Risk Committee from 2008 through 2017. His term expires on December 31, 2022.

Edgar A. Terry, 60, is the owner and President of Terry Farms, Inc., a vegetable and strawberry farming operation in Ventura. California. He is an owner and officer of Amigos Fuerza, Inc., a provider of farm labor contracting, and Moonridge Management, Inc., a provider of back office and human resources consulting. Mr. Terry is also an owner and limited partner of Ag. Center LTD, a real estate company, and an owner and President of Willal, Inc., a sales and marketing company. Mr. Terry is an owner and Vice President of Rancho Adobe, Inc. and an owner and partner in Central AP, LLC, and JJE, LLC, farmland real estate businesses. He is a senior adjunct professor at California Lutheran University. Mr. Terry is a member, former director and past board chair of Farm Credit West, ACA, and serves on the Farm Credit System Audit Committee. Mr. Terry is a director of Limoneira Company, a publicly held agribusiness and real estate development company. He serves as vice chair of the Ventura County Fairgrounds Foundation, a nonprofit organization in Ventura, California. He also serves as advisory board chair of the Center for Economic Research and Forecasting. He served as chair of the Board's Risk Committee in 2019. Mr. Terry became a director in 2016 and his term expires on December 31, 2023.

Brandon J. Wittman, 49, is the Chief Executive Officer and General Manager of Yellowstone Valley Electric Cooperative, Inc., an electric distribution cooperative in Huntley, Montana. Mr. Wittman is a director of The Farm Credit Council, a national trade association. He is the chair of the manager's group for Montana Electric Cooperatives Association, and serves on the customer advisory committee of Border States Electric, and the manager's advisory committee of Central Montana Electric Power Cooperative. He served on the Board's Compensation and Human Resources Committee in 2019. Mr. Wittman became a director in 2018 and his term expires on December 31, 2022.

In 2019, each member of CoBank, ACB's Board of Directors was compensated for attendance at board meetings and other official activities. Director compensation ranged from $110,000 to $150,000, plus expenses.

Farm Credit Bank of Texas

Ralph W. "Buddy" Cortese, 73, is from Fort Sumner, New Mexico. He is president of Cortese Farm and Ranch, Inc., a farming and ranching operation. He was chairman of the Bank's Compensation Committee during 2019 and is a member of the Bank's Audit Committee. Mr. Cortese also is a member of the Tenth District Farm

Credit Council board. He currently serves on the board of the Federal Farm Credit Banks Funding Corporation. Mr. Cortese served as chairman from 2000 through 2011. He is a member of the Texas Agricultural Cooperative Council board of directors, an industry trade association. From 2003 to 2008, he served on the board of Federal Agricultural Mortgage Corporation (Farmer Mac), a government agency chartered to create a secondary market for agricultural loans, and is a former board member of the American Land Foundation, a property rights organization. Prior to joining the bank board, he was chairman of the PCA of Eastern New Mexico board of directors. Mr. Cortese became a director in 1995 and his term expires on December 31, 2022.

John L. "Jack" Dailey, 64, is from Extension, Louisiana. He is owner and operator of Boeuf Prairie Farm, which produces cotton, corn, soybeans and beef cattle and is a manager and serves as treasurer of Franklin Farmers Alliance, LLC, a farmer-owned agricultural retail store. He is a member of the Bank's Audit and Compensation Committees. In January 2020, Mr. Dailey was elected vice chairman of the Bank's Audit Committee. He is a member of the Tenth District Farm Credit Council. He chairs the Louisiana Boll Weevil Eradication Commission and Franklin Parish Fire Protection District 2 and is treasurer of the Franklin Parish Farm Bureau, an agricultural trade organization. He also serves on the executive committee of the Louisiana Cotton and Grain Association, a trade organization, and the water management task force of the Louisiana Department of Natural Resources. Prior to joining the bank board, he was vice chairman of the Louisiana Land Bank board of directors. Mr. Dailey became a director in 2019 and his term expires on December 31, 2021.

James F. "Jimmy" Dodson, 66, chairman, is from Robstown, Texas. He grows cotton, corn, wheat and milo on four family farm operations. Mr. Dodson serves on the Bank's Audit and Compensation Committees and is chairman of the Tenth District Farm Credit Council. He is one of the board's designated financial experts. He serves as chairman of the national Farm Credit Council, where he has served as chair since 2019 and is a former director of FCC Services. He is also president of Dodson Farms, Inc. and Dodson Ag, Inc., and is a partner in Legacy Farms and 3-D Farms. He is manager of Weber Station LLC, which is the managing partner of Weber Greene, Ltd., both of which are family farm real estate management firms. Mr. Dodson is a founding member of Cotton Leads, a responsible cotton production initiative of U.S. and Australian Cotton Producer organizations. He also serves on the boards of Gulf Coast Cooperative, an agricultural retail cooperative, and the Texas Agricultural Cooperative Council, an industry trade association. He is past chairman of the National Cotton Council of America, the American Cotton Producers and the Cotton Foundation, and formerly served as a director of Cotton Incorporated. He is past chairman of Texas AgFinance, FCS and a former member of the Texas District's Stockholders Advisory Committee. Mr. Dodson became a director in 2003 and his term expires on December 31, 2020.

Linda C. Floerke, 58, is from near Lampasas, Texas. She is vice chairman of the Tenth District Farm Credit Council. During 2019, she was vice chairman of the Bank's Audit Committee and served as a member of the Bank's Compensation Committee. In January 2020, Ms. Floerke was appointed chairman of the Bank's Compensation Committee. She is the managing partner of Buena Vista Ranch, FLP, which is a hay and cattle operation. She is also co-owner of AgroTech Services Inc., an agricultural consultation business, where she is secretary/treasurer. She also owns and manages rental property in Uvalde, Real and Williamson counties. She is a co-owner of Casa Floerke LLC, a rental property business, and is the secretary/treasurer and co-owner of Jarrell Farm Supply, Inc. Ms. Floerke serves on the Lampasas First United Methodist Church Finance Committee and serves on the Texas A&M AgriLife Extension Leadership Advisory Board, which provides oversight of agricultural extension services. She is member of the Texas Agricultural Cooperative Council board of directors, an industry trade association. She previously served as a trustee of the Lampasas Independent School District. She was a director of Lone Star Ag Credit, formerly Texas Land Bank, from 2012 through the end of 2016. Ms. Floerke became a director in 2017 and her term expires on December 31, 2022.

M. Philip Guthrie, 74, is one of two appointed members on the board. He is chairman of the Bank's Audit Committee and serves on the Bank's Compensation Committee. He is also a member of the Tenth District Farm Credit Council. He is one of the board's designated financial experts. Mr. Guthrie is the chief executive officer of Denham Partners LLC, a Dallas-based private investment firm, and the chief executive officer of Neuro Holdings International LLC, which is a medical devices firm. He has also served as a director for Neuro Resources Group, a medical devices firm. Early in his career, he was chief financial officer of Southwest Airlines, and later served as chief financial officer of Braniff International during that airline's reorganization. Mr. Guthrie also was the managing director of Mason Best Co., a Dallas-based investment firm that managed operations in over $2 billion in equity investments in a broad spectrum of industries, for 10 years, and has served as chairman, director or chief executive officer of numerous private and public financial service companies, both in banking and insurance. He is also currently an advisor to several large private equity firms, focusing on the financial services industry worldwide and serves as general partner of Ke'e Associates, a private investment company. A Certified Public Accountant and a Chartered Global Management Accountant, Mr. Guthrie is audit committee–qualified under the guidelines of the Securities and Exchange Commission, the New York Stock Exchange and Nasdaq. He is a stockholder of his family-managed 125-year-old livestock and crop operation in northern Louisiana. Mr. Guthrie became a director in 2015 and his term expires on December 31, 2020.

Lester Little, 69, vice chairman, is from Hallettsville, Texas. He owns and operates a farm and offers custom-farming services, primarily reclaiming farms and handling land preparation. His principal crops are corn, milo, hay and wheat. Mr. Little is a member of the Bank's Audit Committee and served as vice chairman of the Bank's Compensation Committee during 2019. He is also a member of the Tenth District Farm Credit Council. In addition, he is a member of the Farm Bureau, an agricultural trade organization, and served on the Lavaca Regional Water Planning Group, a regional water planning authority in Texas, during 2016. He previously was a board member of the Lavaca Central Appraisal District, a county organization in Texas that hires the chief appraiser for the county for purposes of assigning real estate values for tax assessments, and was board chairman of the Hallettsville Independent School District Board of Trustees. He is former chairman of the Capital Farm Credit board of directors and previously served as vice chairman of the Texas District's Stockholders Advisory Committee. Mr. Little became a director in 2009 and his term expires on December 31, 2020.

Dorothy Nichols, 68, is one of two appointed members on the board and joined the bank board on May 1, 2019. She serves on the Bank's Audit and Compensation Committees. In January 2020, she was appointed vice chair of the Bank's Compensation committee. Ms. Nichols had a 23-year career with the Farm Credit System Insurance Corporation (FCSIC), the government insurer for Farm Credit System debt obligations. She joined the FCSIC in 1995 as its first in-house general counsel, and from 2006 to 2018 served as its chief operating officer. Previously, she was the first chief operating officer of the Farm Credit Administration (FCA), the independent federal agency that regulates and examines Farm Credit institutions and related entities. Prior to that position, Ms. Nichols was associate general counsel at the Federal Deposit Insurance Corporation. She began her government career in 1982 as a trial attorney with the Federal Home Loan Bank Board and the Federal Savings and Loan Insurance Corporation. She holds a bachelor's degree in history from the University of Maryland and a doctorate in law from George Washington University. Ms. Nichols' term expires on December 31, 2021.

In 2019, each member of the board was compensated for attendance at meetings and other official activities. Director compensation ranged from $38,333 to $175,000, plus expenses.

Federal Farm Credit Banks Funding Corporation

The following sets forth the board of directors as of December 31, 2019.

Leon T. Amerson, 57, is President and CEO of AgFirst Farm Credit Bank in Columbia, South Carolina. Mr. Amerson is a member on the Executive Council, Finance Committee and Business Practices Committee of the Presidents Planning Committee of the Farm Credit System, is a member of both the AgFirst/FCBT and AgFirst Plan Sponsor Committees, a member of the Executive Council of the National Council of Farmer Cooperatives and a member of the board of directors of the Palmetto Agribusiness Council. He is also a member of the Finance Committee for United Way of the Midlands. Mr. Amerson serves on the Funding Corporation Governance Committee. Mr. Amerson became a director in 2012 and his term expires in March 2022.

Maureen Corcoran, 62, is from Chestnut Hill, Massachusetts, and is a retired Executive Vice President of the State Street Corporation. Ms. Corcoran serves as Chair of the Funding Corporation Audit Committee and as Vice Chair of the System Audit Committee. Ms. Corcoran became a director in 2014 and her term expires in March 2023.

Ralph W. "Buddy" Cortese, 73, is from Fort Sumner, New Mexico. He is president of Cortese Farm and Ranch Inc., a farming and ranching operation. He is a member of the board of directors of the Farm Credit Bank of Texas. Mr. Cortese is a member of the Tenth District Farm Credit Council board and is a member of the Texas Agricultural Cooperative Council board of directors, an industry trade association. He also serves as Chairman of the Funding Corporation Governance Committee. Mr. Cortese became a director in 2012 and his term expires in March 2024.

Benjamin J. Freund, 64, is from East Canaan, Connecticut. He is the owner and operator of Freund's Farm, Inc., a dairy farm, and an owner and managing member of Cow Pots, LLC, a manufacturer of biodegradable plantable pots. He is a member of the board of directors of CoBank, ACB and is a member of Farm Credit East, ACA, and previously served on their board. He is a founding member and officer of Canaan Valley Agricultural Cooperative, Inc., a manure management cooperative. Mr. Freund is also a member of the Connecticut Farmland Advisory Board located in Hartford, Connecticut, which advises the State Commissioner of Agriculture. He serves on the Funding Corporation Governance Committee. Mr. Freund became a director in 2017 and his term expires in March 2022.

Thomas Halverson, 55, is President and CEO of CoBank, ACB in Denver, Colorado. Before being appointed as CEO, he served as CoBank's Chief Banking Officer. Prior to joining CoBank, Mr. Halverson spent more than 15 years with Goldman Sachs. Mr. Halverson is a member on the Executive Council and Vice Chairman of the National Council of Farmer Cooperatives. He serves as Chairman of the Finance Committee and is a member of the Executive and Business Practices Committees of the Farm Credit System Presidents Planning Committee. He also serves on the Funding Corporation Compensation Committee. Mr. Halverson became a director in 2017 and his term expires in March 2021.

Robert S. Marjan, 65, vice chairman, is from Chicago, Illinois. He spent over three decades with JPMorgan as Managing Director in Capital Markets. Mr. Marjan also serves on the boards of the Community Investment Corporation, the Guild Board of Lyric Opera and the Bankers Club of Chicago. He was previously the board Chair of Christ the King Jesuit College Preparatory High School and Chief Operating Officer of Urban Partnership Bank. He serves as Chairman of the Funding Corporation Compensation Committee and is a member of the System Audit Committee. Mr. Marjan became a director in 2015 and his term expires in March 2021.

Theresa E. McCabe, 58, is President and CEO of the Federal Farm Credit Banks Funding Corporation. Prior to joining the Funding Corporation, Ms. McCabe was a Partner with Goldman Sachs. Ms. McCabe is a member of the Executive Council, Finance, Business Practices and Risk Management Committees of the Presidents Planning Committee of the Farm Credit System. Ms. McCabe is a non-voting member of the board. She became a director in 2012 and her term will expire upon her separation of service.

Jeffrey R. Swanhorst, 58, is CEO of AgriBank, FCB in St. Paul, Minnesota. Before being appointed CEO in April 2018, he served as AgriBank's Executive Vice President and Chief Credit Officer since August 2011. A 37-year Farm Credit veteran, Mr. Swanhorst has held management and lending positions with CoBank, ACB, the St. Paul Bank for Cooperatives and the Mitchell-Huron Production Credit Association in South Dakota. He is Vice Chair and member of the Executive and Business Practices Committees of the Presidents Planning Committee of the Farm Credit System; a member of the Farm Credit System Coordinating Committee and a member of the Executive Council of the National Council of Farmer Cooperatives. Mr. Swanhorst became a director in 2018 and his term expires in March 2023.

Ellis W. Taylor, 50, is from Roanoke Rapids, North Carolina. He is the owner/operator of a row crop operation, Mush Island Farms, LLC, which consists of cotton, soybeans, wheat, corn and timber. He is also part owner of Roanoke Cotton Company, LLC, which operates cotton gins and a warehouse. He is a director on the boards of AgFirst Farm Credit Bank, AgCarolina Farm Credit, ACA and Northampton County Farm Bureau. He also serves on the Funding Corporation Audit Committee. Mr. Taylor became a director in 2017 and his term expires in March 2021.

Matthew Walther, 48, chairman, is from Centerville, Indiana. He is a self-employed crop and cow/calf herd and finished cattle farmer. Mr. Walther is a member of the board of directors of AgriBank, FCB and serves on the bank's Audit Committee. He is a member of Buell Drainage, LLC, Centerville, Indiana, which is a tile drainage company. He also serves on the Funding Corporation Compensation Committee. Mr. Walther became a director in 2017 and his term expires in March 2023.

Funding Corporation Bank director members and appointed members are compensated for their time served and for travel and related expenses, while Bank CEOs or presidents are only compensated for travel and related expenses. In 2019, the directors eligible for compensation were paid between $59,000 and $70,800 for the year, plus expenses.

Certain Relationships and Related Transactions

The System is a cooperatively owned network of agricultural lending institutions. Agricultural producers typically become members of an Association when they establish a borrowing/financing relationship with the Association. In CoBank's case, its Associations, together with other borrowers of the Bank, own CoBank, as well as borrow from the Bank. Accordingly, most Bank directors are agricultural producers who are member/borrowers of an Association and, in the case of CoBank, its other member/borrowers.

As discussed in Note 18 to the accompanying combined financial statements, Banks and Associations may, in the ordinary course of business, enter into loan transactions with their officers and directors and other organizations with which officers and directors are associated. These loans are subject to special approval requirements contained in the Farm Credit Administration regulations.

The following is a list of aggregate loan balances outstanding at December 31, 2019 to the directors of each Bank and its affiliated Associations and other organizations with which the directors are associated:

	(in millions)
AgFirst Farm Credit Bank	$ 441
AgriBank, FCB	357
Farm Credit Bank of Texas	248
CoBank, ACB	1,702

Senior Officers

The chief executive officer and all other senior officers of each Bank and the Funding Corporation, together with their age and length of service at their present position as of December 31, 2019, as well as prior positions held if in the current position less than five years, are as follows:

Name, Age and Title	Time in Position	Prior Experience
AgFirst Farm Credit Bank:		
Leon T. Amerson, 57, *President and Chief Executive Officer*	7.5 years	
Charl L. Butler, 62, *Executive Vice President and Chief Operating Officer*	2.75 years	Senior Vice President and Chief Financial Officer March 2007 to March 2017
Isvara Wilson, 49, *Executive Vice President and Chief Administrative Officer*	2.75 years	Senior Vice President and General Counsel December 2012 to March 2017
William E. Brown, 59, *Senior Vice President and Chief Credit Officer*	2.5 years	Manager, Credit Integration / Commercial Credit Executive at First Citizens Bank and Trust of North Carolina 2014 to 2016
Stephen F. Ciambrone, 64, *Senior Vice President and Chief Information Officer*	3 months	Director of Information Technology June 2019 to September 2019, Managing Director at CitiGroup 2008 to 2018
Stephen Gilbert, 51, *Senior Vice President and Chief Financial Officer*	2.75 years	Vice President and Controller August 2009 to March 2017
Frances S. Griggs, 52, *Senior Vice President and General Counsel*	2.75 years	Vice President and Assistant General Counsel July 2013 to March 2017
Daniel E. LaFreniere, 56, *Senior Vice President and Chief Audit Executive*	6.5 years	
AgriBank, FCB:		
Jeffrey R. Swanhorst, 58, *Chief Executive Officer*	1.67 years	Chief Credit Officer beginning in August 2011

Name, Age and Title	Time in Position	Prior Experience
Jeffrey L. Moore, 59, *Chief Financial Officer*	2.3 years	Senior Vice President, Finance beginning August 2012
John J. Grace, 61, *Chief Risk Officer*	1 year	President of Steller-Grace Consulting beginning in January 2017. Prior to that served as chief risk officer for Options Clearing Corporation beginning in January 2015.
Barbara K. Stille, 54, *Chief Administrative Officer and General Counsel*	2.3 years	Senior Vice President and General Counsel beginning December 2014 and Executive Vice President — Operations and General Counsel, 1st Farm Credit Services, ACA since 2014
James B. Jones, 54, *Chief Credit Officer*	1.3 years	Chief risk officer for AgriBank beginning in August 2015. Prior to that served as vice president, chief risk officer for AgriBank beginning in 2011.
CoBank, ACB:		
Thomas E. Halverson, 55, *President and Chief Executive Officer*	3 years	Chief Banking Officer 2013 — 2016; Managing Director and Chief of Staff, Goldman Sachs Bank USA
Ann E. Trakimas, 63, *Chief Operating Officer*	9 years	
Timothy M. Curran, 53, *Chief Risk Officer*	2.6 years	Head of Risk Management — Treasury and Trade Solutions, Citigroup 2015 — 2017; Chief Risk Officer — Citi Holdings, Citigroup 2011 — 2015; Global Industry Risk Head, Citigroup 2008 — 2011
David P. Burlage, 56, *Chief Financial Officer*	10.1 years	
Andrew D. Jacob, 59, *Chief Operating Officer*	4 months	Chief Regulatory, Legislative, and Compliance Officer since 2017; Chief Regulatory, Legislative, and Compliance Officer and Interim Chief Risk Officer since September 2016; Chief Regulatory, Legislative, and Compliance Officer 2015 — 2016; Executive Vice President, Compliance 2013 — 2015; Executive Vice President, Regulatory, Legislative and Compliance 2011 — 2013
Robert L. O'Toole, 57, *Chief Human Resources Officer and Chief of Staff*	3 years	Chief Human Resources Officer 2015 — 2016; Senior Vice President, Human Resources since September 2010
Robert F. West, 61, *Executive Vice President Infrastructure Banking*	3 years	Senior Vice President, Communications Banking Division 2009 —2016
F. William Davis, 61, *Executive Vice President Farm Credit Banking Group*	1.4 years	Chief Credit Officer since 2017; Senior Vice President and Chief Credit Officer, Farm Credit Services of America/Frontier Farm Credit 2005 — 2017
M. Mashenka Lundberg, 52, *Chief Legal Officer and General Counsel*	3 years	Senior Vice President and General Counsel 2014 -2016 Partner, Bryan Cave LLP 2012 — 2014; General Counsel and Partner, Holme Roberts & Owen LLP 1994 — 2011
Eric Itambo, 49, *Chief Banking Officer*	1.5 years	Managing Director and US Head — Commercial Lending Management, Citigroup — Global Commercial Banking Group
Michael L. Short, 58, *Chief Credit Officer*	1.4 years	Senior Vice President, Credit Approval since 2017; Sector Manager, Capital Markets 2014 — 2017
Farm Credit Bank of Texas:		
Larry R. Doyle, 67, *Chief Executive Officer*	16.5 years	
John Sloan, 51, *Senior Vice President, Chief Credit Officer*	2 years	Vice President and Unit Manager, 2014 — 2017, Vice President and Relationship Manager, prior to 2014, Association Direct Lending Group

Name, Age and Title	Time in Position	Prior Experience
Nanci Tucker, 54, *Senior Vice President, General Counsel and Corporate Secretary*	2 years	Chief Legal, Compliance Officer and Chief Ethics Officer, Texas Guaranteed Student Loan Corporation; General Counsel, U.S. Financial Services Division, EZCORP, Inc.
Amie Pala, 62, *Senior Vice President, Chief Financial Officer*	9.4 years	
Stan Ray, 55, *Chief Administrative Officer*	9.4 years	
Nisha Rocap, 41, *Chief Audit Executive*	2 years	Risk Assurance Director, PricewaterhouseCoopers
Ed Benson, 46, *Chief Information and Business Systems Officer*	1 month	Vice President and Unit Manager, 2014 — 2019, Director of Business Systems 2013 — 2014, Business Systems Department
Federal Farm Credit Banks Funding Corporation:		
Theresa E. McCabe, 58, *President and Chief Executive Officer*	8 years	
Karen R. Brenner, 55, *Managing Director — Financial Management Division*	6.8 years	
Glenn R. Doran, 57, *Managing Director — Finance*	12.5 years	
Allison M. Finnegan, 48, *Managing Director — Human Resources, General Counsel and Corporate Secretary*	10.6 years	

Membership, Farm Credit System Audit Committee

The Farm Credit System Audit Committee is comprised of five members, all of whom are appointed by the board of directors of the Funding Corporation. The Funding Corporation Board has determined that each member of the System Audit Committee is financially literate and has designated at least one member to be the financial expert as defined by the Farm Credit Administration regulations. All members of the Committee are independent of management of the Funding Corporation or any System Bank or Association.

The membership of the Farm Credit System Audit Committee at December 31, 2019 is as follows:

Timothy Clayton, 65, chairman, is from Plymouth, Minnesota. Mr. Clayton is an outside member of the Committee. He is a Principal of Emerging Capital, LLC, a management consulting and business advisory firm. He previously served as an Appointed Director on the AgriBank, FCB Board of Directors from 2005 through 2013. The Funding Corporation board has designated Mr. Clayton as an Audit Committee financial expert. Mr. Clayton became a member of the Audit Committee in September 2013 and his term expires in 2020.

Maureen Corcoran, 62, vice chair, is from Chestnut Hill, Massachusetts, and is a retired Executive Vice President of the State Street Corporation. Ms. Corcoran serves on the board of the Funding Corporation and as Chair of the Funding Corporation Audit Committee. Ms. Corcoran became a member of the Audit Committee in 2014 and her term expires in 2020.

R. Bertsch Cox, 51, is from Midlothian, Virginia and is the Chief Financial Officer for James River Equipment, an equipment dealer. He is the outside director of Colonial Farm Credit and also serves as board chairman for Virginia Foundation for Agriculture in the Classroom, providing youth agriculture education. Mr. Cox became a member of the Audit Committee in June 2019 and his term expires in 2021.

Robert S. Marjan, 65, is from Chicago, Illinois. He spent over three decades with JPMorgan as Managing Director in Capital Markets. Mr. Marjan also serves on the boards of the Community Investment Corporation, the Guild Board of Lyric Opera and the Bankers Club of Chicago. He was previously the board Chair of Christ the King Jesuit College Preparatory High School and Chief Operating Officer of Urban Partnership Bank. Mr. Marjan serves as Chairman of the Funding Corporation Compensation Committee. Mr. Marjan became a member of the Audit Committee in 2015 and his term expires in 2020.

Edgar A. Terry, 60, is from Ventura, California and is the President of Terry Farms, Inc., a vegetable and strawberry farming operation. He is owner and officer of Amigos Fuerza, Inc., a provider of farm labor contracting, and Moonridge Management, Inc., a provider of back office and human resources consulting, and owner and President of Willal, Inc., a sales and marketing company, all in Ventura, California. Mr. Terry is also an owner and Vice President of Rancho Adobe, Inc. and owner and partner in Central AP, LLC, and JJE, LLC, farmland real estate businesses also in Ventura, California. Mr. Terry is an owner and limited partner in Ag. Center LTD, a real estate company in Ventura, California. He is a senior adjunct professor at California Lutheran University. He is also a director of Limoneira Company, a publicly held agribusiness and real estate development company in Santa Paula, California. Mr. Terry is a director of CoBank, ACB and served as chair of the Board's Risk Committee in 2019. He also serves as advisory board chairman of the Center for Economic Research and Forecasting. Mr. Terry also serves as vice chair of the Ventura County Fairgrounds Foundation, a nonprofit organization in Ventura, California. Mr. Terry became a member the Audit Committee in 2014 and his term expires in 2020.

The Committee held six meetings during 2019 and all members were in attendance for each of the meetings, except as noted below.

Each System Audit Committee member was compensated for attendance at meetings as follows:

Timothy Clayton, Chairman	$95,000
Maureen Corcoran, Vice Chairman	59,000
R. Bertsch Cox(1)	29,500
John S. Langford(2)	14,500
Robert S. Marjan	59,000
Edgar A. Terry	59,000

(1) Mr. Cox attended each meeting subsequent to his appointment.
(2) Mr. Langford resigned on February 1, 2019.

No member of the System Audit Committee received non-monetary compensation for the year ended December 31, 2019.

COMPENSATION OF CHIEF EXECUTIVE OFFICERS

Compensation Discussion and Analysis

Overview

The philosophy of System institutions with respect to compensating each institution's senior officers is to attract, develop and retain senior officers who are highly qualified and proficient at executing each institution's strategic objectives and operational activities, and deliver performance results that optimize the return to the shareholders. In the case of the Banks, each Bank emphasizes:

- Establishing a clear link between the financial performance (e.g., earnings, capital, asset quality, liquidity, sensitivity to changes in interest rates, and customer satisfaction) of the Bank and each senior officer's total compensation package, including rewarding appropriate risk-taking with the Bank's capital to generate returns for the shareholders, while avoiding unnecessary risks, and
- Providing a total compensation package to each senior officer that is competitive within the financial services industry and their local market. The total compensation philosophy of System institutions seeks to achieve the appropriate balance between market-based base salary and benefits, and variable incentive compensation that is designed to incent and reward both the current and long-term achievement of System institutions' strategic business objectives and business plans. System institutions believe that this philosophy fosters a performance-oriented, results-based culture wherein compensation varies on the basis of results achieved.

All System institutions are cooperatives with no publicly traded stock. Therefore, no stock options or other equity- or stock-based compensation programs have been, or can be, granted to senior officers of System institutions. However, it is a general practice across the System to reward the performance of an institution's senior officers with some form of non-equity incentive compensation.

The operations of the Funding Corporation are different than the Banks' operations. While the Banks generate income through loans, investments, and related operations, the primary functions of the Funding Corporation are to raise funds as an agent for the Banks in the debt markets and to issue the combined financial statements of the System. The performance of the Funding Corporation in these two areas is used to gauge the performance of each Funding Corporation senior officer for purposes of determining his or her total compensation package. All operating expenses of the Funding Corporation are reimbursed by the Banks through the assessment of fees.

In addition to compensation, System institutions provide a comprehensive and market-based package of employee benefits for health and welfare and for retirement purposes. Some retirement benefits are restored or enhanced for certain senior officers through one or more non-qualified retirement plans. In other words, while the benefits may be limited as the result of Internal Revenue Code limitations, the benefits that would have been accrued had the Internal Revenue Code limits not been in place are made up for certain senior officers through certain non-qualified retirement plans. In addition, certain institutions have provided for enhanced retirement benefits for named executives.

CEO Compensation Policy

The following discussion regarding compensation policy, summary compensation tables, and related disclosures focuses on the CEOs of the Banks and the Funding Corporation since they are the CEOs of the System entities responsible for the Systemwide disclosures.

The Bank and Funding Corporation CEOs generally have three primary forms of compensation: base pay in the form of a salary, non-equity incentive compensation, and retirement benefits.

Base Pay in the Form of a Salary

The base salary component of each Bank's and the Funding Corporation's CEO recognizes the individual's particular experience, skills, responsibilities, and knowledge. Each Bank's and the Funding Corporation's compensation committee or executive committee serving as the compensation committee of each entity's board of directors reviews the appropriate level of base salary and benefits generally on an annual basis. Each committee takes into consideration industry factors and the local market place. Each committee may also use independent consultants or other means to obtain external comparative data for the CEOs of similar financial institutions, based upon asset size and other factors.

Non-Equity Incentive Compensation

Each Bank and the Funding Corporation has some form of non-equity incentive compensation for its CEO. The overall objective of the incentive compensation is to align each CEO's performance objectives with the interests of the shareholders. The receipt of incentive compensation by each Bank CEO is based upon the performance of the Bank in achieving certain strategic and financial goals. In some cases, the Banks may have both short-term incentive compensation, which focuses on the current performance of the Bank, such as profitability, credit quality, capital adequacy and operating efficiency, and long-term incentive compensation, which focuses on the long-term success of the Bank, such as profitability, credit quality and capital adequacy. In the case of the Funding Corporation, the receipt of incentive compensation is based upon the performance of its specific functions noted previously. In addition, a portion of the incentive compensation may be based upon individual goals and performance. Also, in certain instances, the CEOs may be able to defer payment of a portion of the incentive compensation by directing the deferred amounts be invested in accordance with available options selected by retirement trust committees of the Banks or the Funding Corporation. For each Bank's and the Funding Corporation's CEO, a significant portion of their total compensation is "at-risk" in the form of incentive compensation.

Retirement Benefits

Each Bank and the Funding Corporation CEO participates in a defined benefit retirement plan and/or a defined contribution plan. All of the defined benefit retirement plans are closed to new participants. In addition, some of the Banks provide supplemental executive retirement plans or pension restoration plans for their CEOs. These plans provide for a portion of the CEO's benefit that cannot be paid from the retirement plan due to the pay and benefit limitations set by the Internal Revenue Code or provide enhanced retirement benefits to the CEO. Additional discussions of the retirement benefits for each Bank's and the Funding Corporation's CEO are set forth below.

Additional discussion of each Bank's compensation policies can be obtained by reference to the discussions provided in the Bank's annual report.

Summary Compensation Table

Name	Year	Salary	Non-Equity Incentive Plan Compensation	Change in Pension Value*	All Other Compensation	Total
AgFirst Farm Credit Bank						
Leon T. Amerson, President and CEO(1)	2019	$ 832,032	$ 795,281	$1,573,082	$ 61,181	$3,261,576
	2018	800,031	792,987	(124,251)	59,829	1,528,596
	2017	766,029	838,564	1,061,268	56,195	2,722,056
AgriBank, FCB						
Jeffrey R. Swanhorst, CEO(2)	2019	666,250	816,943		91,197	1,574,390
	2018	487,500	572,412		53,390	1,113,302
William J. Thone, CEO(3)	2018	361,667	512,663		168,925	1,043,255
	2017	700,000	992,250		70,690	1,762,940
CoBank, ACB						
Thomas E. Halverson, President and CEO(4)	2019	845,833	2,610,736		248,328	3,704,897
	2018	800,000	2,450,363		214,515	3,464,878
	2017	725,000	1,854,611		279,657	2,859,268
Farm Credit Bank of Texas						
Larry R. Doyle, CEO(5)	2019	1,375,053	1,700,000	332,731	16,627	3,424,411
	2018	1,375,053	1,500,000	(75,943)	16,666	2,815,776
	2017	1,375,053	1,500,000	181,118	16,932	3,073,103
Federal Farm Credit Banks Funding Corporation						
Theresa E. McCabe, President and CEO(6)	2019	1,250,000	1,250,000		668,043	3,168,043
	2018	1,200,000	1,220,000		588,878	3,008,878
	2017	1,125,000	1,325,000		655,290	3,105,290

* While preferential earnings on nonqualified deferred compensation are required to be reported with the change in pension value, the CEOs did not receive any preferential earnings in 2019, 2018 and 2017.

(1) The Compensation Committee of the Board of Directors reviews Mr. Amerson's performance annually, and the Board of Directors annually approves his compensation level, including base salary and incentive compensation. Included in All Other Compensation are company contributions to 401(k) plan, group life insurance premiums, spousal travel, bank-provided automobile and payment of accrued annual leave following adoption of a Senior Management Time-Off Policy.

(2) Mr. Swanhorst was appointed to CEO on April 2, 2018. For the purposes of this disclosure, Mr. Swanhorst's CEO compensation only includes the compensation for which he earned as CEO. The Compensation Committee of the AgriBank Board of Directors reviews Mr. Swanhorst's performance annually, and the AgriBank Board of Directors annually approves his compensation level, including base salary and incentive compensation. Included in All Other Compensation are company contributions to the AgriBank District Retirement Savings Plan and the non-qualified Deferred Compensation Plan as well as compensation associated with group term life and long-term disability insurance premiums. There is currently no employment agreement for Mr. Swanhorst. Mr. Swanhorst is not eligible to participate in the AgriBank pension plans; however, he does participate in AgriBank's defined contribution retirement plan.

(3) Mr. Thone was named interim CEO on August 1, 2016. Subsequently, he was named permanent CEO on December 1, 2016. The Compensation Committee of the AgriBank Board of Directors reviewed Mr. Thone's performance annually, and the AgriBank Board of Directors annually approved his compensation level, including base salary and incentive compensation. Mr. Thone re-retired on June 30, 2018. Prior to assuming CEO duties at AgriBank, Mr. Thone retired from AgriBank in 2015, at which time his pension benefits ceased to accrue.

(4) The Compensation and Human Resources Committee of the Board of Directors reviews Mr. Halverson's performance semi-annually, and the Board of Directors annually approves his compensation level, comprised of salary and supplemental compensation, including short-term and long-term incentive compensation. Included in All Other Compensation are company contributions to a qualified retirement savings plan and nonqualified deferred compensation plan, as well as payment of tax return preparation and financial planning expenses, certain travel-related costs, wellness benefits, life insurance benefits, long-term disability benefits and associated income tax impact. Mr. Halverson is not employed pursuant to the terms of an employment agreement and is not eligible to participate in CoBank's defined benefit pension plan; however, he does participate in CoBank's retirement savings plan.

(5) The Compensation Committee of the Board of Directors reviews Mr. Doyle's performance annually, and the Board of Directors annually approves his compensation level, including base salary and incentive compensation. Included in All Other Compensation are company contributions to 401(k) plan and premiums for life insurance.

In December 2019, a memorandum of understanding between the Bank and the CEO was executed with an effective date of January 1, 2020, which supersedes the previous memorandum of understanding effective January 1, 2017. The memorandum of understanding is effective for a term of approximately one year. The base salary for the CEO will be $1,375,000. Bonus payments, if any, are at the sole discretion of the Compensation Committee. The employment relationship between the bank and CEO remains at-will, meaning the bank may terminate the CEO's employment at any time, and the CEO may choose to leave at any time.

(6) The Compensation Committee of the Board of Directors reviews Ms. McCabe's performance annually and the Board of Directors annually approves the compensation level, including base salary and incentive compensation. Ms. McCabe is a participant in a defined contribution retirement plan. Included in All Other Compensation are company contributions to 401(k) plan and nonqualified deferred compensation plan, as well as wellness benefits. While being employed at will, with no specified term of employment, the agreement provides that if Ms. McCabe is terminated for any reason other than "for cause", she will receive a severance benefit of not more than six months severance pay equal to her base salary.

Pensions Benefits for the Year Ended December 31, 2019

Additional information on each Bank's pension benefits can be obtained by reference to the discussions provided in the Bank's annual report.

Name	Plan Name	Number of Years Credited Service	Present Value of Accumulated Benefit
AgFirst Farm Credit Bank			
Leon T. Amerson, President and CEO(1)	AgFirst Farm Credit Retirement Plan	33.58	$2,834,676
	AgFirst Farm Credit Bank Supplemental Retirement Plan	33.58	6,484,560
Farm Credit Bank of Texas			
Larry R. Doyle, CEO(2)	Farm Credit Bank of Texas Pension Plan	46.32	2,181,072

(1) Mr. Amerson participates in a defined benefit retirement plan. He is eligible to retire and begin drawing unreduced pension benefits at age 65 or when years of credited service plus age equal "85." Upon retirement, annual payout is equal to 2% times years of credited service times the high three-year average compensation, subject to the Internal Revenue Code limitation of $415,000 for 2019. For purposes of determining the payout, "average compensation" is defined as regular salary (i.e., does not include bonuses or non-equity incentive plan compensation). Benefits under the plan are payable as a five-year certain and life annuity. Benefits under the plan are not subject to an offset for Social Security. Benefits that would have accrued in the absence of Internal Revenue Code limits are made up through a non-qualified supplemental executive retirement plan. Mr. Amerson also participates in a 401(k) defined contribution plan which has an employer matching contribution, and in a nonqualified deferred compensation plan that allows Mr. Amerson to defer compensation and which restores the benefits limited in the 401(k) plan as a result of restrictions in the Internal Revenue Code.

(2) The CEO participates in the Farm Credit Bank of Texas Pension Plan (the "Pension Plan"), which is a qualified defined benefit retirement plan. Compensation, as defined in the Pension Plan, includes wages, incentive and bonus compensation and deferrals to the 401(k) and flexible spending account plans, but excludes annual leave or sick leave that may be paid in cash at the time of termination, retirement or transfer of employment; severance payments; retention bonuses; taxable fringe benefits; and any other payments. Pension Plan benefits are based on the average of monthly eligible compensation over the 60 consecutive months that produce the highest average after 1996 ("FAC60"). The Pension Plan's benefit formula for a Normal Retirement Pension is the sum of (a) 1.65 percent of FAC60 times "Years of Benefit Service" and (b) 0.50 percent of (i) FAC60 in excess of Social Security covered compensation times (ii) "Years of Benefit Service" (not to exceed 35). The CEO's Pension Plan benefit is offset by the CEO's pension benefits from another Farm Credit System institution. The present value of the CEO's accumulated Pension Plan benefit is calculated assuming retirement had occurred at the measurement date used for financial statement reporting purposes with retirement at age 65. The Pension Plan's benefit formula for the Normal Retirement Pension assumes that the CEO is married on the date the annuity begins, that the spouse is exactly 2 years younger than the CEO, and that the benefit is payable in the form of a 50 percent joint and survivor annuity. If any of those assumptions are incorrect, the benefit is recalculated to be the actuarial equivalent benefit.

AUDIT COMMITTEE REPORT

The Farm Credit Administration regulations with respect to disclosure to investors in Systemwide Debt Securities require the board of directors of the Funding Corporation to establish and maintain a System Audit Committee. These regulations specify that the System Audit Committee may not consist of less than three members and at least one member must be a financial expert. A financial expert must be the chairman of the System Audit Committee. Every member must be free from any relationship that, in the opinion of the board of directors of the Funding Corporation, would interfere with the exercise of independent judgment as a System Audit Committee member. The System Audit Committee reports to the board of directors of the Funding Corporation. The charter can be found on the Funding Corporation's website at www.farmcreditfunding.com. The responsibilities of the System Audit Committee include:

- the oversight of the Funding Corporation's system of internal controls related to the preparation of the System's quarterly and annual information statements,
- the integrity of the System's quarterly and annual information statements,
- the review and assessment of the impact of accounting and auditing developments on the System's combined financial statements,
- the review and assessment of the impact of accounting policy changes related to the preparation of the System's combined financial statements,
- the appointment, compensation, retention and oversight of the System's independent registered public accounting firm with the agreement of the Funding Corporation's board of directors,
- the pre-approval of allowable non-audit services at the System level,
- the receipt, retention and treatment of complaints regarding accounting, internal accounting controls or auditing matters at the System level,
- the receipt of various reports from management on internal controls, off-balance sheet arrangements, critical accounting policies, and material alternative accounting treatments that may impact the System's combined financial statements,
- the review and approval of the scope and planning of the annual audit by the System's independent registered public accounting firm,
- the approval of policies and procedures for the preparation of the System's quarterly and annual information statements, and
- the review and approval of the System's quarterly and annual information statements and financial press releases, after discussions with management and the independent registered public accounting firm.

The System Audit Committee has reviewed and discussed the System's 2019 combined financial statements and the System's report on internal control over financial reporting, which were prepared under the oversight of the System Audit Committee, with senior management of the Funding Corporation and the independent registered public accounting firm. In addition, the System Audit Committee discussed with the independent registered public accounting firm the matters required to be discussed by PCAOB Auditing Standard No. 16, *Communications with Audit Committees*.

The System Audit Committee has also received written disclosures and has discussed with the independent registered public accounting firm their independence.

Based on the review and discussions referred to above, the System Audit Committee recommended that the audited combined financial statements be included in the System's *2019 Annual Information Statement.*

Timothy Clayton (Chairman)
Maureen Corcoran (Vice Chair)
R. Bertsch Cox
Robert S. Marjan
Edgar A. Terry

AUDIT AND OTHER FEES

Audit Fees

The following table sets forth the aggregate fees billed for professional services rendered for the System by its independent registered public accounting firm, PricewaterhouseCoopers LLP, in the years ended December 31, 2019 and 2018:

	2019	2018
	(in thousands)	
Audit	$16,704	$15,665
Audit-related	323	352
Tax	626	390
All Other	1,140	980
Total	$18,793	$17,387

The *Audit* fees were for professional services rendered for the audits of System entities and the audit of the System's and the Banks' internal control over financial reporting.

The *Audit-related* fees were for issuances of comfort letters for preferred stock offerings and employee benefit plan audits.

Tax fees were for services related to tax compliance, including the preparation of tax returns and claims for refunds, and tax planning and tax advice.

All Other fees were for services rendered for other advisory and assistance services, which were approved by the appropriate audit committee.

Other Fees

As required by the Farm Credit Administration regulations, any monetary and nonmonetary resources used by the System Audit Committee in fulfilling their duties are to be reported on an annual basis. Administrative expenses for the System Audit Committee totaled $44,000 for 2019 and $37,000 for 2018. No resources, other than administrative expenses and fees paid to the registered public accounting firm as described above, were used during 2019 and 2018.

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

As of December 31, 2019, managements of System institutions carried out an evaluation with the participation of the Funding Corporation's management, including the President and CEO and the Managing Director — Financial Management Division, of the effectiveness of the design and operation of their respective disclosure controls and procedures[1] with respect to this annual information statement. This evaluation is based on testing of the design and effectiveness of key internal controls, certifications and other information furnished by the principal executive officer and principal financial officer of each System institution, as well as incremental procedures performed by the Funding Corporation over the combining process. Based upon and as of the date of the Funding Corporation's evaluation, the President and CEO and the Managing Director — Financial Management Division concluded that the disclosure controls and procedures are effective in alerting them on a timely basis of any material information relating to the System that is required to be disclosed by the System in the annual and quarterly information statements it files or submits to the Farm Credit Administration. There have been no significant changes in the System's internal control over financial reporting[2] that occurred during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, the System's internal control over financial reporting.

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(1) For purposes of this discussion, "disclosure controls and procedures" are defined as controls and procedures of the System that are designed to ensure that the financial information required to be disclosed by the System in this annual information statement is recorded, processed, summarized and reported, within the time periods specified under the rules and regulations of the Farm Credit Administration.

(2) For purposes of this discussion, "internal control over financial reporting" is defined as a process designed by, or under the supervision of, the System's principal executive officers and principal financial officers, or persons performing similar functions, and effected by the System's boards of directors, managements and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the System's combined financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that: (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the System; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the System's combined financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the System are being made only in accordance with authorizations of managements and directors of the System; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the System's assets that could have a material effect on the System's combined financial statements.

CERTIFICATION

I, Theresa E. McCabe, certify that:

1. I have reviewed the *2019 Annual Information Statement* of the Farm Credit System.

2. Based on my knowledge, this annual information statement does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual information statement.

3. Based on my knowledge, the financial statements, and other financial information included in this annual information statement, fairly present in all material respects the financial condition, results of operations and cash flows of the System as of, and for, the periods presented in this annual information statement.

4. The System's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures(1) and internal control over financial reporting(2) for the System and have:

(a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the System, including its combined entities, is made known to us by others within those entities, particularly during the period in which this annual information statement is being prepared;

(b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) evaluated the effectiveness of the System's disclosure controls and procedures and presented in this annual information statement our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this annual information statement based on such evaluation; and

(d) disclosed in this annual information statement any change in the System's internal control over financial reporting that occurred during the System's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the System's internal control over financial reporting.

5. The System's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the System's registered public accounting firm and the System Audit Committee:

(a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the System's ability to record, process, summarize and report financial information; and

(b) any fraud, whether or not material, that involves management or other employees who have a significant role in the System's internal control over financial reporting.

Theresa E. McCabe
Theresa E. McCabe
President and CEO

Date: February 28, 2020

(1) See footnote 1 on page S-23.

(2) See footnote 2 on page S-23.

CERTIFICATION

I, Karen R. Brenner, certify that:

1. I have reviewed the *2019 Annual Information Statement* of the Farm Credit System.

2. Based on my knowledge, this annual information statement does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual information statement.

3. Based on my knowledge, the financial statements, and other financial information included in this annual information statement, fairly present in all material respects the financial condition, results of operations and cash flows of the System as of, and for, the periods presented in this annual information statement.

4. The System's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures[(1)] and internal control over financial reporting[(2)] for the System and have:

(a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the System, including its combined entities, is made known to us by others within those entities, particularly during the period in which this annual information statement is being prepared;

(b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) evaluated the effectiveness of the System's disclosure controls and procedures and presented in this annual information statement our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this annual information statement based on such evaluation; and

(d) disclosed in this annual information statement any change in the System's internal control over financial reporting that occurred during the System's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the System's internal control over financial reporting.

5. The System's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the System's registered public accounting firm and the System Audit Committee:

(a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the System's ability to record, process, summarize and report financial information; and

(b) any fraud, whether or not material, that involves management or other employees who have a significant role in the System's internal control over financial reporting.

Karen R. Brenner

Karen R. Brenner
Managing Director — Financial
Management Division

Date: February 28, 2020

(1) See footnote 1 on page S-23.

(2) See footnote 2 on page S-23.

INDEX TO ANNUAL INFORMATION STATEMENT

* As used herein, the references to "Notes" mean the Notes to Combined Financial Statements found on pages F-11 through F-68 of this annual information statement.

FARM CREDIT SYSTEM ENTITIES (As of January 1, 2020)

BANKS

AgFirst Farm Credit Bank
P.O. Box 1499
Columbia, SC 29202-1499
(803) 799-5000

AgriBank, FCB
30 East 7th Street
Suite 1600
St. Paul, MN 55101-4914
(651) 282-8800

CoBank, ACB
P.O. Box 5110
Denver, CO 80217-5110
(303) 740-4000

Farm Credit Bank of Texas
P.O. Box 202590
Austin, TX 78720-2590
(512) 465-0400

CERTAIN OTHER ENTITIES

Farm Credit Leasing Services Corporation
1665 Utica Avenue South, Suite 400
Minneapolis, MN 55416
(952) 417-7800

Federal Farm Credit Banks
Funding Corporation
101 Hudson Street, Suite 3505
Jersey City, NJ 07302-3913
(201) 200-8000

FCS Building Association
1501 Farm Credit Drive
McLean, VA 22102-5090
(703) 883-4000

The Farm Credit Council
50 F Street, N.W., Suite 900
Washington, DC 20001-1530
(202) 626-8710

ASSOCIATIONS

AgFirst District

Ag Credit, ACA
610 W. Lytle Street
Fostoria, OH 44830-3422

AgCarolina Farm Credit, ACA
4000 Poole Road
Raleigh, NC 27610

AgChoice Farm Credit, ACA
300 Winding Creek Blvd
Mechanicsburg, PA 17050

AgGeorgia Farm Credit, ACA
468 Perry Parkway
Perry, GA 31069

AgSouth Farm Credit, ACA
26 South Main Street
Statesboro, GA 30458

ArborOne, ACA
800 Woody Jones Blvd.
Florence, SC 29501

Cape Fear Farm Credit, ACA
333 East Russell Street
Fayetteville, NC 28301

Carolina Farm Credit, ACA
146 Victory Lane
Statesville, NC 28625

Central Kentucky, ACA
640 S. Broadway, Room 108
Lexington, KY 40588

Colonial Farm Credit, ACA
7104 Mechanicsville Turnpike
Mechanicsville, VA 23111

Farm Credit of Central Florida, ACA
115 S. Missouri Avenue, Suite 400
Lakeland, FL 33815

Farm Credit of Florida, ACA
11903 Southern Blvd.
Suite 200
Royal Palm Beach, FL 33411

Farm Credit of Northwest Florida, ACA
5052 Highway 90
East Marianna, FL 32446

Farm Credit of the Virginias, ACA
106 Sangers Lane
Staunton, VA 24401

First South Farm Credit, ACA
574 Highland Colony Parkway,
Suite 100
Ridgeland, MS 39157

MidAtlantic Farm Credit, ACA
45 Aileron Court
Westminster, MD 21157

Puerto Rico Farm Credit, ACA
213 Manuel V. Domenech Avenue
Hato Rey, PR 00918

River Valley AgCredit, ACA
328 East Broadway
Mayfield, KY 42066

Southwest Georgia Farm Credit, ACA
305 Colquitt Highway
Bainbridge, GA 39817

AgriBank District

AgCountry Farm Credit Services, ACA
1900 44th Street South
Fargo, ND 58108

AgHeritage Farm Credit Services, ACA
119 East Third Street, Suite 200
Little Rock, AR 72201

Compeer Financial, ACA
2600 Jenny Wren Trail
Sun Prairie, WI 53590

Delta Agricultural Credit Association
118 E. Speedway
Dermott, AR 71638

FCS Financial, ACA
1934 East Miller Street
Jefferson City, MO 65101

Farm Credit Illinois, ACA
1100 Farm Credit Drive
Mahomet, IL 61853

Farm Credit Mid-America, ACA
12501 Lakefront Place
Louisville, KY 40299

Farm Credit Midsouth, ACA
3000 Prosperity Drive
Jonesboro, AR 72404

Farm Credit Services of America, ACA
5015 South 118th Street
Omaha, NE 68137

Farm Credit Services of Mandan, ACA
1600 Old Red Trail
Mandan, ND 58554

Farm Credit Services of North Dakota, ACA
1400 31st Ave SW
Minot, ND 58701

Farm Credit Services of Western Arkansas, ACA
3115 West 2nd Court
Russellville, AR 72801

Farm Credit Southeast Missouri, ACA
1116 N. Main Street
Sikeston, MO 63801

GreenStone Farm Credit Services, ACA
3515 West Road
East Lansing, MI 48823

CoBank District

AgPreference, ACA
3120 North Main
Altus, OK 73521

American AgCredit, ACA
400 Aviation Boulevard
Suite 100
Santa Rosa, CA 95403

Farm Credit East, ACA
240 South Road
Enfield, CT 06082

Farm Credit of Enid, ACA
1605 W. Owen K. Garriott Road
Enid, OK 73703

Farm Credit of New Mexico, ACA
5651 Balloon Fiesta Parkway NE
Albuquerque, NM 87113

Farm Credit of Southern Colorado, ACA
5110 Edison Avenue
Colorado Springs, CO 80915

Farm Credit of Western Kansas, ACA
1190 South Range Avenue
Colby, KS 67701

Farm Credit of Western Oklahoma, ACA
3302 Williams Avenue
Woodward, OK 73801

Farm Credit Services of Colusa-Glenn, ACA
605 Jay Street
Colusa, CA 95932

Farm Credit West, ACA
3755 Atherton Road
Rocklin, CA 95765

Fresno-Madera Farm Credit, ACA
4635 West Spruce Avenue
Fresno, CA 93722

Frontier Farm Credit, ACA
5015 South 118th Street
Omaha, NE 68137

Golden State Farm Credit, ACA
1580 Ellis Street
Kingsburg, CA 93631

High Plains Farm Credit, ACA
605 Main
Larned, KS 67550

Idaho AgCredit, ACA
188 West Judicial Street
Blackfoot, ID 83221

Northwest Farm Credit Services, ACA
2001 South Flint Road
Spokane, WA 99224

Oklahoma AgCredit, ACA
601 E. Kenosha Street
Broken Arrow, OK 74012

Premier Farm Credit, ACA
202 Poplar Street
Sterling, CO 80751

Western AgCredit, ACA
10980 South Jordan Gateway
South Jordan, UT 84095

Yankee Farm Credit, ACA
289 Hurricane Lane, Suite 202
Williston, VT 05495

Yosemite Farm Credit, ACA
806 West Monte Vista Avenue
Turlock, CA 95382

Texas District

Ag New Mexico, Farm Credit Services, ACA
4501 N. Prince Street
Clovis, NM 88101

AgTexas Farm Credit Services
5004 N. Loop 289
Lubbock, TX 79416

Alabama Ag Credit, ACA
2660 Eastchase Lane, Suite 401
Montgomery, AL 36117

Alabama Farm Credit, ACA
1740 Eva Road NE
Cullman, AL 35055

Capital Farm Credit, ACA
3000 Briarcrest Drive, Suite 601
Bryan, TX 77802

Central Texas Farm Credit, ACA
1026 Early Boulevard
Early, TX 76802

Heritage Land Bank, ACA
4608 Kinsey Drive, Suite 100
Tyler, TX 75703

Legacy Ag Credit, ACA
303 Connally Street
Sulphur Springs, TX 75482

Lone Star, ACA
1612 Summit Avenue, Suite 300
Fort Worth, TX 76102

Louisiana Land Bank, ACA
2413 Tower Drive
Monroe, LA 71201

Mississippi Land Bank, ACA
5509 Highway 51 North
Senatobia, MS 38668

Plains Land Bank, FLCA
5625 Fulton Drive
Amarillo, TX 79109

Southern AgCredit, ACA
402 West Parkway Place
Ridgeland, MS 39157

Texas Farm Credit Services
545 South Highway 77
Robstown, TX 78380