

A PARTNER



YOU CAN

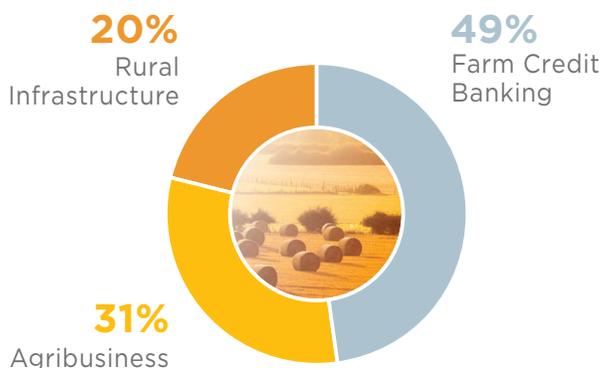


COUNT ON





KEY METRICS



TOTAL LOANS
\$104.5
BILLION
at 12/31/18



TOTAL ASSETS
(in billions)

NET INCOME
(in millions)



PATRONAGE DISTRIBUTIONS
(in millions)

TOTAL SHAREHOLDERS' EQUITY
(in millions)

FINANCIAL HIGHLIGHTS

FOR THE YEAR
(\$ in millions)

	2018	2017	2016
Net Interest Income	\$ 1,431	\$ 1,393	\$ 1,362
Provision for Loan Losses	66	42	63
Net Income	1,191	1,125	946
Patronage Distributions	700	610	588

AT YEAR-END
(\$ in millions)

	2018	2017	2016
Agribusiness	\$ 32,432	\$ 30,304	\$ 28,660
Farm Credit Banking	50,695	47,948	45,994
Rural Infrastructure	21,367	21,014	20,604
Total Loans	\$104,494	\$ 99,266	\$ 95,258

Allowance for Credit Losses	\$ 703	\$ 671	\$ 662
Total Assets	139,016	129,211	126,131
Total Shareholders' Equity	9,535	9,060	8,574

FINANCIAL RATIOS

	2018	2017	2016
Return on Average Common Equity	14.60%	14.20%	12.40%
Return on Average Assets	0.90	0.89	0.78
Return on Active Patron Investment	22.35	20.70	21.32
Net Interest Margin	1.09	1.12	1.14
Total Capital Ratio*	15.58	15.24	N/A
Permanent Capital Ratio	14.69	14.29	15.47

*Effective January 1, 2017, CoBank implemented new regulatory capital requirements, as required by the Farm Credit Administration. Therefore, this ratio is not applicable for periods ending prior to this date.

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AS AN INTEGRAL MEMBER OF THE FARM CREDIT SYSTEM, OUR MISSION IS TO SERVE AS A DEPENDABLE PROVIDER OF CREDIT AND OTHER VALUE-ADDED FINANCIAL SERVICES AND SUPPORT TO AGRICULTURE, RURAL INFRASTRUCTURE AND OTHER SIMILAR BUSINESSES FOR THE BENEFIT OF RURAL AMERICA.

LETTER TO SHAREHOLDERS

TO OUR CUSTOMERS AND OTHER STAKEHOLDERS

As a financial cooperative, CoBank has two core objectives each year when it comes to the business and financial performance we deliver on behalf of our customer-owners. One objective is to serve our customer-owners with excellence, providing them with dependable credit and other financial services they need to be successful in a highly competitive marketplace. The other is to generate strong financial results for them as shareholders, through reliable patronage and robust earnings that enhance the strength and competitive position of the bank today and for the long-term. The term “customer-owner” embodies both of these important priorities.

For 2018, we’re pleased to report that CoBank’s business performance was outstanding from both perspectives. We partnered with thousands of cooperatives, Farm Credit institutions and other rural enterprises across the country to meet needs for credit and other financial services during a challenging period for the rural economy, which drove average loan volume to over \$100 billion for the first time in our history. At the same time, we delivered exceptional shareholder returns, with net income of almost \$1.2 billion and patronage distributions totaling \$700 million to eligible borrowers. CoBank’s return on common equity was 14.6 percent for the year, and patronage as a percentage of average active borrower stock was 22.4 percent.

At CoBank, we believe that consistent business performance is an essential aspect of our broader mission of service in rural America. When market conditions are difficult, as they currently are for many rural industries, CoBank has a unique responsibility and capability to be a stabilizing force for its customer-owners and rural America. Our delivery of credit and meaningful patronage requires that we operate from a position of unrelenting financial and operational strength. Our board and executive team are intensely focused on realizing that strength through sound financial stewardship, thoughtful strategic planning, outstanding execution, and continuous investment in CoBank’s people, processes and systems.

Another priority, of course, is that we maintain high levels of transparency about our financial and operating performance with

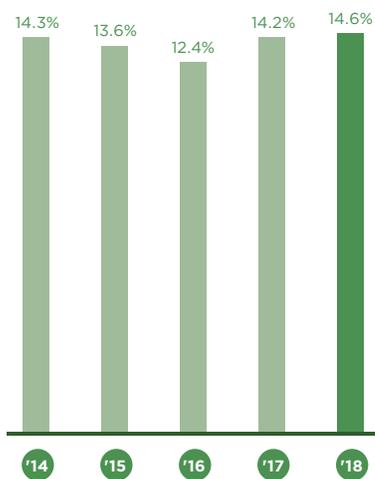


KEVIN G. RIEL
Board Chair

THOMAS HALVERSON
President & CEO

RETURN ON EQUITY

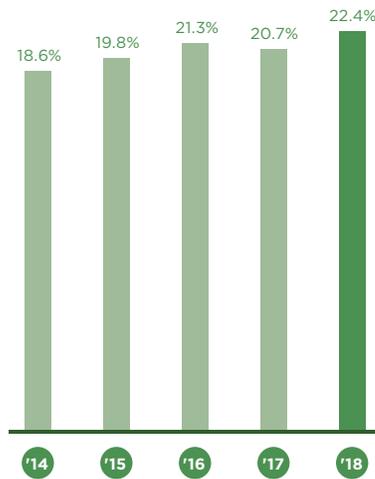
(%)



Net income/average common equity

PATRONAGE RETURNS

(%)



Cash and stock patronage/average stock of active borrowers

our customer-owners and other stakeholders, in order to ensure they are well informed about the direction of the business and to maintain their confidence in CoBank. To that end, this letter includes a thorough discussion of our 2018 financial results. Much more detailed information is contained in the Management's Discussion & Analysis section beginning on page 31 and in the accompanying financial statements, footnotes and other disclosures. We hope the entire annual report is useful to you and that it provides you with a comprehensive understanding of the opportunities and challenges we face as we manage CoBank in the best interests of our customer-owners.

2018 Financial Results

For the full-year 2018, CoBank's average loan and lease volume increased approximately 5 percent, to \$100.6 billion. We saw higher levels of borrowing by customers across all three of our operating segments—Agribusiness, Farm Credit Banking and Rural Infrastructure.

- **Agribusiness Operating Segment:** The primary growth driver for our agribusiness portfolio in 2018 was increased seasonal lending to grain and farm supply cooperatives throughout the Midwest, due to commodity price dynamics during the year as well as grain ownership fluctuations in the supply chain. CoBank serves a substantial percentage of the nation's grain and farm supply co-ops, and commodity price movements in this sector can have a significant impact on the bank's loan volume. The bank also experienced growth in its agricultural export finance business, which facilitates trade among U.S. agribusiness and customers in foreign markets.
- **Farm Credit Banking Operating Segment:** Growth in this portion of our portfolio was driven by increased borrowing by farmers and ranchers from CoBank's 22 affiliated Farm Credit associations. CoBank's affiliates serve over 70,000 borrowers in key agricultural regions across the country, including California and the Pacific Northwest; the Southwest; the Mid-Plains region and the Northeast. Farmers rely on Farm Credit associations for production loans, farmland mortgages and other important forms of agricultural financing.
- **Rural Infrastructure Operating Segment:** CoBank's project finance, rural communications, water and community facilities portfolios were the key growth drivers in this segment. Our project finance business is focused on serving the demand

for financing solar, wind and other renewable energy projects around the country, the vast majority of which are sited in rural areas. Meanwhile, our communications portfolio comprises loans to broadband service providers that deliver data, voice and video services to rural communities nationwide. Demand for credit in both sectors was strong in 2018, offsetting slight declines in other areas of our infrastructure portfolio.

CoBank's net interest income (NII) increased by 3 percent in 2018, to \$1.431 billion, primarily as a result of higher average loan volume. NII is the difference in interest we earn on loans to customers and other interest-bearing assets and the interest we pay on the Farm Credit System debt issued to fund those assets. Given the nature of our business as a balance-sheet lender, NII is the single most important component of earnings for CoBank.

NII has continued to grow steadily in recent years, but it has done so more slowly than loan volume growth in part due to downward pressure on margins. Over the past several years, CoBank has experienced margin compression due to a number of marketplace and other factors, including intense competition, low interest rates and the shape of the yield curve. From today's vantage point, it is unclear whether we will see additional margin compression in our business in 2019. We will continue to manage our assets and liabilities to position CoBank optimally for the current and anticipated interest rate environment.

Net income for CoBank rose 6 percent to \$1.191 billion in 2018, from \$1.125 billion in 2017, but there were a number of significant non-recurring items in both periods that make year-over-year comparisons complicated. For instance, the bank experienced a \$142 million one-time benefit in 2017 due to the passage of federal tax legislation in that year. In 2018, the bank received a return of \$35 million in excess insurance funds from the Farm Credit System Insurance Corporation (FCSIC), and we recorded almost \$50 million in gains from the sale of investment securities acquired through our U.S. AgBank merger in 2012. The FCSIC refund and gains from securities sales are reflected in non-interest income, which increased by \$115 million in 2018. Operating expenses also improved by approximately \$22 million, primarily due to a reduction in FCSIC insurance premiums. Income tax expense increased by \$85 million in 2018 due to the impact of the tax law in the prior year.

LOAN VOLUME

(\$ in billions)

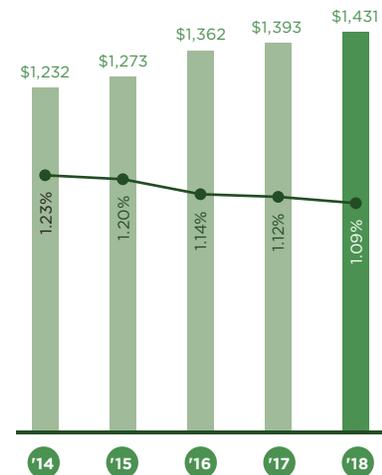


NET INTEREST INCOME

(\$ in millions)

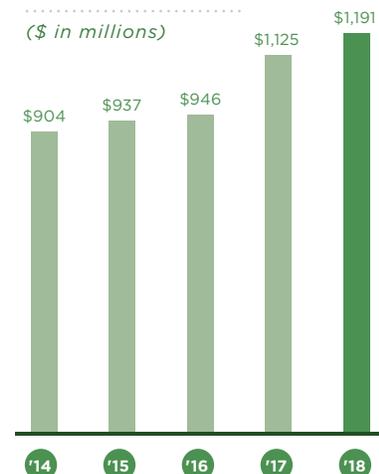
NET INTEREST MARGIN

(%)



NET INCOME

(\$ in millions)



For our customer-owners, we believe the key takeaways are twofold:

- First, that CoBank continues to generate strong earnings, enabling us to deliver robust patronage and mission achievement while simultaneously investing our resources in our operating platform and the long-term value of the enterprise, and
- Second, that we have continued to demonstrate growth from core lending operations.

Credit quality in CoBank’s loan portfolio deteriorated in 2018, primarily due to stresses impacting a small number of borrowers in our agribusiness operating segment. Nonetheless, overall credit quality remained solid by historical standards, reflecting the generally strong credit profile of our customer base.

We use a number of different measures to track credit quality. One of the most important is the level of nonaccrual loans in our portfolio, meaning loans for which full collection of principal and interest by the bank is uncertain. Nonaccrual loans totaled \$326.3 million or 0.31 percent of total loans as of December 31, 2018, compared to \$246.8 million or 0.25 percent of total loans at the end of 2017. The 10-year trailing average for this metric is 0.29 percent.

The bank recorded a \$66 million provision for loan losses for 2018 primarily related to specific reserves for a small number of customers in our agribusiness and rural infrastructure operating segments, as well as overall growth in average loan volume, compared to a \$42 million provision in 2017. CoBank’s allowance for credit losses, which protects the bank’s capital base against losses embedded in our loan portfolio, totaled \$703.2 million at year-end or 1.33 percent of nonguaranteed loans when loans to Farm Credit associations are excluded.

CoBank’s capital and liquidity levels remain well in excess of regulatory minimums. As of December 31, 2018, shareholders’ equity was \$9.5 billion, and the bank’s total capital ratio was 15.58 percent, compared with the 8.0 percent minimum (10.5 percent inclusive of the fully phased-in capital conservation buffer) established by the Farm Credit Administration (FCA),

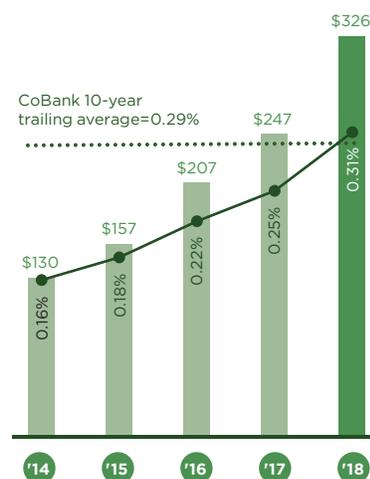
COMPARISON OF NET INCOME, 2017 VS. 2018

(\$ in millions)



NON-ACCRUAL LOANS

(\$ in millions and % of total loans)



SHAREHOLDERS' EQUITY

(\$ in millions)	2014	2015	2016	2017	2018
Preferred stock	\$ 1,125	\$ 1,125	\$ 1,500	\$ 1,500	\$ 1,500
Common stock	\$ 2,769	\$ 2,900	\$ 3,072	\$ 3,240	\$ 3,416
Retained earnings	\$ 3,482	\$ 3,845	\$ 4,121	\$ 4,552	\$ 4,982
Accumulated other comprehensive loss	\$ (6)	\$ (60)	\$ (119)	\$ (232)	\$ (363)
Total shareholders' equity	\$ 7,370	\$ 7,810	\$ 8,574	\$ 9,060	\$ 9,535

SHAREHOLDERS' EQUITY

(\$ in millions)



the bank's independent regulator. At year-end, the bank held approximately \$34.0 billion in cash and investments. The bank had 177 days of liquidity at the end of 2018, which exceeded the FCA minimum.

Overall, we are extremely pleased with the bank's financial performance in 2018. Financial strength and stability are critical to our ability to serve our mission and deliver value to customers in rural America. We believe our customer-owners and other stakeholders can continue to have confidence in our financial stewardship given the strong results we are delivering on their behalf.

Patronage

One of our top strategic objectives each year is to deliver strong, reliable patronage returns to our customer-owners. Patronage is a central component of the CoBank value proposition and one of the most powerful tangible benefits we deliver to eligible borrowers as a member-owned financial cooperative.

For 2018, patronage will total a record \$700 million—almost 60 percent of the bank's earnings for the year. That includes the regular cash and equity patronage distribution that customers will receive in March 2019, in addition to the \$96 million all-cash special patronage payout we made in September 2018. The special



patronage distribution, approved unanimously by our board, was designed to share the benefits of 2017 federal tax legislation with our customer-owners. Our board was determined that the benefits of the tax law, which significantly reduced CoBank’s effective tax rate, flow primarily to our customer-owners. In addition to tax savings, CoBank funded the distribution with earnings on significant nonrecurring items recognized in the first half of 2018.

Many of our customers think of patronage as effectively lowering their net cost of borrowing from CoBank. The adjacent table details our patronage distributions for 2018. Agribusiness, communications and project finance borrowers earned 115 basis points of patronage for the year, while rural electric and water customers earned 95 basis points. Affiliated Farm Credit associations received 51 basis points of all-cash patronage under their capital plan.

Customer-owners also consider patronage as a return on their equity ownership in the bank. As shown in the chart at the beginning of this letter, patronage as a percentage of active borrower equity averaged 22.4 percent in 2018. CoBank’s

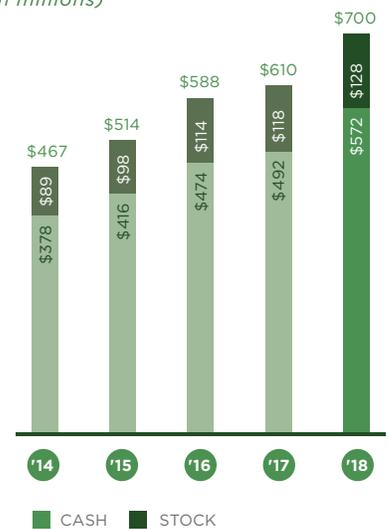
2018 PATRONAGE DISTRIBUTION BY PLAN

(\$ in millions)	Regular Patronage	Special Patronage	Total Patronage	BPS*
Agribusiness, communications and project finance	\$185	\$35	\$220	115
Rural electric and water	\$107	\$18	\$125	95
Farm Credit affiliates	\$194	\$25	\$219	51
Loans purchased from other Farm Credit institutions	\$101	\$16	\$117	115
Non-affiliated Farm Credit and other financing institutions	\$17	\$2	\$19	39

*Basis points of qualifying loan volume

PATRONAGE DISTRIBUTIONS

(\$ in millions)



five-year average patronage return is 20.6 percent. By any comparative marketplace measure, those numbers represent an exceptional return for our member borrowers on their ownership stake in CoBank.

Investing In Our Platform

Another reason our 2018 performance bodes well for the future was the increasing level of investment we continued to make in the operating platform we use to serve our customers. That includes the Information Technology systems that underpin our service delivery model. The banking industry is experiencing significant acceleration of technological change that is fundamentally altering how credit and other financial products are offered all over the world. In this environment, it is vital that CoBank invest in technology in order to remain competitive and provide services that are better, faster and cheaper to our customers in the future.

Human capital is another essential pillar of our business as a mission-based, relationship lender. Our team of just over 1,000 associates includes relationship managers, credit analysts and other banking personnel who interact directly with customers as well as support, operations and corporate employees. These committed professionals come from an increasingly diverse range of backgrounds. We invest in a range of recruiting, training, development and inclusion programs aimed at driving the highest possible levels of employee engagement, workplace integrity and commitment to the mission of the bank.

We're extremely fortunate to be generating financial results that allow us to make these important investments in people and technology while simultaneously delivering strong financial returns to our customer-owners.



The Operating Environment

As we move forward, our board and management team are intensely focused on the external policy and market environment in which we must build the financial and operational strength of our business. For agriculture and other key sectors of the U.S. rural economy, conditions remain uncertain and challenging. We have now had five consecutive years of weakness for many agricultural commodities, exacerbated by recent tensions over trade policy among the U.S. and key trading partners around the world. Though the overall economy is still performing well by most measures, there is growing concern about the rising probability of a recession in the United States and the ability of policymakers to respond effectively with fiscal and monetary policies. Partisan discord in Washington is contributing to these anxieties. Meanwhile, the combination of high and rapidly increasing public and private sector debt, and rising interest rates, serves as another potential constraining factor for the economy. We expect macroeconomic conditions to be more volatile and uncertain in the next several years.

We believe that the single best way for CoBank to deal with these and other challenges is through continued profitable growth; continued investment in our people, technology and systems; and continued enhancement of our financial strength, flexibility and risk-bearing capacity for the long term. We remain committed to serving our customer-owners, and to the mission of CoBank and the Farm Credit System in rural America. Notwithstanding the challenges outlined above, we are enormously optimistic about the future of our business given the inherent strength of the CoBank business model and the essential role our customer-owners play in rural communities throughout the country.

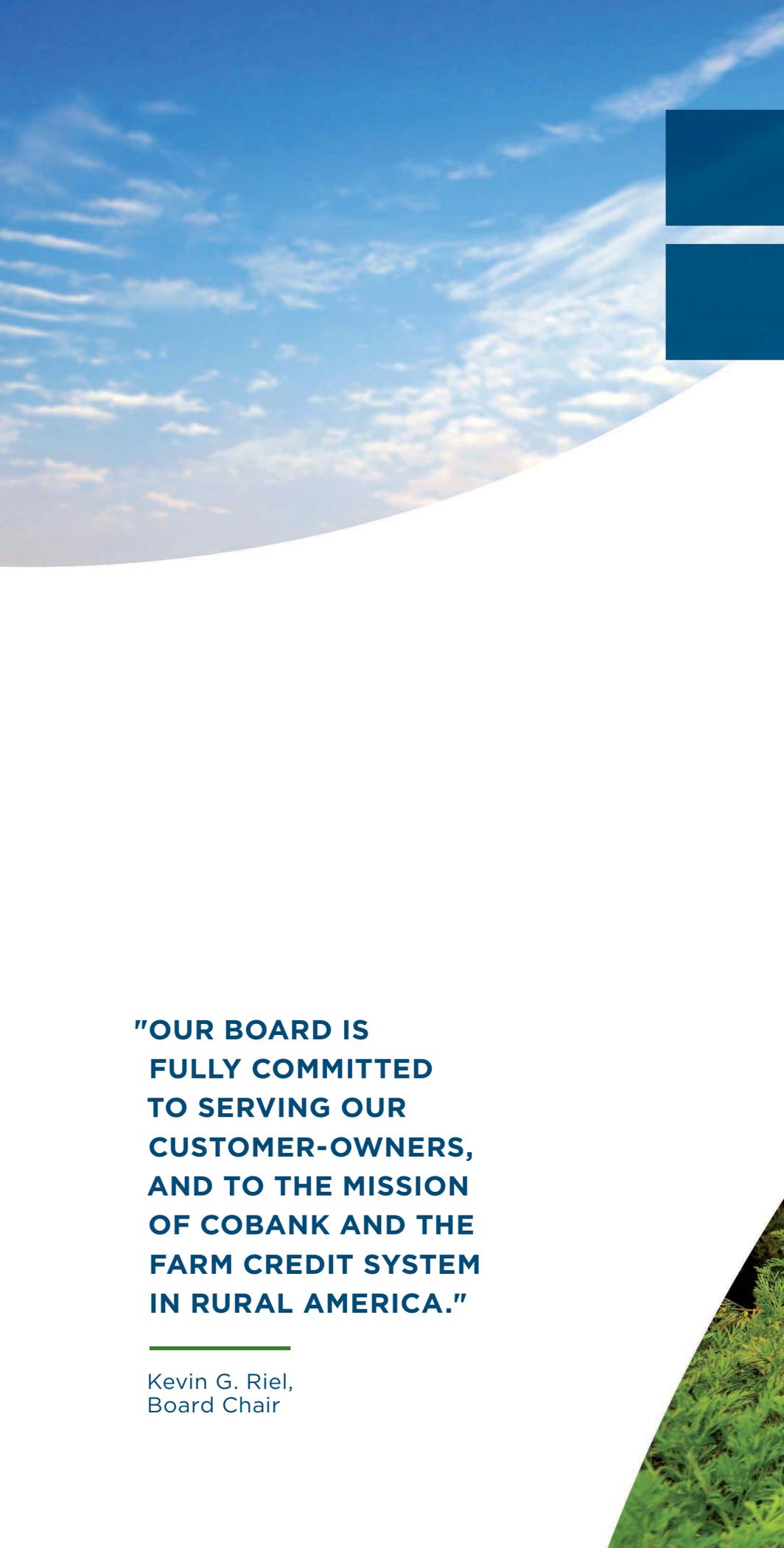
As always, we remain grateful for the enormous trust our customers place in CoBank as their financial partner. We thank you for your ongoing support and look forward to reporting back to you on our future progress.

Handwritten signature of Kevin G. Riel in black ink.

KEVIN G. RIEL
Board Chair

Handwritten signature of Tom Halverson in black ink.

THOMAS HALVERSON
President and
Chief Executive Officer



**"OUR BOARD IS
FULLY COMMITTED
TO SERVING OUR
CUSTOMER-OWNERS,
AND TO THE MISSION
OF COBANK AND THE
FARM CREDIT SYSTEM
IN RURAL AMERICA."**

Kevin G. Riel,
Board Chair

2019

BOARD OF DIRECTORS



KEVIN G. RIEL
CHAIR
Occupation: Farming
Hometown: Yakima, Washington



JON E. MARTHEDAL
1ST VICE CHAIR
Occupation: Farming
Hometown: Fresno, California



KEVIN A. STILL
2ND VICE CHAIR
Occupation: Agribusiness
Cooperative Management
Hometown: Danville, Indiana



ROBERT M. BEHR
Occupation: Agribusiness
Cooperative Management
Hometown: Lakeland, Florida



MICHAEL S. BROWN
Occupation: Retired, Commercial Banking
Hometown: San Diego, California



RUSSELL G. BROWN
Occupation: Commercial Banking
Hometown: Warsaw, Virginia



EVERETT M. DOBRINSKI
Occupation: Farming
Hometown: Makoti, North Dakota



WILLIAM M. FARROW, III
Occupation: Retired,
Commercial Banking
Hometown: Evanston, Illinois



BENJAMIN J. FREUND
Occupation: Farming
Hometown: East Canaan, Connecticut



ANDREW J. GILBERT
Occupation: Retired, Farming
Hometown: Potsdam, New York



DANIEL T. KELLEY
Occupation: Farming
Hometown: Normal, Illinois



DAVID J. KRAGNES
Occupation: Farming
Hometown: Felton, Minnesota



CATHERINE MOYER
Occupation: Rural
Communications Management
Hometown: Ulysses, Kansas



DAVID S. PHIPPEN
Occupation: Farming
Hometown: Ripon, California



RONALD (RON) J. RAHJES
Occupation: Farming
Hometown: Kensington, Kansas



SCHEHERAZADE S. REHMAN
Occupation: Professor, International
Business and Finance
Hometown: Washington, D.C.



KAREN L. SCHOTT
Occupation: Farming
Hometown: Broadview, Montana



EDGAR A. TERRY
Occupation: Farming
Hometown: Ventura, California



BRANDON J. WITTMAN
Occupation: Electric
Cooperative Management
Hometown: Billings, Montana







AGRIBUSINESS PORTFOLIO

31%
OF TOTAL LOAN PORTFOLIO

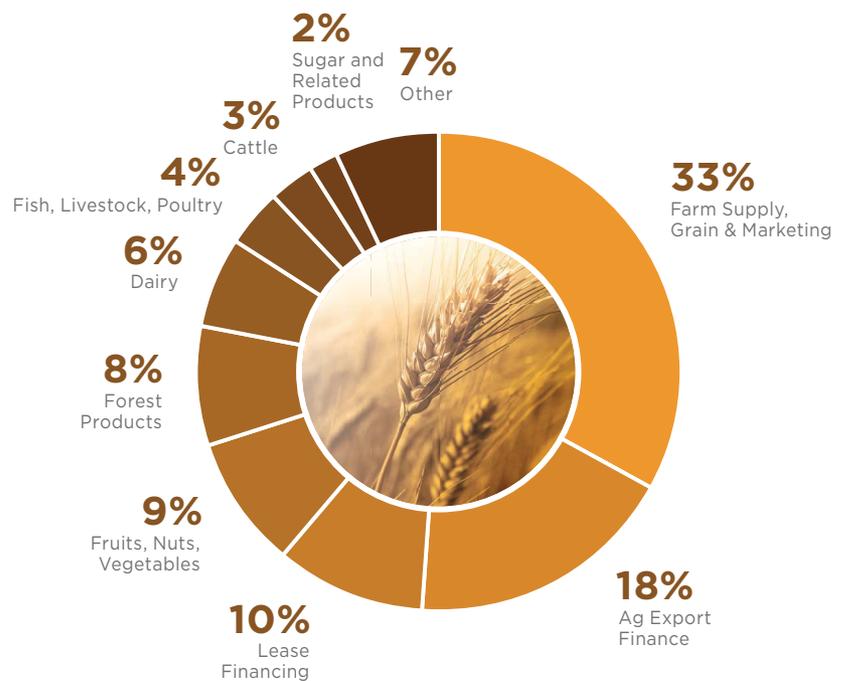


CoBank's Agribusiness operating segment includes lending to regional and corporate agribusiness customers, export finance customers and leasing customers. It serves cooperatives and other customers involved in a wide variety of industries, including grain handling and marketing, farm supply, food processing, dairy, livestock, fruits, nuts, vegetables, cotton, biofuels and forest products.

FOR THE YEAR <i>(\$ in millions)</i>	2018	2017	2016
Period-end Loans	\$32,432	\$30,304	\$28,660
Average Loans	31,604	29,241	27,563
Net Income	583*	630*	403

*2018 and 2017 net income included the benefit of \$16 million and \$198 million, respectively, resulting from the enactment of federal tax legislation in late 2017.

\$32.4
BILLION
Loan Volume at Year-End



RURAL INFRASTRUCTURE PORTFOLIO

20%
OF TOTAL LOAN PORTFOLIO



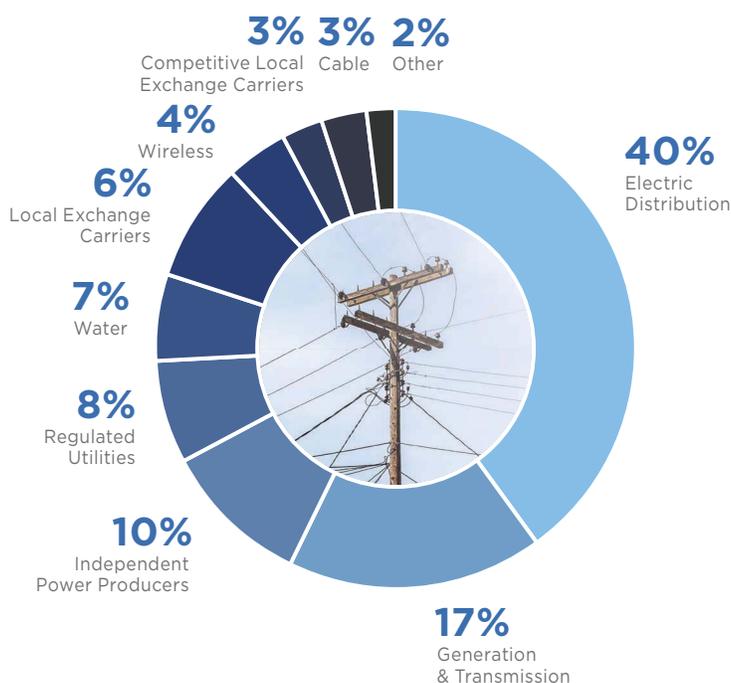
CoBank's Rural Infrastructure

operating segment includes lending to rural infrastructure borrowers across the United States. It serves rural utilities and other customers across a wide variety of industries, including electric generation, transmission and distribution cooperatives; water and wastewater companies; broadband, wireline, cable and wireless communications service providers; and rural health care and other community facilities.

FOR THE YEAR (\$ in millions)	2018	2017	2016
Period-end Loans	\$21,367	\$21,014	\$20,604
Average Loans	20,919	20,732	20,092
Net Income	349	241*	308

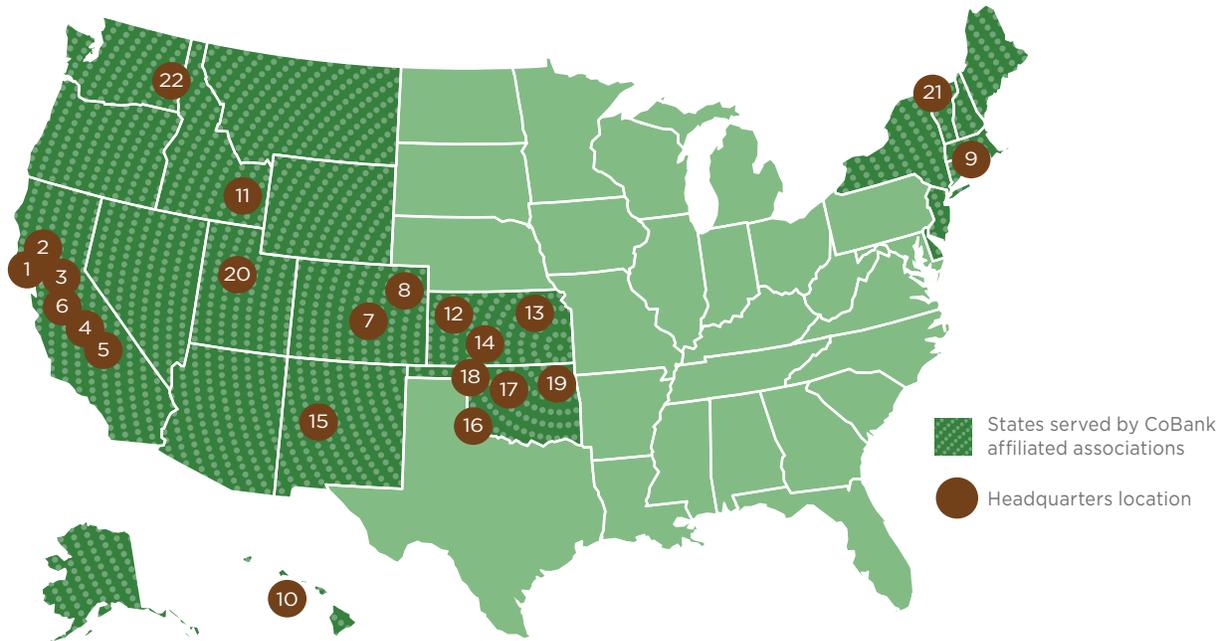
* 2017 net income included \$56 million of expense resulting from the enactment of federal tax legislation in late 2017.

\$21.4
BILLION
Loan Volume at Year-End



FARM CREDIT BANKING GROUP

AFFILIATED FARM CREDIT ASSOCIATIONS



CALIFORNIA

- 1 American AgCredit
SANTA ROSA
- 2 Farm Credit Services of Colusa-Glenn
COLUSA
- 3 Farm Credit West
ROCKLIN
- 4 Fresno Madera Farm Credit
FRESNO
- 5 Golden State Farm Credit
KINGSBURG
- 6 Yosemite Farm Credit
TURLOCK

COLORADO

- 7 Farm Credit of Southern Colorado
COLORADO SPRINGS
- 8 Premier Farm Credit
STERLING

CONNECTICUT

- 9 Farm Credit East
ENFIELD

HAWAII

- 10 Farm Credit Services of Hawaii
AIEA

IDAHO

- 11 Idaho AgCredit
BLACKFOOT

KANSAS

- 12 Farm Credit of Western Kansas
COLBY
- 13 Frontier Farm Credit
MANHATTAN
- 14 High Plains Farm Credit
LARNED

NEW MEXICO

- 15 Farm Credit of New Mexico
ALBUQUERQUE

OKLAHOMA

- 16 AgPreference
ALTUS
- 17 Farm Credit of Enid
ENID
- 18 Farm Credit of Western Oklahoma
WOODWARD
- 19 Oklahoma AgCredit
BROKEN ARROW

UTAH

- 20 Western AgCredit
SOUTH JORDAN

VERMONT

- 21 Yankee Farm Credit
WILLISTON

WASHINGTON

- 22 Northwest Farm Credit Services
SPOKANE

FARM CREDIT PORTFOLIO

49%

OF TOTAL LOAN PORTFOLIO



In addition to providing loans to cooperatives and other customers in all 50 states, CoBank serves as a funding bank for 22 affiliated Farm Credit associations across the country. Those associations provide loans and financial services to more than 70,000 farmers, ranchers and other rural borrowers in 23 states. They serve a diverse array of industries, from fruits, nuts and vegetables to grains and other row crops to dairy, beef, poultry and forest products.

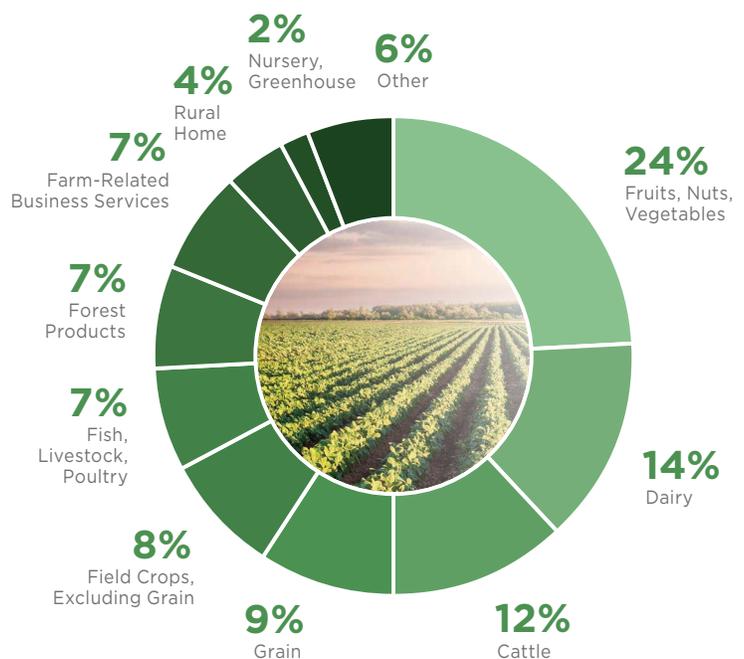
CoBank provides these association customers with wholesale financing as well as other value-added products and services. In turn, the associations provide the bank with added lending capacity by serving as participation partners on large credit transactions. At the same time, CoBank derives additional value from our association partners by being able to purchase participations in their loans.

\$50.7
BILLION
Loan Volume at Year-End

FOR THE YEAR

(\$ in millions)

	2018	2017	2016
Period-end Loans	\$50,695	\$47,948	\$45,994
Average Loans	48,121	46,074	43,924
Net Income	264	262	245



REGIONAL AGRIBUSINESS

FARMERS COOPERATIVE

DORCHESTER, NEBRASKA

Farmers Cooperative has a long history serving grain producers in eastern Nebraska: the co-op was formed in 1903 and began operations with a 15,000-bushel elevator in the rural community of Dorchester.

Today, the cooperative is still going strong—and very much focused on the future. A series of mergers and acquisitions with other area cooperatives has expanded Farmers Cooperative to more than 60 locations serving 6,000 farmer-members in both Nebraska and neighboring Kansas.

CEO Ron Velder and his board of directors also continue to invest heavily in the company's infrastructure, including facilities, products and services and technologies. The cooperative has even built a high-tech communications system that uses microwave and fiber-optic cable to be able to monitor the various facilities it has invested in.

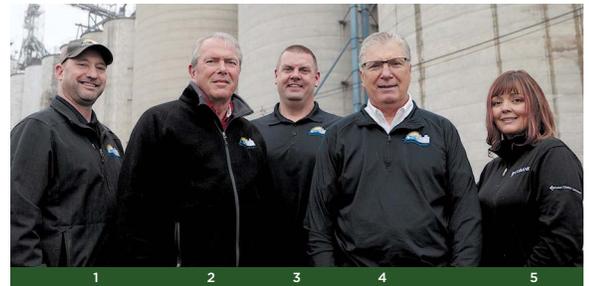
"As we've grown, we've really focused on one key question," Velder says. "What makes sense for our members? Over time, we've built a lot of new infrastructure to better serve our members through the years. We've stayed true to our cooperative principles as we've grown, and invested—not just in the infrastructure—but in the communities. And that has made a huge difference."

Farmers Cooperative has a revolving line of credit with CoBank, which allows them access to funds through the busy harvest season, which they typically pay off prior to the next harvest. They also utilize term financing and added CoBank's cash management services in 2018.

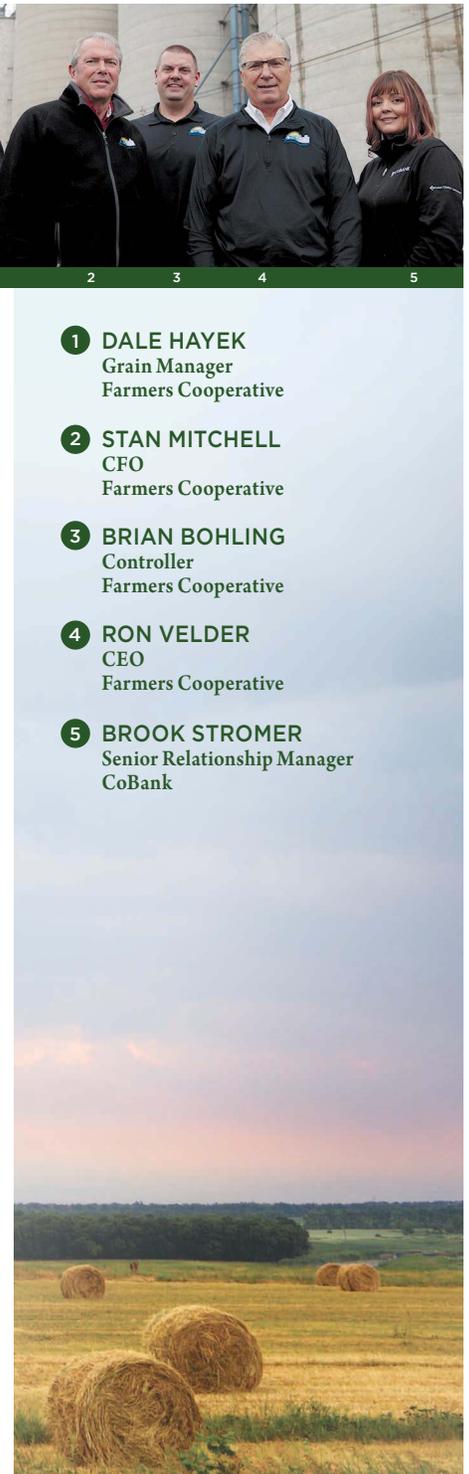
According to Velder, these products have provided the cooperative with the flexibility it needs to serve members and continue investing in the business.

"Just as we're focused on our owners' success, it's clear that CoBank is as well," says Velder. "There's no other bank that would have increased our credit line six times in five weeks during the grain run-up in 2007–2008. CoBank is one of our longest standing relationships, and they've helped us grow as we continue to move more grain year after year. We couldn't ask for a better partner."

"It is clear that Farmers Cooperative is focused on delivering value to their customer-owners," said Mike Hechtner, central region president in CoBank's Regional Agribusiness Banking Group. "The future of agriculture in Nebraska and Northern Kansas is brighter today because of the investments they have made and it is a privilege for us to be part of their success."



- 1 DALE HAYEK**
Grain Manager
Farmers Cooperative
- 2 STAN MITCHELL**
CFO
Farmers Cooperative
- 3 BRIAN BOHLING**
Controller
Farmers Cooperative
- 4 RON VELDER**
CEO
Farmers Cooperative
- 5 BROOK STROMER**
Senior Relationship Manager
CoBank



SUNRISE COOPERATIVE

FREMONT, OHIO

Sunrise
COOPERATIVE
Success grows here.

Sunrise Cooperative didn't get ahead by standing still. Through the consolidation of nearly 20 different cooperatives over the past two decades, Sunrise has grown into the largest farmer-owned grain and farm supply cooperative in Ohio, covering 41 counties that span the western half of the state.

President and CEO George Secor applies a proven blueprint for success in every merger, relentlessly searching for operating efficiency while simultaneously focusing on providing outstanding service to farmer-members.

"Our goal is to build the assets and profits for the customer-owners of Sunrise Cooperative. Period," says Secor. "When we make an acquisition, sometimes we have to make cuts, but, in time, Sunrise has always come back stronger so we can then focus on growing the business for our members."

The most recent merger for Sunrise came in 2016, when it combined with Trupointe Cooperative and essentially doubled its size. Since then Sunrise has invested tens of millions of dollars in additional grain bins, expanding and improving their energy division, and modernizing agronomy centers while shutting down outdated facilities.

It wasn't always this way. When Secor came to the co-op in 1996, times were so difficult the business was on the verge of insolvency. Secor credits CoBank, the co-op's longtime lender, for helping it get back on solid footing. "In 90 days we weren't going to make payroll," Secor recalls. "We sat down with CoBank and said, 'Look, we realize we're maxed out, but here's what we'll do if you'll ride with us.' Thank goodness for CoBank—they stuck with us while we turned the operation around."

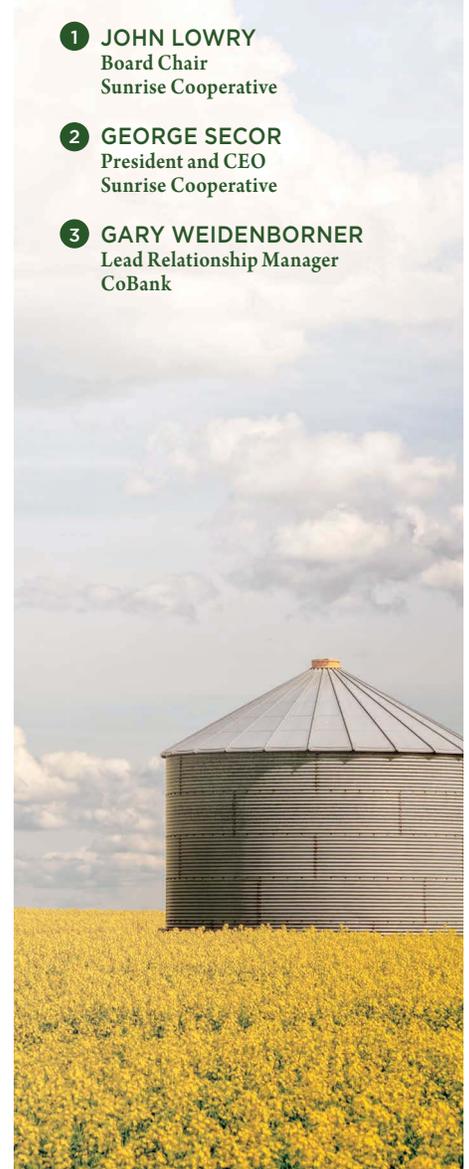
Today, Sunrise Cooperative relies on a CoBank revolving credit facility to fund its continued growth. One recent business initiative involved expanding their farm-input financing program, which was supported with an increase to their line of credit.

Brett Challenger, head of CoBank's Regional Agribusiness Banking Group, says: "I can tell you that of the many co-ops we work with, Sunrise is one of the most progressive. With their member focus and their philosophy of efficiency, they are thriving with the industry changes in Ohio."

The challenge now is meeting the evolving needs of its customer-owners. Says Secor: "Agriculture is changing a lot and the gap between the customer who continues to farm in the same way as 10 years ago and the progressive-type customer who is farming in new ways is getting wider. Satisfying these broader needs takes a different expertise and capability in facilities, and that's creating opportunities for us."



- 1 JOHN LOWRY**
Board Chair
Sunrise Cooperative
- 2 GEORGE SECOR**
President and CEO
Sunrise Cooperative
- 3 GARY WEIDENBORNER**
Lead Relationship Manager
CoBank



CORPORATE FINANCE

SC PET FOOD SOLUTIONS, LLC BATESBURG, SOUTH CAROLINA

For many people, dogs and cats are like family, and there is a growing market for pet food that is as natural and nutritious as the food people eat. A new joint venture in South Carolina, financed by Farm Credit, is seeking to capitalize on the trend.

Poultry producer Amick Farms and pet food ingredient company 3D Corporate Solutions have teamed to build a state-of-the-art, flagship plant that will produce high-quality ingredients for premium and super-premium pet food. Now under construction in rural Saluda County, west of Columbia, the plant is slated for completion in 2019 and each year will produce more than 100 million pounds of ingredients that will be sold and used in brand-name pet food.

“Across all generations, people want to feed their pets something that they would feel good eating themselves,” says Brad Riley, chief strategy officer for 3D Corporate Solutions. “That includes millennials who are having kids later in life than previous generations, and baby boomers who are now empty nesters. They see their pets as one of the family. This plant will produce ingredients that all people can feel good about feeding to their animals.”

Ben Harrison, president and CEO of Amick Farms, says building a new, dedicated facility from the ground up—rather than repurposing an existing plant—will help ensure the high quality that customers are looking for. “The state-of-the-art technology used throughout the entire plant is very innovative,” Harrison says. “From start to finish, this facility will produce a cleaner, safer product.”

Financing for the project is being provided by CoBank and two of its partners in the Farm Credit System, AgFirst and AgSouth Farm Credit. The three institutions combined to deliver a construction term loan and a working capital loan for the joint venture, dubbed SC Pet Food Solutions. Says Harrison, “We looked at several financing solutions and the Farm Credit group came to the table with the best opportunity from the beginning. All three of them have been lending to agribusiness since their inception. They understand the ups and downs of the business, and they’re supportive of it.”

Amick Vice President and CFO Marcus Miller agrees, adding, “Farm Credit takes a long view—and for all these reasons they’ve been very good partners.”



- 1 BRAD RILEY**
Chief Strategy Officer
3D Corporate Solutions
- 2 SCOTT CLAWSON**
Vice President
3D Corporate Solutions
- 3 MATT JEFFORDS**
Vice President
AgFirst Farm Credit Bank
- 4 DEEDEE JORDAN**
Corporate Loan Processor
AgSouth Farm Credit
- 5 FRED WEST**
Vice President
Amick Farms
- 6 AL SCHULER**
Vice President
Corporate Finance Banking Group
CoBank
- 7 BEN HARRISON**
President and CEO
Amick Farms
- 8 MARCUS MILLER**
Vice President and CFO
Amick Farms





SOUTHWEST CHEESE

CLOVIS, NEW MEXICO



In 2005, two leading U.S. dairy cooperatives—Dairy Farmers of America and Select Milk Producers—teamed with global nutrition giant Glanbia to form Southwest Cheese, a partnership focused on the production of high quality cheese and whey products. The joint venture built a manufacturing plant in Clovis, New Mexico, that now processes more than 14 million pounds of milk per day on behalf of the co-ops' member dairy farms.

Now the same partners are coming together again in a similar venture located in rural Michigan, just north of Lansing. Using the same model as Southwest Cheese, a new plant will open in the community of St. Johns in late 2020, with a planned capacity of 8 million pounds of milk per day and room on the site for future expansion. The facility will provide a new outlet for local dairy producers' milk, and create jobs for people in the surrounding area.

“Our people are the key to our success,” says George Chappell, vice president of dairy operations for Glanbia Nutritionals. “We’ve developed a world-class culture where people come with an enthusiasm and drive to make it better. This business model allows the JV partners to do what they do best. Our member co-ops procure and deliver the milk, while Glanbia operates the plant and sells the products.”

Speaking to the benefits the new plant in Michigan will bring to the local area, Chappell says, “There is more milk than processing capacity in the area and a market demand for high quality cheese and value-add whey ingredients. That balance of supply and demand makes this venture compelling. It’s a win-win.”

CoBank’s credit facility structure combined normal operating and term loans along with financing to accommodate the construction of the Michigan cheese manufacturing and processing facility.

Jim Matzat, vice president in CoBank's Corporate Finance Banking Group, says, “Southwest Cheese has developed a very successful and growing business model over the past 15 years. CoBank has had the opportunity to support its growth over that period. The expansion of their model to Michigan was a natural extension of the existing relationship.”



1 GEORGE CHAPPELL
Vice President
Dairy Operations
Glanbia Nutritionals

2 JIM MATZAT
Vice President
Corporate Finance Banking Group
CoBank



FARM CREDIT BANKING GROUP

COLUSA COUNTY FARM SUPPLY WILLIAMS, CALIFORNIA



For well over a decade in California's Sacramento Valley, growers have been steadily increasing their plantings of almonds and walnuts in response to rising global demand. Since these permanent crops require more, and different variations of, fertilizer compared to annual crops like rice—the region's other major commodity—this shift presented both an opportunity and a challenge for fertilizer supplier Colusa County Farm Supply (CCFS).

CCFS has certainly capitalized on the opportunity: By offering competitive pricing and outstanding customer service, it has quadrupled its revenue over the past 15 years. The challenge was how to increase capacity in order to meet the needs of growers in three very large counties from its single facility in the rural community of Williams.

In 2016, CCFS made the decision to expand and build a new storage facility with enough capacity to store 15,000 tons of fertilizer. Located in Glenn County, which is just north of Colusa, the facility also has rail access that enables fertilizer to be delivered directly by freight trains rather than trucks, which are more expensive.

"The location we found was perfect," says Terry Talbot, Jr., president of CCFS. "We can bring in product at a much lower cost and pass along those savings to the customers we serve."

Financing for the project was provided by CoBank and Farm Credit Services of Colusa-Glenn, one of CoBank's affiliated associations. It included building and equipment leasing and traditional loan financing. By working in concert with each other, CoBank and FCS Colusa-Glenn were able to fulfill a need not only for CCFS, but also the Northern California agricultural industry.

Luke Reimers, chief credit officer with FCS Colusa-Glenn, says that supporting the project was an easy decision. "This new relationship with Colusa County Farm Supply benefits everyone involved," says Reimers. "The facility positions CCFS to deliver competitive service to area farmers that will also strengthen the local economy."

"Working closely with our affiliated associations to provide capital as well as value-added products and services is integral to what CoBank offers," says Bill Davis, executive vice president of Farm Credit Banking at CoBank. "Customers like CCFS enjoy a seamless lender experience and benefit from local knowledge as well as access to exceptional financial tools."

Talbot says Farm Credit's long experience with, and understanding of, agricultural borrowers is an important source of value for CCFS. "Farm Credit understands where this business is heading and what our vision is," he says. "That's the biggest difference between them and other lenders."



- 1 ANNE ALLAYE-CHAN**
Relationship Manager
CoBank Farm Credit Leasing
- 2 LUKE REIMERS**
Chief Credit Officer
Farm Credit Services of Colusa-Glenn
- 3 SPENCER DAVIS**
Chief Financial Officer
Colusa County Farm Supply
- 4 DAVID EHRKE**
Facility Operator
Colusa County Farm Supply
- 5 TERRY TALBOT JR.**
President
Colusa County Farm Supply
- 6 BRETT LAUPPE**
Regional Vice President
CoBank
- 7 JACLYN MARTYNSKI**
Risk Specialist
Farm Credit Services of Colusa-Glenn
- 8 STACY PEARSON**
Branch Manager
Farm Credit Services of Colusa-Glenn



HOLLANDIA FARMS

HANFORD, CALIFORNIA



Hollandia Farms is located in the heart of California’s San Joaquin Valley—but its name evokes the European roots of the de Jong family. In the 1940s, seven brothers and three sisters emigrated from the Netherlands to California, seeking opportunity in the state’s growing dairy industry. The de Jongs have remained active and successful in the dairy business ever since. Today, Hollandia Farms is one of the leading dairy operations in the state, with more than 20,000 cows at five different locations.



“We are a fortunate family,” says Pete de Jong, son of one of the original brothers and one of the owners of Hollandia Farms. “We all get along and we support each other through the cycles of the dairy industry. We have been able to find opportunities together and help each other with some of the challenges of owning dairies in California.”

Hollandia Farms isn’t a single corporation—it comprises more than 10 distinct corporate entities spread over more than 21,000 acres in Hanford. The entities that are not dairies are supplementary businesses, including 10,000 acres where the family grows feed for their herd. The majority of their milk is sold wholesale to California’s largest milk processor, California Dairies, Inc., and also to Land O’ Lakes.

For many years, Hollandia Farms has used financing from American AgCredit, one of CoBank’s affiliated associations. The relationship expanded in 2018 with the addition of operating lines of credit as well as CoBank-provided cash management services. This collaboration allowed CoBank and American AgCredit to provide a broad suite of financial products to Hollandia Farms and continue to evolve the ability of Farm Credit organizations to implement beneficial financial solutions.

“I’ve known the de Jongs for a very long time; they know dairy and they know business,” says Gregg Warren, relationship manager at American AgCredit. “We’ve always been on their lender team, and we’re very pleased to have expanded our relationship.”

“CoBank is focused on delivering the financial services and products our customers need,” says Bill Davis, executive vice president of CoBank’s Farm Credit Banking Group. “We’re pleased that CoBank could partner with American AgCredit to provide the best financial solutions to help Hollandia Farms continue to thrive.”

- 1 JOHN TON**
Owner and Controller
Hollandia Farms
- 2 EJ DE JONG**
Owner
Hollandia Farms
- 3 GREGG WARREN**
Corporate Banking
and Capital Markets
American AgCredit
- 4 PETE DE JONG**
Owner
Hollandia Farms
- 5 JEAN JACKSON**
Cash Management Consultant
CoBank
- 6 THEO DE HAAN**
Owner
Hollandia Farms
- 7 SARA REID**
Lead Relationship Manager
CoBank
- 8 JIMMIE GOEBEL**
Owner
Hollandia Farms



ELECTRIC DISTRIBUTION

OZARKS ELECTRIC COOPERATIVE FAYETTEVILLE, ARKANSAS



Ozarks Electric Cooperative was founded in 1938 to deliver electricity to rural counties in Arkansas and Oklahoma. Eight decades later, the co-op is striving to provide another vital service to its community: broadband internet.

“Everyone knows there’s a flight from rural areas to urban areas, and one of the reasons is because of broadband access,” says Ozarks President and CEO Mitchell Johnson. “With what we’re doing, our children and grandchildren will be able to live where they choose and have the same amenities that urban areas have. This will have a positive impact on the sustainability of the cooperative and the communities that we serve.”

It’s a growing trend for rural electric cooperatives (RECs) to expand into broadband services. RECs have many of the ingredients in place to add the service, including right-of-way and strong, trusted relationships with subscribers in their communities. Nonetheless, it’s always an ambitious undertaking, requiring significant capital investment and the addition of new systems and capabilities.

Under the guidance of Johnson and his board of directors, Ozarks began deploying fiber-optic connections to homes and businesses in its service territory in 2016. Ultimately, the six-phase project will deliver high-speed broadband to all of its approximately 77,000 members. CoBank has provided term loan facilities to finance construction for the first three phases of this project.

Randy Klindt, general manager of OzarksGo, the fiber subsidiary of Ozarks Electric, says he regularly hears from members who are receiving broadband. “Once you connect a member who doesn’t have service, and then experience the appreciation you get from them, you feel like you’re really doing something good for the community,” Klindt says. “So many people are either praising our service or can’t wait to get connected.”

Klindt says Ozarks “could not do these types of capital-intensive investments without a strong partner like CoBank. They’ve been with us from day one and it’s enabled us to make critical improvements to the co-op and for the communities and members we serve.”

William LaDuca, senior vice president of electric distribution banking for CoBank, says it’s been a very successful partnership. “Broadband is crucial to the success of rural economic development and has the capability to help rural communities across America thrive and grow.”



- 1 MITCHELL JOHNSON**
President and CEO
Ozarks Electric Cooperative
- 2 MIKE COWLEY**
Vice President
Electric Distribution
CoBank
- 3 TODD TOWNSEND**
Vice President
Corporate Services and CFO
Ozarks Electric Cooperative
- 4 RANDY KLINDT**
General Manager
OzarksGo



WATER & COMMUNITY FACILITIES

DEL-CO WATER

DELAWARE, OHIO



Rural water systems across the country are facing many challenges, including aging infrastructure and a diminishing customer base as residents move to urban areas. Bucking the trend, Del-Co Water is facing the opposite situation: Its service area is enjoying rapid population growth and vibrant economic development, and consequently the need to increase its ability to supply water to its customers.

Currently operating in seven counties and more than 60 townships in central Ohio, Del-Co Water has been delivering water for more than 40 years. When it started, the company served fewer than 1,000 taps; today, it's adding more than that number each year due to customer expansion alone, excluding territory expansion gained through business acquisitions. Now serving 48,000 taps, Del-Co Water has been able to successfully anticipate the needs of its service territory and facilitate local business formation and job growth.

Glenn Marzluf, CEO and general manager at Del-Co Water, believes that its service model is helping to entice more people and businesses to the area.

“Our core passion is to take water where it’s needed,” says Marzluf. “Our willingness to serve any customer and to expand in anticipation of future growth has spurred economic development in our region significantly, and with businesses come people.”

Expansion doesn’t come without challenges. Given its current footprint, Del-Co Water interfaces with more than 80 different government bodies, each with its own zoning rules and regulations. Given Del-Co Water's growth plans, partnerships with these townships are becoming ever more important.

“To enhance these critical relationships, we’ve started delivering regular updates to the county and township managers,” says Marzluf. “We want them to know where we are in our growth process and about our future plans so that we can work in conjunction with policy makers to help improve the long-term prospects of the region.”

In 2018, Del-Co Water began building a \$17 million water treatment facility with long-term funding from the U.S. Department of Agriculture's Rural Utilities Service supplemented with interim financing from CoBank. The facility is part of a 50-year plan to improve water source reliability, expand the business through acquisitions, train and retain its talent, and develop infrastructure, all while encouraging continued community development.

“Del-Co Water has done tremendous work for its community,” says Chris Shaffner, sector vice president of CoBank’s Water and Community Facilities Banking Division. “It’s been rewarding to support their expansion and ongoing efforts to provide reliable water service to a growing population.”



- 1 KRIS DYE**
Business Operations Manager
Del-Co Water
- 2 TIMOTHY MCNAMARA**
Board Member and Past President
Del-Co Water
- 3 JULIA MCCUSKER**
Vice President
Water and Community Facilities
CoBank
- 4 MIKE STUDER**
Controller
Del-Co Water
- 5 GLENN MARZLUF**
CEO and General Manager
Del-Co Water
- 6 SHANE CLARK**
COO and Deputy General Manager
Del-Co Water
- 7 DAVE BENDER**
Board President
Del-Co Water



POWER, ENERGY & UTILITIES

NUSHAGAK ELECTRIC AND TELEPHONE COOPERATIVE

DILLINGHAM, ALASKA



Every year, for a period of just 45 days, the community around Dillingham in Alaska's Bristol Bay region expands from 3,000 to 15,000 residents as the annual fishing season gets underway. In 2018, Bristol Bay set the state record for sockeye salmon caught, with more than 24.1 million fish.

The huge seasonal spike in population presents unique challenges for Nushagak Electric and Telephone Cooperative, the local power and communications service provider. The member-owned co-op needs to maintain enough capacity for seasonal residents, while keeping service affordable for the people who live in the area year-round.

"Our number one priority is providing low-cost power year-round," says Bob Himschoot, CEO and general manager of Nushagak Electric and Telephone Cooperative. "We have some seasonal challenges with spikes in population, but those challenges also present many opportunities, and we want to be a driver of economic development."

To that end, Nushagak Electric and Telephone Cooperative is looking for long-term development opportunities in the region. The plan rests on developing lower cost power plants, but is also focused on initiatives such as faster internet speeds.

"The number of fish processors in Dillingham and residents who stay here are directly linked to the cost of power and the quality of life enhancements that high-speed internet brings," says Himschoot. "Now that we have many of our current fish processors depending on our power and internet, we want to bring more processors here, which will help this community thrive."

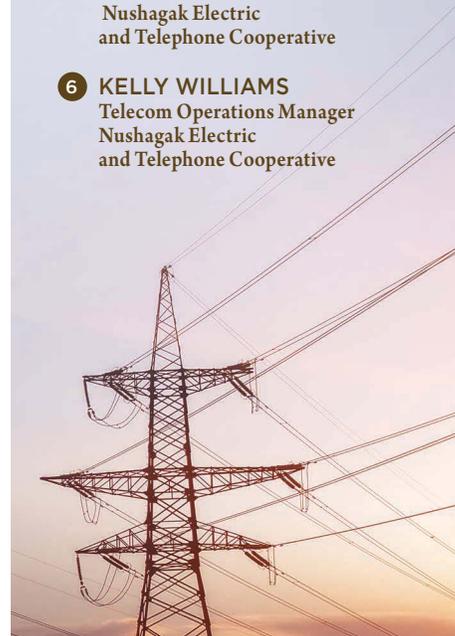
In 2018, with \$15 million in funding from CoBank, two massive 2.25-megawatt diesel generators were delivered to Dillingham. The generators are expected to increase Nushagak Electric and Telephone Cooperative's power production by more than 30 percent, just in time for the 2019 fishing season.

"We are focused on improving the business prospects and quality of life for this community, true to our cooperative principles," says Pete Andrew, Nushagak Electric and Telephone Cooperative's board president. "CoBank has played an essential role in helping us do that, and I'm sure they'll continue to be there for future projects."

"The Nushagak board and management team have vision, and they understand where they are and where they need to go to support their community," says Todd Telesz, senior vice president of Power, Energy and Utilities Banking at CoBank. "It's been inspiring to watch them help build their community and we look forward to continuing to support them in their future endeavors."



- 1 BOB ARMSTRONG**
Electric Operations Manager
Nushagak Electric
and Telephone Cooperative
- 2 JAKE GOOD**
Senior Relationship Manager
CoBank
- 3 PETER ANDREW**
Board President
Nushagak Electric
and Telephone Cooperative
- 4 BOB HIMSCHOOT**
CEO and General Manager
Nushagak Electric
and Telephone Cooperative
- 5 HENRY STRUB**
Board Vice President
Nushagak Electric
and Telephone Cooperative
- 6 KELLY WILLIAMS**
Telecom Operations Manager
Nushagak Electric
and Telephone Cooperative



COMMUNICATIONS

MEDIACOM COMMUNICATIONS

MEDIACOM PARK, NEW YORK

Rocco Commisso, Mediacom's chairman and CEO, is a classic American success story. The Italian-born entrepreneur immigrated to the United States at 12; attended Columbia University on a full scholarship; and went on to a successful career in the banking and cable television industries. In 1995, Commisso founded Mediacom, a communications company focused on delivering high-quality video, internet and phone service to small-town America. Since then, the company has grown into the nation's fifth-largest cable provider, with operations in 22 states and annual revenues of more than \$1.9 billion.

"We started Mediacom with the belief that small markets should get the same treatment as the bigger metropolitan areas," Commisso says. "That's exactly what we've accomplished here over the last 23 years."

It's hard to overstate the positive impact that Mediacom has on the communities it serves. Last year, *U.S. News & World Report* put Iowa at the top of its annual "Best States" list—in large part because of the one-gigabit broadband service that Mediacom had deployed across much of the state.

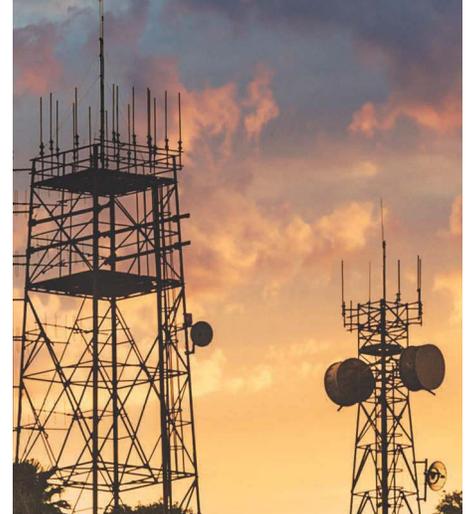
"When we executed on the 1-Gig service in Iowa, it was unheard of to launch these types of broadband speeds across an entire state," Commisso says. "We were the first major ISP in the nation to launch gigabit services across its national footprint, meaning the fastest technology in the market today was introduced first in rural America."

Commisso's success has been built upon three cornerstones: buy right, finance right and operate right. The financing piece of his strategy includes CoBank, which has been providing credit to Mediacom since 2013 and is now the company's largest lender. CoBank's balance sheet capacity, enhanced by its ability to syndicate loans to other partners in the Farm Credit System, has been one of the keys to the success of the relationship.

Ted Koerner, the head of CoBank's Communications Banking Division, says providing debt capital to communications service providers that serve rural America's communities is a central component of the bank's mission. "The broadband and other communications services that Mediacom provides are essential to the economic success of the communities it serves," Koerner says. "We are very proud of our partnership with Mediacom and look forward to helping them achieve their business goals in the future."



- 1 RUBEN MARTINO**
Senior Manager
Corporate Finance
Mediacom
- 2 JACK GRIFFIN**
Group Vice President
Corporate Finance
Mediacom
- 3 MARK STEPHAN**
Executive Vice President and CFO
Mediacom
- 4 ROCCO COMMISSO**
Founder, Chairman and CEO
Mediacom
- 5 GARY FRANKE**
Managing Director
CoBank
- 6 JOSEPH COMMISSO**
Group Vice President
Corporate Finance
Mediacom



PROJECT FINANCE

CLEARWAY ENERGY

SAN FRANCISCO, CALIFORNIA

Clearway Energy Group, a Global Infrastructure Partners' (GIP) company, is one of the nation's leading renewable energy companies, with power generation facilities in 28 states around the country. But CEO Craig Cornelius says the single most important asset at the San Francisco-based enterprise is its workforce of committed employees, who arrive at work each day with a shared vision of a world that's free of carbon-based energy production.

Clearway was formed in August 2018 following GIP's acquisition of NRG Energy's renewable energy platform. The company focuses on developing, owning and operating wind and solar generation facilities and delivering clean power to customers under long-term power purchase agreements. In total, Clearway's portfolio of renewable projects has the capacity to power about 2.7 million homes.

"Building a new corporate brand has been an important focus for Clearway in its first year as a stand-alone enterprise. Creating a new identity, with values that match our employees' sense of vision, was extremely important to us," Cornelius says. "The process of becoming our own entity drove a lot of engagement from the people who work here, and how the company was rebranded is a direct reflection of our employees and their drive to power a world with clean energy. Their commitment makes the difference at Clearway."

Cornelius and his executive team are also focused on future growth. The company has a development pipeline of renewable projects all over the country that, upon completion, could add almost 9,000 megawatts of capacity to Clearway's portfolio.

CoBank is playing a key part in that growth strategy. The bank's Project Finance division has partnered with Clearway to deliver nearly \$220 million in financing for three solar projects—two in Hawaii and one in California. All are slated to come online in 2019.

"More important to us than anything is helping to develop a world that's powered by renewable energy," says Cornelius. "To that end, we're committed to delivering on the promise of lower cost energy that is sustainable for the world, and CoBank's partnership is helping us achieve that goal."

Brian Goldstein, sector vice president of CoBank's Project Finance group, says financing renewable energy with companies like Clearway is an important part of the overall mission of CoBank—especially since most renewable generation facilities are in rural areas.

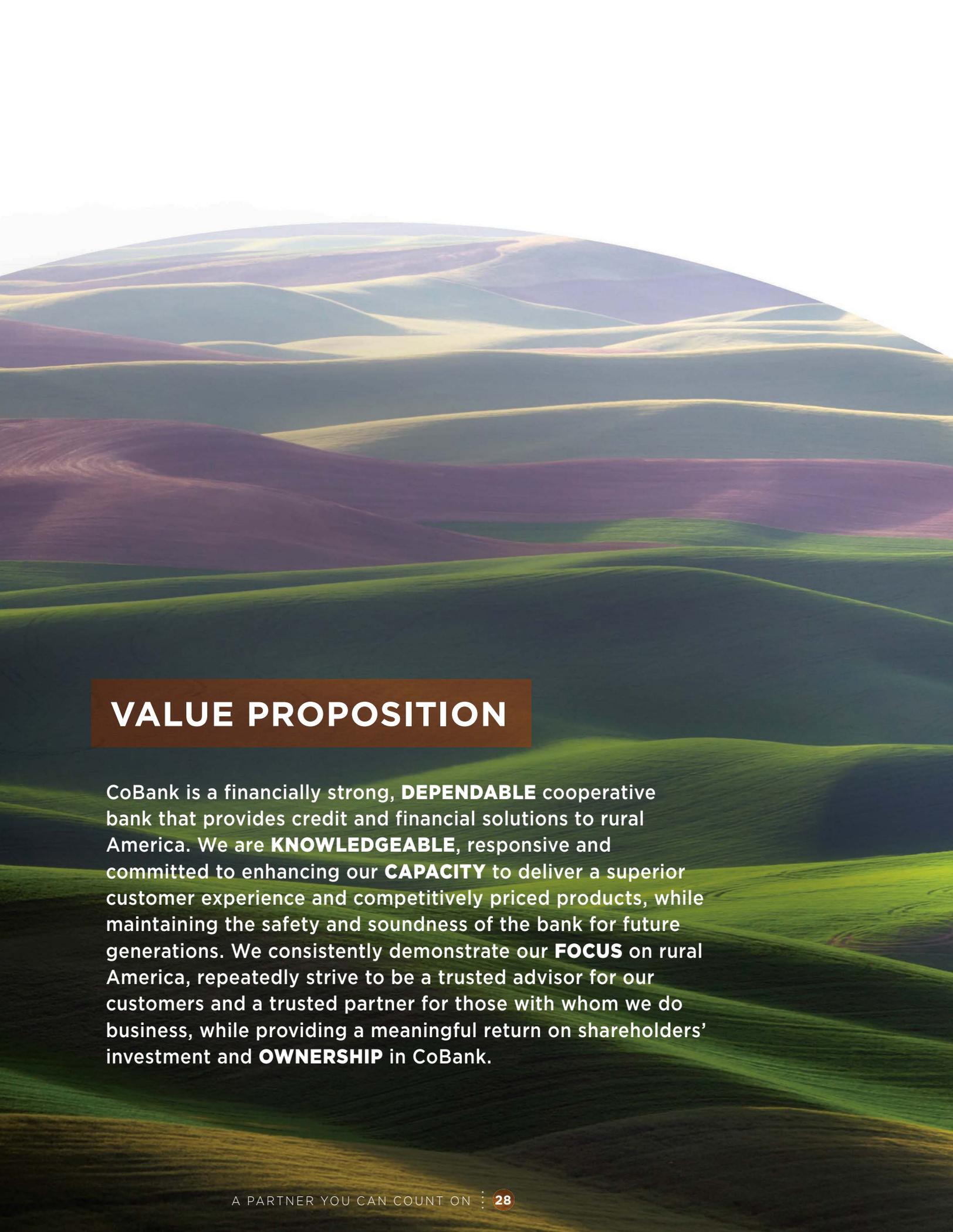
"We're very excited to see what Clearway will accomplish in the coming years," Goldstein says. "Their investments are benefitting the rural economy, and as they build more renewable projects, our world as a whole will be a better place."



- 1 CHRIS SCHNEIDER**
Senior Managing Director
Project Finance
CoBank
- 2 BRIAN GOLDSTEIN**
Sector Vice President
Project Finance
CoBank
- 3 BRIAN MAGNER**
Vice President
Project Finance
Clearway Energy Group
- 4 STEVEN RYDER**
CFO
Clearway Energy Group
- 5 CRAIG CORNELIUS**
CEO
Clearway Energy Group







VALUE PROPOSITION

CoBank is a financially strong, **DEPENDABLE** cooperative bank that provides credit and financial solutions to rural America. We are **KNOWLEDGEABLE**, responsive and committed to enhancing our **CAPACITY** to deliver a superior customer experience and competitively priced products, while maintaining the safety and soundness of the bank for future generations. We consistently demonstrate our **FOCUS** on rural America, repeatedly strive to be a trusted advisor for our customers and a trusted partner for those with whom we do business, while providing a meaningful return on shareholders' investment and **OWNERSHIP** in CoBank.

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Management's Discussion and Analysis

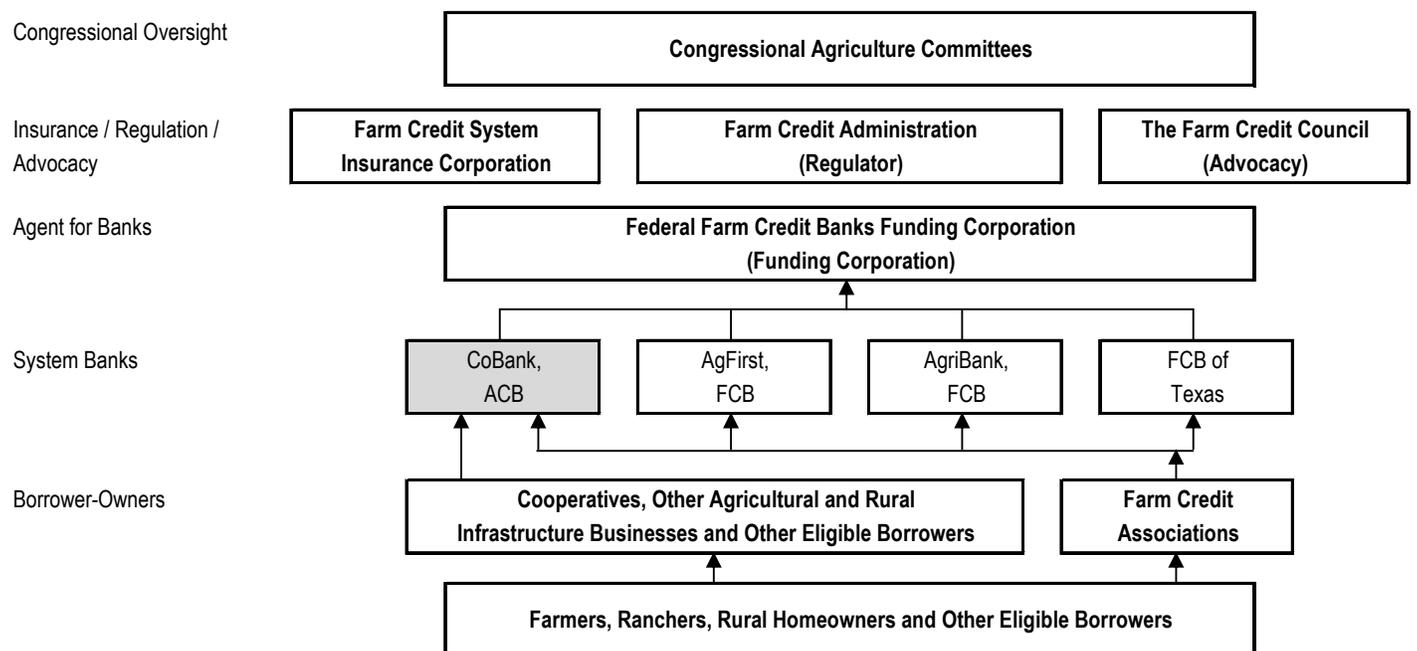
CoBank, ACB

Company Introduction

CoBank, ACB (CoBank or the Bank) is one of the four banks of the Farm Credit System (System) and provides loans, leases and other financial services to vital industries across the rural communities of America. The System is a federally chartered network of borrower-owned cooperative lending institutions and related service organizations. Cooperatives are organizations that are owned and governed by the members who use the cooperative's products or services.

The System was established in 1916 by the U.S. Congress, and is a Government Sponsored Enterprise (GSE). As a member of a GSE, we endeavor to fulfill our mission to a highly diverse customer base irrespective of market conditions. We also fulfill our broader mission as a member of a GSE by supporting rural communities and agriculture in their vital role of providing food security, energy security, economic growth, and a high quality of life to all Americans.

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



CoBank is federally chartered under the Farm Credit Act of 1971, as amended (the Farm Credit Act), and is subject to supervision, examination, and safety and soundness regulation by an independent federal agency, the Farm Credit Administration (FCA). We are a mission-based lender with authority to make loans and provide related financial services to eligible borrowers in the agribusiness and rural infrastructure industries, and to certain related entities, as defined by the Farm Credit Act. We are not authorized to accept deposits to fund our operations. Instead, we raise funds primarily by issuing debt securities through the System's agent, the Federal Farm Credit Banks Funding Corporation (Funding Corporation). Such securities are the joint and several obligations of the four System banks.

We are cooperatively owned by our eligible U.S. customers. Our customers consist of agricultural cooperatives; other food and agribusiness companies; rural power, communications and water cooperatives and companies; rural community facilities; Agricultural Credit Associations (Associations), which are regulated, farmer-owned financial institutions and members of the System; and other businesses that serve agriculture and rural communities. We are the primary funding source for certain Associations serving specified geographic regions in the United States. We collectively refer to these entities as our affiliated Associations. We provide a broad range of loans and other financial services through three operating segments: Agribusiness, Farm Credit Banking (previously named the Strategic Relationships operating segment) and Rural Infrastructure.

The accompanying consolidated financial statements exclude financial information of our affiliated Associations. CoBank and our affiliated Associations are collectively referred to as the “District.” Additional information about our affiliated Associations is contained in Note 18 to the accompanying consolidated financial statements.

System annual and quarterly information statements and press releases for the current fiscal year and the two preceding fiscal years, as well as offering circulars relating to Federal Farm Credit Banks Consolidated Systemwide bonds, medium term notes and discount notes (collectively referred to as Systemwide Debt Securities), are available for inspection at, or will be furnished without charge upon request to, the Federal Farm Credit Banks Funding Corporation, 101 Hudson Street, 35th Floor, Jersey City, New Jersey 07302; telephone (201) 200-8000. These documents are also available on the Funding Corporation’s website at www.farmcreditfunding.com. This website also provides a link to each System bank’s website where financial and other information of each bank can be found.

The Federal Agricultural Mortgage Corporation (Farmer Mac) is a federally chartered corporation that was formed to provide a secondary market for a variety of loans made to borrowers in rural America. Although Farmer Mac is examined and regulated by the FCA, it is a separate enterprise, and any reference to “the System” herein does not include Farmer Mac. For more information on Farmer Mac and its relationship with System entities, please see “Relationship with the Federal Agricultural Mortgage Corporation” beginning on page 59.

Financial Condition and Results of Operations

Overview

CoBank’s loans outstanding grew 5 percent to \$104.5 billion as of December 31, 2018, compared to \$99.3 billion at the end of 2017. Our average loan volume was \$100.6 billion during 2018, an increase of 5 percent compared to \$96.0 billion in 2017. The increases in both year-end and average loan volume resulted primarily from growth in lending to grain and farm supply cooperatives in our Agribusiness operating segment and Associations in our Farm Credit Banking operating segment.

Our net income increased 6 percent to \$1,191 million in 2018 compared to \$1,125 million in 2017. This increase primarily resulted from increases in noninterest income and net interest income as well as a decrease in operating expenses in 2018. These items were somewhat offset by higher provisions for income taxes and loan losses in 2018.

While our overall loan quality measures remain strong, we experienced deterioration in 2018. Adversely classified loans and accrued interest were 1.21 percent of total loans and accrued interest at December 31, 2018 compared to 1.00 percent at December 31, 2017. Nonaccrual loans increased to \$326.3 million at December 31, 2018 from \$246.8 million at December 31, 2017 primarily resulting from credit quality deterioration impacting a small number of customers in our Agribusiness operating segment. Nonaccrual loans were 0.31 percent of total loans at December 31, 2018 compared to 0.25 percent of total loans at December 31, 2017.

Our capital and liquidity positions remain strong as of December 31, 2018. Shareholders’ equity increased to \$9.5 billion at year-end 2018, compared to \$9.1 billion at year-end 2017. Our total capital ratio was 15.58 percent as of December 31, 2018, compared to the regulatory minimum requirement of 8.00 percent (10.50 percent inclusive of the fully phased-in capital conservation buffer). As of year-end 2018, we held a total of \$34.0 billion in investments, federal funds sold and other overnight funds, and cash primarily as a liquidity reserve, and our days liquidity was 177 days.

A five-year summary of selected consolidated financial data is shown on the following page.

Five-Year Summary of Selected CoBank Consolidated Financial Data (\$ in Thousands)

As of and for the Year Ended December 31,	2018	2017	2016	2015	2014
Consolidated Statement of Income Data					
Net Interest Income	\$ 1,431,296	\$ 1,392,825	\$ 1,361,778	\$ 1,273,335	\$ 1,231,767
Provision for Loan Losses (Loan Loss Reversal)	66,000	42,000	63,000	10,000	(15,000)
Noninterest Income	289,660	175,233	184,885	169,773	124,171
Operating Expenses	363,807	385,673	379,702	325,315	303,800
Provision for Income Taxes	100,374	15,064	158,285	171,120	162,868
Net Income	\$ 1,190,775	\$ 1,125,321	\$ 945,676	\$ 936,673	\$ 904,270
Net Income Distributed					
Patronage Distributions:					
Common Stock	\$ 127,910	\$ 118,570	\$ 114,258	\$ 98,117	\$ 88,745
Cash	475,571	491,856	473,853	415,982	378,735
Special Cash	96,187	-	-	-	-
Total Patronage Distributions	699,668	610,426	588,111	514,099	467,480
Preferred Stock Dividends	86,938	84,704	77,232	59,179	53,564
Total Net Income Distributed	\$ 786,606	\$ 695,130	\$ 665,343	\$ 573,278	\$ 521,044
Consolidated Balance Sheet Data					
Total Loans	\$ 104,493,855	\$ 99,265,505	\$ 95,258,281	\$ 89,040,580	\$ 80,382,497
Less: Allowance for Loan Losses	621,591	576,927	558,974	486,144	481,156
Net Loans	103,872,264	98,688,578	94,699,307	88,554,436	79,901,341
Investment Securities, Federal Funds Sold and Other Overnight Funds	32,591,720	27,905,378	28,515,188	24,504,448	24,319,943
Cash and Cash Equivalents	1,368,075	1,313,620	1,660,517	3,113,101	1,855,634
Other Assets	1,183,598	1,303,237	1,255,614	1,298,581	1,304,171
Total Assets	\$ 139,015,657	\$ 129,210,813	\$ 126,130,626	\$ 117,470,566	\$ 107,381,089
Debt Obligations with Maturities ≤ 1Year	\$ 58,797,868	\$ 52,568,630	\$ 50,788,645	\$ 45,904,672	\$ 46,263,479
Debt Obligations with Maturities > 1Year	68,834,315	65,837,653	64,796,055	61,968,079	52,174,200
Reserve for Unfunded Commitments	81,649	93,865	103,496	115,444	115,680
Other Liabilities	1,766,892	1,650,588	1,868,672	1,671,902	1,458,067
Total Liabilities	129,480,724	120,150,736	117,556,868	109,660,097	100,011,426
Preferred Stock	1,500,000	1,500,000	1,500,000	1,125,000	1,125,000
Common Stock	3,415,654	3,240,445	3,072,232	2,899,728	2,768,546
Unallocated Retained Earnings	4,982,383	4,551,600	4,121,409	3,845,728	3,482,379
Accumulated Other Comprehensive Loss	(363,104)	(231,968)	(119,883)	(59,987)	(6,262)
Total Shareholders' Equity	9,534,933	9,060,077	8,573,758	7,810,469	7,369,663
Total Liabilities and Shareholders' Equity	\$ 139,015,657	\$ 129,210,813	\$ 126,130,626	\$ 117,470,566	\$ 107,381,089
Key Financial Ratios					
For the Year:					
Return on Average Common Shareholders' Equity	14.60 %	14.20 %	12.40 %	13.57 %	14.27 %
Return on Average Total Shareholders' Equity	13.14	12.75	11.25	12.34	13.07
Return on Average Assets	0.90	0.89	0.78	0.86	0.89
Net Interest Margin	1.09	1.12	1.14	1.20	1.23
Net Charge-offs / Average Loans	0.03	0.04	0.00	0.01	0.00
Patronage Distributions / Total Average Common Stock Owned by Active Borrowers	22.35	20.70	21.32	19.76	18.59
At Year-end:					
Debt / Total Shareholders' Equity (: 1)	13.58	13.26	13.71	14.04	13.58
Total Shareholders' Equity / Total Assets	6.86 %	7.01 %	6.80 %	6.65 %	6.86 %
Allowance for Credit Losses ⁽¹⁾ / Total Loans	0.67	0.68	0.70	0.68	0.74
Common Equity Tier 1 Capital Ratio ⁽²⁾	12.38	11.67	n/a	n/a	n/a
Tier 1 Capital Ratio ⁽²⁾	14.57	13.97	n/a	n/a	n/a
Total Capital Ratio ⁽²⁾	15.58	15.24	n/a	n/a	n/a
Tier 1 Leverage Ratio ⁽²⁾	7.53	7.26	n/a	n/a	n/a
Unallocated Retained Earnings (URE) and URE Equivalents Leverage Ratio ⁽²⁾	3.19	2.96	n/a	n/a	n/a
Permanent Capital Ratio	14.69	14.29	15.47	14.95	15.70

⁽¹⁾ Includes the allowance for loan losses and the reserve for unfunded commitments.

⁽²⁾ On January 1, 2017, CoBank implemented new regulatory capital requirements, as required by the FCA. Therefore, this ratio is not applicable for periods ending prior to this date.

Net Interest Income

Interest income and interest expense for the major categories of interest-earning assets and interest-bearing liabilities are shown in the following table.

Average Balances and Rates									
Year Ended December 31,	2018			2017			2016		
(\$ in Millions)	Average Balance	Average Rate	Interest Income/Expense	Average Balance	Average Rate	Interest Income/Expense	Average Balance	Average Rate	Interest Income/Expense
Interest-earning Assets									
Total Loans	\$ 100,644	3.33 %	\$ 3,349	\$ 96,047	2.71 %	\$ 2,603	\$ 91,579	2.37 %	\$ 2,174
Investment Securities, Federal Funds Sold and Other Overnight Funds	30,081	2.27	682	28,851	1.86	538	27,355	1.59	436
Total Interest-earning Assets	\$ 130,725	3.08	\$ 4,031	\$ 124,898	2.51	\$ 3,141	\$ 118,934	2.19	\$ 2,610
Interest-bearing Liabilities									
Bonds and Notes	\$ 107,523	2.19 %	\$ 2,356	\$ 100,690	1.60 %	\$ 1,607	\$ 95,264	1.22 %	\$ 1,158
Discount Notes	12,448	1.81	225	13,242	0.96	127	13,019	0.53	69
Subordinated Debt	-	-	-	226	2.21	5	615	2.76	17
Other Notes Payable	1,005	1.89	19	1,120	0.80	9	1,521	0.26	4
Total Interest-bearing Liabilities	\$ 120,976	2.15	\$ 2,600	\$ 115,278	1.52	\$ 1,748	\$ 110,419	1.13	\$ 1,248
Interest Rate Spread		0.93			1.00			1.06	
Impact of Equity Financing	\$ 9,068	0.16		\$ 8,837	0.12		\$ 8,452	0.08	
Net Interest Margin and Net Interest Income		1.09 %	\$ 1,431		1.12 %	\$ 1,393		1.14 %	\$ 1,362

Changes in our interest income, interest expense and net interest income due to volume and rate variances for interest-earning assets and interest-bearing liabilities are summarized in the table below.

Changes in Net Interest Income Due to Changes in Average Volume and Interest Rates ⁽¹⁾						
(\$ in Millions)	2018			2017		
	Increase (Decrease) From Previous Year Due To			Increase (Decrease) From Previous Year Due To		
	Volume	Yield/Rate	Total	Volume	Yield/Rate	Total
Total Loans	\$ 18	\$ 728	\$ 746	\$ 77	\$ 352	\$ 429
Investment Securities, Federal Funds Sold and Other Overnight Funds	3	141	144	16	86	102
Total Interest Income	21	869	890	93	438	531
Total Interest Expense	(183)	1,035	852	(72)	572	500
Changes in Net Interest Income	\$ 204	\$ (166)	\$ 38	\$ 165	\$ (134)	\$ 31

⁽¹⁾ The change in interest income or expense not solely due to changes in volume or rate has been allocated in proportion to the absolute dollar amount of the change in volume and rate.

Net interest income increased \$38.5 million, or 3 percent, to \$1,431 million in 2018, compared to \$1,393 million in 2017. The increase in net interest income was primarily driven by higher average loan volume, including an increase in lending in our Agribusiness operating segment, and an increase in earnings from our invested capital. These items were partially offset by lower earnings on balance sheet positioning, slightly lower spreads in our loan portfolio and lower fair value accretion income resulting from merger accounting. Average loan volume increased \$4.6 billion, or 5 percent, to \$100.6 billion in 2018 primarily as a result of growth in lending to grain and farm supply cooperatives in our Agribusiness operating segment and Associations in our Farm Credit Banking operating segment. Average investment

securities, federal funds sold and other overnight funds increased to \$30.1 billion in 2018 from \$28.9 billion in 2017.

Net interest margin declined to 1.09 percent in 2018 from 1.12 percent in 2017, and interest rate spread decreased to 0.93 percent in 2018 from 1.00 percent in 2017. The reduction in our net interest margin included the impact of lower earnings on balance sheet positioning, lower fair value accretion income and slightly lower spreads in our loan portfolio, reflective of continued competition for the business of our customers. These drivers were somewhat offset by an increase in earnings on invested capital.

Net interest income increased \$31.0 million, or 2 percent, to \$1,393 million in 2017, compared to \$1,362 million in 2016. The increase in net interest income was primarily driven

by higher average loan volume. A modest increase in earnings on invested capital also contributed to the overall increase in net interest income. These factors were partially offset by a decrease in fair value accretion income resulting from merger accounting as well as slightly lower spreads in our loan portfolio. Average loan volume increased \$4.5 billion, or 5 percent, to \$96.0 billion in 2017 primarily as a result of growth in lending to Associations in our Farm Credit Banking operating segment as well as cooperatives and agricultural export finance customers in our Agribusiness operating segment and rural electric cooperatives and project finance customers in our Rural Infrastructure operating segment. Average investment securities, federal funds sold and other overnight funds increased to \$28.9 billion in 2017 from \$27.4 billion in 2016.

In 2017, our net interest margin declined to 1.12 percent from 1.14 percent in 2016, and interest rate spread decreased to 1.00 percent in 2017 from 1.06 percent in 2016. The reduction in our net interest margin included the impact of lower fair value accretion income and slightly lower overall loan spreads. These drivers were somewhat offset by a modest increase in earnings from our invested capital.

Provision for Loan Losses (Loan Loss Reversal) and Allowance for Credit Losses

The provision for loan losses (loan loss reversal) reflects our estimate of credit losses inherent in our loan and finance lease portfolios, including unfunded commitments. The allowance for loan losses covers the funded portion of our loans outstanding, while the reserve for unfunded commitments covers losses on unfunded lending commitments. The sum of the allowance for loan losses and the reserve for unfunded commitments is referred to as the allowance for credit losses. We base our allowance for probable and estimable losses on the factors discussed in “Critical Accounting Estimates – Allowance for Credit Losses” on page 66. The table on page 39 summarizes the activity in our allowance for credit losses, by operating segment, for the past five years.

We recorded a \$66.0 million provision for loan losses in 2018. The provision largely reflects increases in specific reserves associated with a small number of customers in our Agribusiness and Rural Infrastructure operating segments and growth in average loan volume. The \$66.0 million total provision for loan losses included a provision of \$54.0 million in our Agribusiness operating segment and a provision of \$12.0 million in our Rural Infrastructure operating segment.

In 2017, we recorded a \$42.0 million provision for loan losses which largely reflected growth in average loan volume and slight deterioration in credit quality in our Agribusiness operating segment. The \$42.0 million total provision for loan losses included a provision of \$43.7 million in our Agribusiness operating segment and a loan loss reversal of \$1.7 million in our Rural Infrastructure operating segment.

Adversely classified loans and accrued interest were 1.21 percent of total loans and accrued interest at December 31, 2018, compared to 1.00 percent at December 31, 2017 and 0.81 percent at December 31, 2016.

The increases in adversely classified loans and accrued interest in 2018 and 2017 were primarily driven by deterioration in credit quality associated with a small number of customers in our Rural Infrastructure and Agribusiness operating segments.

Total nonaccrual loans increased \$79.5 million to \$326.3 million, or 0.31 percent of total loans, at December 31, 2018 from \$246.8 million, or 0.25 percent of total loans, at December 31, 2017 primarily resulting from credit quality deterioration impacting a small number of customers in our Agribusiness and Rural Infrastructure operating segments. Total nonaccrual loans increased \$39.6 million to \$246.8 million at December 31, 2017 from \$207.2 million at December 31, 2016 resulting from credit challenges at a limited number of customers in our Rural Infrastructure operating segment. We recorded loan charge-offs, net of recoveries, of \$33.6 million in 2018 compared to \$33.7 million and \$2.1 million in 2017 and 2016, respectively. The charge-offs in all three years primarily related to a small number of customers in our Agribusiness operating segment.

Our allowance for credit losses was \$703.2 million at December 31, 2018, compared to \$670.8 million and \$662.5 million as of December 31, 2017 and 2016, respectively. The allowance for credit losses represented 0.67 percent of total loans as of the end of 2018, compared to 0.68 percent and 0.70 percent of total loans at December 31, 2017 and 2016, respectively. At December 31, 2018, our allowance for credit losses represented 1.33 percent of non-guaranteed loans excluding wholesale loans to Associations, compared to 1.33 percent and 1.37 percent at December 31, 2017 and 2016, respectively.

Refer to “Enterprise Risk Profile – Credit Risk Management” beginning on page 43 for further information on nonperforming loans, charge-offs, loan quality trends and the factors considered in determining the levels of our provision for loan losses and allowance for credit losses.

Noninterest Income

The following table details our noninterest income for each of the last three years.

Noninterest Income (\$ in Thousands)			
Year Ended December 31,	2018	2017	2016
Net Fee Income	\$ 106,247	\$ 109,160	\$ 103,365
Patronage Income	75,835	63,970	58,385
Prepayment Income	14,754	18,585	34,142
Losses on Early			
Extinguishments of Debt	(15,021)	(42,088)	(34,197)
Gains on Sale of			
Investment Securities	49,074	9,387	4,617
Return of Excess Insurance Funds	35,045	-	-
Other, Net	23,726	16,219	18,573
Total Noninterest Income	\$ 289,660	\$ 175,233	\$ 184,885

Noninterest income is primarily composed of fee income, patronage income, loan prepayment income and miscellaneous

gains and losses, offset by losses on early extinguishments of debt.

Total noninterest income increased in 2018 to \$289.7 million, or by 65 percent, from \$175.2 million in 2017. The increase in noninterest income included the impact of a higher level of gains recognized on sales of investment securities, the return of excess insurance funds from the Farm Credit System Insurance Corporation (Insurance Corporation) related to the Farm Credit Insurance Fund (Insurance Fund), a lower level of losses on early extinguishments of debt, net of prepayment income, and a higher level of patronage income in 2018.

Our net fee income, which includes arrangement fees and unused commitment fees, among others, decreased to \$106.2 million in 2018 compared to \$109.2 million in 2017 primarily due to a lower level of arrangement and other fee income in our Rural Infrastructure operating segment.

Patronage income, which represents patronage received from other System institutions for loans we sold to them, increased to \$75.8 million in 2018 compared to \$64.0 million in 2017. This increase reflects greater levels of loans sold to affiliated Associations and other System institutions.

Prepayment income decreased to \$14.8 million in 2018 from \$18.6 million in 2017. Losses on early extinguishments of Systemwide Debt Securities were \$15.0 million in 2018 compared to \$42.1 million in 2017. During 2018, we extinguished \$1,831 million of Systemwide Debt Securities compared to \$897.4 million in 2017. The 2018 and 2017 debt extinguishments included \$1,471 million and \$474.6 million, respectively, in Systemwide Debt Securities sold at market value to other Farm Credit Banks. While it is our general practice to extinguish debt to offset the current and prospective impact of prepayments in our loan and investment portfolios, the availability in the market of similarly-tenored debt, coupled with the timing of prepayments, do not always allow us to fully offset the impact of prepayments.

During 2018, we sold investment securities with a combined book value of \$1.8 billion for gains totaling \$49.1 million. In 2017 and 2016, sales of investment securities resulted in gains totaling \$9.4 million and \$4.6 million, respectively. The sale of investment securities is discussed in "Liquidity and Capital Resources" beginning on page 60.

The return of \$35.0 million in excess insurance funds from the Insurance Fund also contributed to the increase in noninterest income in 2018. As more fully explained beginning on page 94, when the Insurance Fund exceeds the statutory 2 percent secure base amount (SBA), the Insurance Corporation is required to reduce premiums and may return excess amounts. The Insurance Fund began 2018 above the SBA. In the first quarter of 2018, the Insurance Corporation approved the distribution of the excess amounts and such amounts were distributed to System entities in March.

Other net noninterest income increased to \$23.7 million in 2018 from \$16.2 million in 2017 primarily due to proceeds received related to the disposition of warrants which had been obtained in a previous loan restructuring. These items were somewhat offset by losses recognized on the termination of

interest rate caps which hedged certain investment securities sold in 2018.

In 2017, total noninterest income decreased to \$175.2 million, or by 5 percent, from \$184.9 million in 2016. The lower level of noninterest income was primarily driven by a \$23.4 million increase in losses on early extinguishments of debt, net of prepayment income, as discussed above. These items were partially offset by increases in net fee income, patronage income and gains recognized on sales of investment securities.

Operating Expenses

The following table details our operating expenses for each of the last three years.

Analysis of Operating Expenses (\$ in Thousands)			
Year Ended December 31,	2018	2017	2016
Employee Compensation	\$ 184,853	\$ 172,540	\$ 165,159
General and Administrative	27,482	29,331	25,109
Information Technology	38,138	35,776	31,696
Insurance Fund Premium	52,100	83,686	90,561
Travel and Entertainment	18,418	18,247	21,583
Farm Credit System Related	15,569	15,823	14,736
Occupancy and Equipment	16,055	16,020	16,083
Purchased Services	11,192	14,250	14,775
Total Operating Expenses	\$ 363,807	\$ 385,673	\$ 379,702
Total Operating Expenses/ (Net Interest Income + Net Fee Income)	23.7 %	25.7 %	25.9 %
Operating Expenses, Excluding Insurance Fund Premium/ (Net Interest Income + Net Fee Income)	20.3	20.1	19.7

Total operating expenses decreased 6 percent in 2018 to \$363.8 million, compared to \$385.7 million for 2017. The lower level of operating expenses was largely driven by a decrease in Insurance Fund premium expense of \$31.6 million in 2018 compared to 2017 as well as a decrease in purchased services expense of \$3.1 million primarily due to a lower level of legal and professional fees. These items were somewhat offset by increases in employee compensation expense of \$12.4 million and information technology expense of \$2.4 million.

Employee compensation expense, which includes salaries, incentive compensation and employee benefits, increased to \$184.9 million in 2018 from \$172.5 million in 2017 primarily due to an increase in the number of employees to support new business initiatives and maintain high levels of customer service, annual merit increases and a higher level of incentive compensation reflective of strong business and financial performance. As of December 31, 2018, we had 1,050 employees, compared to 1,002 and 953 at December 31, 2017 and 2016, respectively.

General and administrative expenses were \$27.5 million in 2018, compared to \$29.3 million in 2017. General and administrative expenses include contributions and other support provided to civic, charitable and other organizations

that benefit the residents, communities and industries we serve in rural America, consistent with our overall corporate social responsibility program and the fulfillment of our mission.

Information technology expenses, which include the cost of hardware, software, network infrastructure and related support services, increased to \$38.1 million in 2018 from \$35.8 million in 2017 due to greater expenditures to enhance our service offerings, technology platforms and digital banking capabilities.

Insurance Fund premium expenses decreased to \$52.1 million in 2018 from \$83.7 million in 2017 due to the impact of lower premium rates partially offset by higher levels of insured debt obligations to fund growth in loan volume. Insurance Fund premium rates are set by the Insurance Corporation and were 9 basis points of average outstanding adjusted insured debt obligations for 2018 compared to 15 basis points for 2017. The Insurance Corporation announced a premium rate of 9 basis points of average outstanding adjusted insured debt obligations for the first half of 2019. Changes in the premium rate generally result from increases or decreases in the overall level of System assets and related debt obligations, the amount of assets in the Insurance Fund and the Insurance Corporation's projections of these balances.

Travel and entertainment expenses increased to \$18.4 million in 2018 from \$18.2 million in 2017 due to a greater level of expenditures for customer-facing activities and other business travel.

Farm Credit System related expenses decreased to \$15.6 million in 2018 compared to \$15.8 million in 2017. These expenses primarily represent our share of costs to fund the operations of the FCA and the Farm Credit Council (FCC), a national trade organization that represents System entities. Each System institution is assessed a pro rata share of the FCA's total expenses based primarily on each institution's average risk-adjusted assets. FCC costs are generally allocated based on the number of directors that represent each district (a System bank and its affiliated Associations) and the level of bank assets.

Occupancy and equipment expenses were \$16.1 million in 2018, relatively unchanged from 2017. Occupancy and equipment expenses include rent, maintenance and repairs related to our corporate headquarters and other banking center offices.

Purchased services expenses decreased to \$11.2 million in 2018 from \$14.3 million in 2017 primarily due to a lower level of legal, professional and consulting fees.

Total operating expenses as a percent of net interest income plus net fee income were 23.7 percent in 2018 compared to 25.7 percent in 2017 and 25.9 percent in 2016. Excluding the impact of Insurance Fund premium expense, operating expenses as a percent of net interest income plus net fee income were 20.3 percent in 2018, compared to 20.1 percent in 2017 and 19.7 percent in 2016.

The \$6.0 million increase in total operating expenses in 2017 compared to 2016 included a \$7.4 million increase in employee compensation expense primarily due to an increase in the number of employees and a higher level of incentive

compensation reflective of strong business and financial performance. Increases in general and administrative and information technology expenses of \$4.2 million and \$4.1 million, respectively, also contributed to the higher level of total operating expenses during 2017. Insurance Fund premium expenses decreased \$6.9 million in 2017 driven by a lower premium rate partially offset by growth in our average loan volume. Insurance Fund premium rates were 15 basis points of average outstanding adjusted insured debt obligations for all of 2017 compared to 16 basis points during the first half of 2016 and 18 basis points for the second half of 2016. Travel and entertainment expenses decreased \$3.3 million in 2017 due to nonrecurring costs incurred in 2016.

Provision for Income Taxes

Our provision for income taxes increased to \$100.4 million in 2018 from \$15.1 million in 2017. Our effective tax rate was 7.8 percent for 2018 compared to 1.3 percent for 2017. The increases in our income tax expense and the effective tax rate in 2018 were primarily due to the benefit of \$142.3 million in net deferred tax adjustments recorded in 2017 which resulted from the enactment of federal tax legislation which, among other things, lowered the federal corporate tax rate from 35 percent to 21 percent beginning in 2018. In accordance with accounting principles generally accepted in the United States of America (GAAP), the change to the lower corporate tax rate led to a remeasurement of our deferred tax liabilities and deferred tax assets in the period of enactment (2017). Our 2018 provision for income taxes also included a \$15.8 million tax benefit which resulted from a change in accounting estimate reflecting the full effects of the enactment of this tax legislation.

Excluding the impact of the nonrecurring adjustments related to the new tax legislation, our provision for income taxes was \$116.2 million in 2018 compared to \$157.4 million in 2017, and our effective tax rate was 9.0 percent in 2018 compared to 13.8 percent in 2017. These decreases were primarily due to the reduction in the federal corporate tax rate beginning in 2018. A higher level of tax-deductible patronage distributions, driven by the special patronage distribution described on page 64, also contributed to the decrease in income tax expense during 2018. Our effective tax rates are less than the applicable federal and state statutory income tax rates primarily due to tax-deductible patronage distributions. In addition, as more fully discussed in Note 1 to the accompanying consolidated financial statements, a portion of CoBank's activities are statutorily exempt from income taxes. These tax-exempt activities primarily include wholesale lending to Farm Credit Associations.

In 2017, our provision for income taxes decreased to \$15.1 million from \$158.3 million in 2016. Our effective tax rate decreased to 1.3 percent for 2017 compared to 14.3 percent for 2016. These significant decreases included the benefit of \$142.3 million in net deferred tax adjustments resulting from the enactment of federal tax legislation in 2017, as discussed above. Our primary deferred tax liabilities relate to timing differences generated by our leasing subsidiary,

which is included in our Agribusiness operating segment. Our primary deferred tax assets relate to our allowance for credit losses and employee benefit plans, which impact both our Agribusiness and Rural Infrastructure operating segments. The \$142.3 million net adjustment included a \$253.5 million benefit from the remeasurement of deferred tax liabilities, the substantial majority of which, as noted above, related to our leasing subsidiary. This impact to deferred tax liabilities was somewhat offset by a \$111.2 million expense from the remeasurement of deferred tax assets, of which \$80.2 million relates to the allowance for credit losses.

Excluding the impact of the \$142.3 million net deferred tax adjustment, our provision for income taxes was \$157.4 million in 2017 compared to \$158.3 million in 2016, and our effective tax rate was 13.8 percent compared to 14.3 percent in 2016. These decreases in our income tax expense and the effective tax rate were primarily due to a greater portion of earnings attributable to non-taxable business activities and an increase in accrued patronage payable resulting from higher levels of lending in the taxable portion of our business.

Operating Segment Financial Review

We conduct lending operations through three operating segments: Agribusiness, Farm Credit Banking and Rural Infrastructure. In 2018, the Strategic Relationships operating segment was renamed the Farm Credit Banking operating segment. All customer activity, including loans and leases and related income, is specifically assigned to the business units that comprise the operating segments. Investment securities and federal funds sold and other overnight funds, which are primarily held as a liquidity reserve to support our banking operations, are not specifically assigned to operating segments; however, the income from investment securities and federal funds sold and other overnight funds is attributed to the operating segments.

In addition to the operating segments described below, our Banking Services Group (BSG) provides capital markets services, which support our lending divisions. BSG manages syndications and loan sales with over 100 financial institutions, including System institutions. In 2018, we syndicated or sold approximately \$19.5 billion of loan commitments to System entities and other financial institutions to help meet customers' credit needs and to effectively diversify risk and manage capital.

In addition, we offer non-credit products and services including cash management, online banking, mobile banking,

commercial credit card and merchant card processing solutions. Revenues generated from non-credit products and services and by BSG, as well as all related operating expenses, are attributed to the operating segments.

Net income by operating segment is summarized in the table below and is more fully disclosed in Note 14 to the accompanying consolidated financial statements. The following tables also provide period-end and average loan amounts.

Net Income by Operating Segment (\$ in Thousands)			
Year Ended December 31,	2018	2017	2016
Operating Segment:			
Agribusiness	\$ 583,013 ⁽¹⁾	\$ 629,726 ⁽¹⁾	\$ 403,163
Farm Credit Banking	264,154	261,728	244,786
Rural Infrastructure	348,931	240,905 ⁽¹⁾	307,980
Total Operating Segments	1,196,098	1,132,359	955,929
Corporate/Other	(5,323)	(7,038)	(10,253)
Total	\$ 1,190,775	\$ 1,125,321	\$ 945,676

⁽¹⁾ 2017 and, to a lesser extent, 2018 net income included significant earnings adjustments resulting from the enactment of federal tax legislation, as more fully explained beginning on page 37 and pages 41 and 43.

Period-end Loan Portfolio by Operating Segment (\$ in Millions)

December 31,	2018	2017	2016	2015	2014
Agribusiness	\$ 32,432	\$ 30,304	\$ 28,660	\$ 26,131	\$ 24,359
Farm Credit Banking	50,695	47,948	45,994	43,358	39,919
Rural Infrastructure	21,367	21,014	20,604	19,552	16,104
Total Loans	\$ 104,494	\$ 99,266	\$ 95,258	\$ 89,041	\$ 80,382

Average Loan Portfolio by Operating Segment (\$ in Millions)

Year Ended December 31,	2018	2017	2016	2015	2014
Agribusiness	\$ 31,604	\$ 29,241	\$ 27,563	\$ 24,872	\$ 23,598
Farm Credit Banking	48,121	46,074	43,924	40,414	37,804
Rural Infrastructure	20,919	20,732	20,092	17,770	15,192
Total Average Loans	\$ 100,644	\$ 96,047	\$ 91,579	\$ 83,056	\$ 76,594

The following table presents activity in the allowance for credit losses by operating segment.

Analysis of the Allowance for Credit Losses (\$ in Thousands)					
	2018	2017	2016	2015	2014
Beginning of Year	\$ 670,792	\$ 662,470	\$ 601,588	\$ 596,836	\$ 614,718
Charge-offs:					
Agribusiness	(33,575)	(35,675)	(4,276)	(2,668)	(1,599)
Farm Credit Banking	-	-	-	-	-
Rural Infrastructure	(2,135)	-	(324)	(5,597)	(4,618)
Total Charge-offs	(35,710)	(35,675)	(4,600)	(8,265)	(6,217)
Recoveries:					
Agribusiness	1,927	1,644	747	1,977	2,040
Farm Credit Banking	-	-	-	-	-
Rural Infrastructure	231	353	1,735	1,040	1,295
Total Recoveries	2,158	1,997	2,482	3,017	3,335
Net Charge-offs	(33,552)	(33,678)	(2,118)	(5,248)	(2,882)
Provision (Reversal) Charged (Credited) to Earnings:					
Agribusiness	54,000	43,650	71,000	(30,800)	37,000
Farm Credit Banking	-	-	-	-	-
Rural Infrastructure	12,000	(1,650)	(8,000)	40,800	(52,000)
Total Provision (Reversal) Charged (Credited) to Earnings	66,000	42,000	63,000	10,000	(15,000)
End of Year	\$ 703,240	\$ 670,792	\$ 662,470	\$ 601,588	\$ 596,836
Components:					
Allowance for Loan Losses	\$ 621,591	\$ 576,927	\$ 558,974	\$ 486,144	\$ 481,156
Reserve for Unfunded Commitments	81,649	93,865	103,496	115,444	115,680
Total Allowance for Credit Losses (ACL)	\$ 703,240	\$ 670,792	\$ 662,470	\$ 601,588	\$ 596,836
ACL/Total Loans	0.67 %	0.68 %	0.70 %	0.68 %	0.74 %
ACL/Non-guaranteed Loans (Excluding Loans to Associations)	1.33	1.33	1.37	1.36	1.54
ACL/Impaired Loans	214	271	264	382	457
ACL/Nonaccrual Loans	216	272	320	384	458
Net Charge-offs / Average Loans	0.03	0.04	0.00	0.01	0.00

Allowance for Credit Losses by Operating Segment (\$ in Thousands)					
December 31,	2018	2017	2016	2015	2014
Agribusiness	\$ 502,256	\$ 479,904	\$ 470,285	\$ 402,814	\$ 434,305
Farm Credit Banking	-	-	-	-	-
Rural Infrastructure	200,984	190,888	192,185	198,774	162,531
Total Allowance for Credit Losses	\$ 703,240	\$ 670,792	\$ 662,470	\$ 601,588	\$ 596,836

Agribusiness

Overview

The Agribusiness operating segment includes loans and other financial services provided to a diverse market of cooperatives and other businesses in various agricultural sectors including grain handling and marketing, farm supply, fruits, nuts, vegetables, forest products, dairy, livestock, biofuels and food processing. Primary products and services include term loans, revolving lines of credit, trade finance, capital markets services, as well as risk management, cash management, leasing and investment products. To enhance portfolio diversification, and to assist System partners in meeting the needs of their increasingly diverse customer base,

we purchase participations in agribusiness loans from other System entities and participate in syndicated agribusiness loans with other financial institutions.

A portion of Agribusiness loan volume finances seasonal grain inventories, through the use of lines of credit, for agricultural cooperatives. This seasonal loan volume is affected by a number of factors, including grain volume, commodity prices, producer selling patterns, transportation availability, and the relationship between cash and futures prices in the grain commodities markets. Agribusiness loan volume generally reaches a seasonal low in late summer or early fall. Harvest financing demands result in loan volume

increases beginning in the late fall of each year. Peak loan volume typically occurs early in the year when our cooperative customers pay producers' deferred grain payables.

Our Agribusiness customers face challenges including widely fluctuating supplies of commodities in global markets and the attendant price volatility, evolving domestic and global market demand, changing trade policy and agreements, increasing regulation and the impact of currency fluctuations. These trends, along with the need to attract high-quality leadership, manage risk, and remain competitive, have led some of our cooperative customers to consolidate and merge, enter into joint ventures, or form alliances to develop new markets. This consolidation trend has, in some cases, resulted in larger individual and attributed credit commitments. We meet our customers' financing needs by maintaining appropriate credit exposure to individual customers and partnering with System entities and commercial banks in loan syndications and participations. We also focus on serving mission-related entities, including small and start-up cooperatives, and supporting our Farm Credit partners in their lending to young, beginning and small (YBS) farmers and ranchers.

The Agribusiness segment includes our Agricultural Export Finance Division (AEFD), which provides trade finance to support U.S. exporters of agricultural products. Obligors consist primarily of financial institutions in foreign countries (primarily emerging markets) who support our exporting customers in selling and shipping agricultural products to international markets. The AEFD utilizes the U.S. government-sponsored export loan guarantee General Sales Manager (GSM) program for a portion of its export financing. As of December 31, 2018, the AEFD had \$5.8 billion in loans outstanding, 18 percent of which were guaranteed by the U.S. government under the GSM program, compared to \$5.0 billion in loans outstanding as of December 31, 2017, 20 percent of which were guaranteed under the GSM program. Over the last five years, the mix of volume in AEFD has shifted toward a higher level of non-guaranteed volume reflecting a decline in the competitiveness of the GSM program coupled with our ability to support an increasing level of non-guaranteed export transactions. Expanding the export of U.S. agricultural products is an important component of supporting the U.S. economy and balance of trade.

The Agribusiness segment also includes Farm Credit Leasing Services Corporation (FCL), a wholly-owned subsidiary which provides leases and lease-related products and financial services to agribusinesses, agricultural producers, Association partners, and rural infrastructure companies. As of December 31, 2018 and 2017, FCL had \$3.4 billion in leases outstanding.

2018 Performance

Agribusiness loans outstanding totaled \$32.4 billion at December 31, 2018, compared to \$30.3 billion at December 31, 2017. Average loan volume increased 8 percent to \$31.6 billion in 2018 from \$29.2 billion in 2017. The increase in outstanding and average Agribusiness volume resulted primarily from higher levels of seasonal financing at

many grain and farm supply cooperatives resulting from greater levels of grain ownership as well as increased lending to agricultural export finance customers.

As previously mentioned, the level of seasonal lending within our Agribusiness operating segment can fluctuate significantly from period to period and is impacted by numerous factors, including commodity prices and inventory levels. The following table shows five-year price trends for certain grain commodities. Prices represent the yearly high and low "nearby" futures price per bushel for corn, soybeans and wheat. Nearby futures contracts represent those contracts with the nearest settlement date.

Year Ended					
December 31,	2018	2017	2016	2015	2014
Commodity					
Corn:					
High	\$ 4.12	\$ 4.05	\$ 4.39	\$ 4.43	\$ 5.23
Low	3.30	3.29	3.01	3.47	3.18
Soybeans:					
High	10.71	10.80	12.09	10.62	15.37
Low	8.11	9.00	8.52	8.44	9.04
Wheat:					
High	5.93	5.75	5.24	6.15	7.44
Low	4.13	3.95	3.60	4.59	4.66

Our Agribusiness segment generated \$583.0 million in net income for 2018, a \$46.7 million decrease from the \$629.7 million in net income for 2017. This decrease was primarily due to higher provisions for income taxes and loan losses somewhat offset by increases in net interest income and noninterest income as well as lower operating expenses.

Net interest income in our Agribusiness segment increased \$55.7 million in 2018 as compared to 2017 primarily due to growth in average loan volume including a higher level of financing to grain and farm supply cooperatives somewhat offset by lower lending spreads in other sectors of the Agribusiness operating segment.

We recorded a \$54.0 million provision for loan losses in our Agribusiness operating segment in 2018, compared to \$43.7 million in 2017. The 2018 provision resulted primarily from increases in specific reserves associated with a small number of customers and growth in loan volume. The 2017 provision for loan losses resulted from a higher level of lending activity, slight deterioration in overall credit quality and an increase in specific reserves or charge-offs associated with a small number of customers.

While overall Agribusiness credit quality remains strong, we experienced deterioration beginning in 2017 and continuing in 2018. We believe further deterioration could result from market factors impacting our customers, including an ongoing low agricultural commodity price environment, trade disputes between the United States and its trading partners, declining farm income and rising interest rates. In addition, concentrations within our loan portfolio can cause the level of our loan quality, nonaccrual loans, charge-offs and provisions for loan losses or loan loss reversals to vary

significantly from period to period. Agribusiness nonaccrual loans increased to \$288.1 million at December 31, 2018 from \$213.0 million at December 31, 2017 due to credit quality deterioration impacting a small number of food and agribusiness customers, somewhat offset by a previously-restructured loan which was paid off during 2018.

Agribusiness recorded loan charge-offs, net of recoveries, of \$31.6 million in 2018 as compared to \$34.0 million for 2017. Charge-offs largely related to several agribusiness customers who experienced financial distress in 2018 and 2017, respectively.

Noninterest income in our Agribusiness segment increased by \$51.9 million in 2018 largely due to the return of excess insurance funds from the Insurance Corporation, lower net losses on early extinguishments of debt, gains recognized from the sale of investment securities attributed to the Agribusiness operating segment, higher levels of patronage income received from other System institutions on loan participations we sold to them and an increase in fee income due to increased arrangement fees.

Operating expenses in our Agribusiness segment decreased by \$12.6 million in 2018 primarily due to the decrease in Insurance Fund premiums somewhat offset by the increase in employee compensation expenses, as described on page 36.

Agribusiness income tax expense increased to \$42.8 million in 2018, as compared to a \$113.7 million net benefit in 2017. The increase largely reflected the aforementioned remeasurement of net deferred tax liabilities in 2017. Agribusiness income tax expense in 2018 also included favorable adjustments to fully reflect the nonrecurring impact of tax reform. Excluding the impact of these adjustments, Agribusiness income tax expense decreased \$25.9 million to \$58.6 million in 2018 primarily due to the reduction in the federal corporate tax rate and a higher level of patronage distributions, as discussed on page 64.

Farm Credit Banking

Overview

The Farm Credit Banking operating segment includes wholesale loans from the direct funding relationships we have with our affiliated Association customer-owners and our wholesale funding relationships with other System institutions. Our affiliates include Associations operating in 23 states serving the Northwest, West, Southwest, Rocky Mountains, Mid-Plains, and Northeast regions of the United States.

Developing and maintaining strong relationships with Farm Credit Associations and other System institutions is an important strategic focus for the Bank. By working together, the Bank and Associations collectively provide credit and non-credit services to a more diverse set of customers. We maximize the value of these strategic relationships by combining the Associations' strong market presence and local relationship management with our complementary product suite and lending capacity. Our relationships with Associations provide an important competitive advantage in

attracting and retaining customers and in fulfilling our collective mission to support agriculture, rural infrastructure and rural communities.

We have seen a number of mergers among affiliated Associations in recent years and expect that this activity may continue as Associations look for ways to continue to fulfill their mission in a safe and sound manner, while more efficiently providing value-added products and services to their member owners.

2018 Performance

As of December 31, 2018, loans in the Farm Credit Banking operating segment totaled \$50.7 billion, compared to \$47.9 billion at December 31, 2017. The increase in outstanding loan volume primarily resulted from greater overall lending to agricultural producers and processors by our affiliated Associations. At year-end 2018 and 2017, these loans included \$45.8 billion and \$43.0 billion, respectively, in wholesale loans to our affiliated Associations and \$4.9 billion of participations in wholesale loans made by other System banks to certain of their affiliated Associations. Such participations included \$3.9 billion as of December 31, 2018 and 2017 in loans made by the Farm Credit Bank of Texas (FCBT). The balance of participations of \$1.0 billion as of December 31, 2018 and 2017 represent wholesale loans made by AgFirst Farm Credit Bank. Farm Credit Banking average loan volume increased 4 percent to \$48.1 billion in 2018 compared to \$46.1 billion in 2017. The increase in average loan volume primarily resulted from greater overall lending to agricultural producers by our affiliated Associations.

Farm Credit Banking net income totaled \$264.2 million in 2018, compared to \$261.7 million for 2017. The increase primarily resulted from a higher level of noninterest income, somewhat offset by a decrease in net interest income and an increase in operating expenses. Farm Credit Banking current period operating results did not benefit from the previously mentioned return of excess funds from the Insurance Corporation because these amounts were passed on directly to our Association customers since premium assessments are also directly passed on to them.

Farm Credit Banking net interest income decreased to \$278.3 million for 2018, from \$295.7 million for 2017 primarily due to lower earnings on balance sheet positioning, a lower level of fair value accretion income due to sales of investment securities discussed on page 61 and lower loan spreads. These items were somewhat offset by higher earnings on invested capital and the impact of growth in average loan volume.

As a wholesale lender to Associations, we benefit from the diversification of the Association loan portfolios and a strong collateral position. In addition, the earnings, capital and loan loss reserves of the Associations provide an additional layer of protection against losses in their respective loan portfolios. Lower spreads in the Farm Credit Banking operating segment are commensurate with the lower risk profile and lower regulatory capital requirements. Notwithstanding the downgraded credit quality classifications of a participation in a wholesale loan made by FCBT to one of

its affiliated Associations and an affiliated Association wholesale loan as discussed beginning on page 46, loan quality in Farm Credit Banking remains strong. No provisions for loan losses or allowance for credit losses have been recorded related to any of our wholesale loans to Associations.

Farm Credit Banking noninterest income increased to \$31.1 million in 2018 from \$8.4 million in 2017 resulting from a higher level of gains on the sale of investment securities attributed to the Farm Credit Banking operating segment, somewhat offset by losses recognized on the termination of interest rate caps which hedged risks related to certain of these investment securities.

Operating expenses increased to \$45.2 million in 2018 from \$42.3 million in 2017 primarily due to the increase in employee compensation expenses as described on page 36. Farm Credit Banking has no income tax expense as the earnings on its business activities are statutorily tax-exempt.

Rural Infrastructure

Overview

The Rural Infrastructure operating segment includes loans and other financial services provided to cooperatives and other companies in the power and energy, communications, water and waste water industries as well as to community facilities in rural America. Primary products and services provided include term loans, revolving lines of credit, project finance, capital markets services, as well as risk management, cash management and investment products.

There are significant needs for investment in infrastructure to support businesses and residents in rural communities. Traditional sources of investment capital, including public sector financing, may not be available or sufficient to meet those needs. As a part of our congressionally-mandated mission, CoBank provides support for rural infrastructure needs, in partnership with other System entities, commercial banks and government entities. In particular, CoBank regularly partners with the U.S. Department of Agriculture (USDA) through co-lending, USDA loan guarantees and refinancing USDA loans. These activities target rural water and wastewater systems, community facilities, rural energy projects and rural broadband. CoBank will continue to pursue additional opportunities to invest in rural infrastructure to allow rural businesses to compete in a global marketplace and to improve the quality of life in rural communities.

Power and energy industry customers include rural electric generation and transmission cooperatives, electric distribution cooperatives, renewable energy providers, independent power producers, midstream energy companies, regulated utilities and local distribution companies. While demand for electricity has been relatively stagnant over the past decade, our customers continue to make infrastructure enhancements to meet long-term system requirements, improve system reliability, maintain compliance with environmental mandates and meet evolving consumer demand, which drive an ongoing need for debt capital. Growth

in renewable energy projects and environmental mandates also contribute to loan demand from project finance customers. In addition, many electric distribution cooperatives are investing in broadband infrastructure to enable smart grid technologies and to provide their local communities with reliable high speed internet.

Communications industry customers include rural local exchange carriers, wireless providers, data transport networks, cable systems, telecommunications service providers and data centers. Telecommunications networks are globally interconnected. As a result, many of the larger communications providers are vitally important to bringing essential products and services to rural America through their networks, partnerships and customer relationships with many of our rural customers. We focus on communications companies of varying sizes that are collectively positioned to provide the necessary range of services, including broadband connectivity to data, voice (both wireline and wireless) and video, which are vital for rural industries and communities. Longer term growth opportunities may arise from merger and acquisition activity, as industry consolidation continues from carriers seeking to improve operating efficiencies and gain market share in this highly competitive industry. Capital spending may also provide additional growth opportunities as data center operators, fiber providers and wireless carriers enhance their networks to prepare for (5G) and other data services including “The Internet of Things”.

Water industry customers include rural water and waste water companies. Capital expenditure growth in this industry continues primarily as a result of the need to replace aging infrastructure and to meet higher standards for water quality. While government programs have traditionally provided grants and financing, private lending opportunities for construction or interim financing have also emerged, often as a bridge to government grants or loans. With the continuing need for plant upgrades and expected limitations on the availability of government funds, we expect private lending to this industry to continue to grow.

In partnership with other System entities and community banks, we provide funding to rural community facilities including rural health care facilities.

2018 Performance

Rural Infrastructure loans outstanding totaled \$21.4 billion at December 31, 2018 compared to \$21.0 billion at December 31, 2017. Average loan volume increased 1 percent to \$20.9 billion in 2018 compared to \$20.7 billion in 2017. Growth in Rural Infrastructure loan volume resulted primarily from increased lending to project finance and communications borrowers, somewhat offset by a decrease in rural energy loans.

Rural Infrastructure net income increased to \$348.9 million for 2018 from \$240.9 million for 2017. The increase was primarily driven by a lower provision for income taxes, greater noninterest income and a decrease in operating expenses. These items were somewhat offset by a higher provision for loan losses.

Enterprise Risk Profile

Managing and optimizing risk to our current and anticipated earnings, capital and enterprise value, within our Board approved risk appetite, are essential components of successfully operating the Bank. Our primary risk exposures are: credit, market, liquidity, operational, strategic and reputation, and regulatory and compliance. Credit risk is the risk arising from changes in a customer's or a counterparty's ability or willingness to repay funds borrowed, or otherwise meet agreed-upon obligations. Market risk is the risk arising from movements in interest rates, basis risk, equity positioning, differences between the timing of contractual maturities, re-pricing characteristics, and prepayments on assets and their related liabilities. Liquidity risk is the risk arising from the Bank's inability to repay its obligations, or issue new obligations to fund borrowers. Operational risk is the risk arising from human errors or misconduct, failures in human capital objectives, inadequate data, systems and technology or process failures including external cyber risks impacting our technology platforms and operations or those affecting critical vendors and customers. Strategic risk is the risk arising from adverse business decisions or lack of responsiveness to changes in the banking/operating environment. Reputation risk is the risk arising from negative external perception and loss of public confidence. Regulatory and compliance risk is the risk to current or anticipated earnings, capital, or reputation arising from failure to comply with laws or regulations.

Business segments and support units have the responsibility of identifying, monitoring and managing these risks. The Risk Management Group is led by the Chief Risk Officer (CRO) and includes both the Credit Management Group and the Enterprise Risk Management Division. The Risk Management Group provides independent oversight and support in the establishment of a risk management framework across the organization. The Risk Management Group works to identify, measure, monitor, control and report the Bank's primary risk exposures against limits and tolerance levels to senior management and the Board of Directors.

The following is a discussion of these primary risks, and our approach to managing them.

Credit Risk Management

Credit risk exists in our lending, leasing, investing, cash management and derivatives activities. Credit risk in these activities arises from changes in a customer's or counterparty's ability or willingness to repay funds borrowed or to meet agreed-upon obligations. Credit risk may be further impacted by changes in collateral values, changes in the prevailing economic environment, fraud, defaults on mortgages or other obligations which collateralize mortgage- and asset-backed investment securities, changes in the credit-worthiness of investment obligors or counterparties who insure or guarantee certain investment securities, and decreases in the value of underlying collateral securing investment securities, primarily residential real estate.

Net interest income increased slightly in 2018 as compared to 2017, primarily due to the modest increase in average loan volume and interest income recognized relating to a nonaccrual loan which was paid off during 2018. These items were largely offset by slight spread compression resulting from continued strong competition for our customers' business from other financial service providers.

Rural Infrastructure recorded a provision for loan losses of \$12.0 million in 2018 compared to a \$1.7 million loan loss reversal in 2017. The 2018 provision primarily reflected increases in specific reserves associated with a small number of customers, somewhat offset by lower reserves in the balance of the portfolio. The 2017 reversal reflected modest improvement in certain measures of credit quality during the year, which more than offset the impact of growth in average loan volume.

While overall credit quality in our Rural Infrastructure operating segment remains strong, we experienced deterioration in 2018. Nonaccrual loans in Rural Infrastructure increased to \$38.2 million at December 31, 2018 compared to \$33.9 million at December 31, 2017 due to credit challenges at a limited number of customers. Our nonaccrual loans are typically composed of a relatively small number of customers, and thus the balances can fluctuate significantly based on a small number of transactions. Rural Infrastructure recorded loan charge-offs, net of recoveries, of \$1.9 million in 2018 as compared to loan recoveries, net of charge-offs, of \$0.4 million in 2017.

Noninterest income increased by \$35.7 million in 2018 primarily due to the return of excess insurance funds from the Insurance Corporation, lower net losses on early extinguishments of debt, proceeds received from the disposition of warrants which had been obtained in a previous loan restructuring, as well as higher levels of patronage income received from other System institutions on loans we sold to them. These items were somewhat offset by a decrease in fee income from communications customers during 2018.

Rural Infrastructure operating expenses decreased by \$13.0 million in 2018 primarily due to a decrease in Insurance Fund premiums somewhat offset by the increase in employee compensation expenses, as described on page 36.

Rural Infrastructure income tax expense decreased to \$56.5 million in 2018 as compared to \$128.7 million in 2017. The decrease largely reflected the impact of the aforementioned remeasurement of net deferred taxes in 2017. Excluding the impact of this item, Rural Infrastructure income tax expense decreased \$16.3 million to \$56.5 million in 2018 primarily due to the reduction in the federal corporate tax rate and a higher level of patronage distributions, as discussed on page 64.

We actively manage credit risk through a Board-approved loan portfolio strategy, a structured and centralized credit approval process, a disciplined risk management process, and a sound credit administration program, while considering our responsibility to fulfill our mission of service to rural America. We have established comprehensive credit guidelines and procedures to ensure consistency and integrity of information related to the credit risk in our loan, lease, investment and derivatives portfolios.

Various groups and committees within CoBank have a role in managing credit risk, as described below. Our Board of Directors establishes overall lending and leasing, investment, derivatives and allowance for credit losses policies. It also approves the portfolio strategy and capital adequacy plan and reviews loan volume, loan quality trends, significant high-risk or stressed loans, and the credit quality of our investment and derivatives portfolios.

The CoBank Loan Committee (CLC), which is appointed by the President and Chief Executive Officer (CEO), and includes the Chief Credit Officer (CCO) and senior management of the Credit Management Group and the lending groups, holds ultimate credit authority as authorized by Board policy and provides oversight of all credit activities. The CLC delegates lending authorities to specific committees or groups of individuals based on size of exposure and risk rating. The CLC also approves certain limits for investment obligors and derivative counterparties. It acts on individual credit actions or administrative matters and approves exceptions to exposure limits if conditions warrant.

The Credit Management Group is led by the CCO, who reports to the CRO. The Credit Management Group manages the credit approval process within obligor and concentration limits established for the loan portfolio pursuant to Board policies. As part of the credit approval process for transactions exceeding certain delegated authority thresholds, the Credit Management Group reviews assigned risk ratings for accuracy and conformity with our established guidelines. It also recommends and, for limits below certain thresholds, approves limits with respect to investment obligors and derivative counterparties and manages significant high-risk or stressed loans.

The Risk Management Group oversees the establishment of concentration and portfolio limits, the development of the portfolio strategy, the analysis of the allowance for credit losses and other risk-based modeling and metrics. In addition, the Risk Management Group provides quarterly reporting on the Bank's risk appetite and exposures and annual risk assessment. Both reports include monitoring and assessment of credit risk.

The heads of Internal Audit and Asset Review have a direct reporting responsibility to the Audit Committee of the Board of Directors. They provide independent reporting to the Board of Directors on the quality of the Bank's assets, the Bank's system of internal controls, and material audit and review findings.

The Asset and Liability Committee (ALCO), which includes the CEO, Chief Financial Officer, CRO, Chief Banking Officer (CBO), CCO, Treasurer, Executive Vice

President of Farm Credit Banking, Executive Vice President of Banking Services and Executive Vice President of Infrastructure Banking, monitors credit risk within the investment portfolio and reviews counterparty credit risk arising from derivative transactions.

The Country Risk Committee (CRC) is appointed by the CEO, and includes the CRO, CBO and the CCO. It oversees the methodologies for setting country risk grades and establishing maximum country limits, as well as the approval of individual country risk grades and limits.

Credit Risk Related to Loans

The key elements of our credit risk management related to lending include our portfolio strategy, the credit approval process, and the use of exposure and concentration limits, each of which is explained below.

Portfolio Strategy

The portfolio strategy provides overall guidance on lending activities and strategies over the next three years, consistent with our strategic business objectives and the Bank's risk appetite. It articulates how we will fulfill our congressionally-mandated mission in a safe and sound manner by managing to the Board-established financial baselines, optimizing the allocation of our risk appetite and resources, and providing an appropriate return on our shareholders' equity by effectively balancing loan growth with profitability and credit risk. Our mission includes supporting our Associations' young, beginning and small farmers; small rural infrastructure entities; start-up cooperatives; local food programs; rural community development; and renewable energy projects. The portfolio strategy helps ensure that CoBank is inclusive in its outreach to all marketplace segments whether it be through lending or investment activities or our corporate social responsibility program.

As part of the annual business and financial planning process, the Board of Directors reviews and approves the Bank's portfolio strategy. Management analyzes performance with respect to the portfolio strategy quarterly and reports the results to the Board of Directors.

Credit Approval

The most critical element in managing and controlling credit risk is the initial decision to make a loan and the resulting structure and terms of the relationship with the borrower.

We place significant emphasis on the evaluation and understanding of a borrower's business and management in the initial credit analysis and the approval process. We emphasize cash flow and repayment capacity as primary sources for repayment of loans, including cash generated from the sale of agricultural commodities as it relates to seasonal lending. Collateral is normally considered a secondary source of repayment. In circumstances where the credit decision places substantial reliance on collateral to repay the loans, independent appraisals may be used to assist in the collateral valuation. Such appraisals are conducted in accordance with FCA regulations and professional appraisal standards.

For wholesale lending within our Farm Credit Banking operating segment, the earnings, capital and loan loss reserves of Associations provide an additional layer of protection against losses in their respective loan portfolios. Loans to our affiliated Associations are governed by a General Financing Agreement, as described on page 122.

With the exception of certain nominal lease transactions, no individual has sole credit approval authority within CoBank. All approvals or credit actions are required to be formally documented.

Management assigns a risk rating to each borrower based on two measurements: probability of default (PD) rating and loss given default (LGD) rating. The PD rating system uses a 14-point scale of 1 (highest quality) to 14 (lowest quality). The PD rating is primarily determined by the financial characteristics of the borrower and reflects the probability of default driven by several factors, including business risk, industry risk, management capability and financial condition. The LGD rating is intended to approximate the degree of potential loss in the event the borrower defaults.

Exposure and Concentration Limits

We use exposure and concentration limits to manage risk and volatility in the loan portfolio. Exposure to individual borrowers and related entities is managed through a risk matrix that considers the dollar exposure, type of exposure and risk rating of the borrower. Individual borrower exposures are typically established at the time of loan origination or renewal, with risk ratings formally reviewed at least annually. The dollar exposure, risk rating and type of credit extended further determine the delegated level of authority required to approve the credit. These individual borrower exposures are then further subject to total portfolio limits on exposure to different industries and/or countries. Exposure limits for different industries are reviewed quarterly while exposure limits for different countries are reviewed annually. We allow for more frequent evaluation when appropriate. Exceptions to these exposure limits may be granted by the CLC or the CRC if conditions warrant.

We also manage credit exposures and concentrations in our loan portfolio by syndicating loans and by selling and purchasing loan participations. Our capabilities in syndicating loans and in selling and purchasing loan participations are critical to dynamically managing the loan portfolio, maintaining market discipline, meeting our customers' needs and fulfilling our mission.

While we believe these standards, processes and tools are appropriate to manage our credit risk, there is no assurance that significant deterioration in loan quality will not occur, which could reduce our future earnings.

We are limited to making loans and providing related financial services to eligible borrowers in certain specified industries, as mandated by the Farm Credit Act. As a result, we have a concentration of loans to the agricultural and rural infrastructure industries. The significant risk factors affecting credit conditions in these industries within each of our operating segments are described below.

Agribusiness

The relationship of demand for and supply of U.S. agricultural products in the global marketplace can significantly impact the volume, earnings and loan quality of our Agribusiness operating segment. Global trade flows and government policies on trade can impact pricing, costs and supply chains affecting our Agribusiness customers.

Volatility in the prices and supplies of agricultural commodities and associated inputs required to produce the commodities can affect the profitability and loan quality of our Agribusiness customers. Such volatility results from, among other factors, seasonal and cyclical weather conditions; domestic and global economic growth expectations; the availability of transportation; global production and supply levels; financial investment in the commodity futures markets by non-agricultural interests; changing export markets and the effect of trade policies; and currency exchange rates. Market prices for food products also have a significant effect on a number of customers within our Agribusiness operating segment.

Extreme weather conditions can substantially impact harvest volume and prices of agricultural products and, ultimately, impact the credit quality of some of our agribusiness borrowers and our Associations' borrowers as their earnings are affected. Although certain crop losses resulting from weather conditions are mitigated for producers by multi-peril crop insurance, not all crops are covered by insurance. To the extent weather adversely impacts the agricultural sector, the risk of loss in our loan portfolio may increase, which could reduce our earnings.

Major international events, including military conflicts; terrorism; political, geopolitical, currency and global economic disruptions; and trade policies and agreements can affect, among other things, the price of commodities or products used or sold by our borrowers or their access to markets. Such events may also impact country risk or repayment ability of foreign counterparties in our AEFD portfolio. In addition, biological or disease risk in human, livestock or crop populations can impact the supply of and demand for agricultural products. Certain customers also have exposure to counterparties in the commodities exchange markets.

U.S. agriculture has historically received financial support from the U.S. government through direct payments, crop insurance and other benefits. The Agricultural Improvement Act of 2018 (the Farm Bill) was signed into law in December 2018 and amends and extends major programs for crop insurance, food and nutrition, land conservation, trade promotion, rural development, research, forestry, horticulture, and other miscellaneous programs administered by the USDA for five years through 2023. Although most of our direct customers do not generally receive support payments from federal programs, a significant reduction or elimination of support in the future could have a negative impact on the loan quality of certain borrowers, including Associations, who derive a significant share of their earnings from farmers and other producers who could be affected by such a reduction. Other political, legislative and regulatory activities may also

impact the level or existence of certain government programs that support agriculture.

Farm Credit Banking

The risk factors previously discussed in the “Agribusiness” section can also affect loan quality at Associations; however, the impact of such factors on farmers and other producers served by Associations may not be the same as the impact on cooperatives and other customers served by our Agribusiness operating segment. The loan quality within our Farm Credit Banking operating segment is enhanced by our strong collateral position and the earnings, capital and loan loss reserves of the Associations, which provide an additional layer of protection against losses they may have in their loan portfolios.

Rural Infrastructure

Downturns in the general economy, and the rural economy in particular, can reduce commercial and residential demand for services and negatively affect customers in our Rural Infrastructure operating segment.

Fluctuating weather conditions, energy efficiency initiatives, the relative cost and price volatility of various fuel sources, the advent of distributed generation sources and other technological disruptors, the growth and integration of renewable power sources and protracted low growth of electricity demand can adversely affect our customers in the

power industry. The pace and degree of the restructuring and optimization of the electric power industry in the United States may also impact future loan quality. Constraints on carbon emissions and other environmental standards could also adversely impact power customers.

The communications industry is impacted by competition, evolving technology, and changing customer demands. Regulatory, legislative and technological changes may impact the future competitive position and markets for the communications industry. These factors may place downward pressure on the loan quality of certain sectors of the communications industry. In addition, decreased cash flows and the resultant impact on asset valuation, the inability to successfully integrate acquired companies, or the lack of availability of debt and equity capital could adversely affect certain communications customers.

The water industry faces high capital expenditure requirements due to environmental regulation, aging infrastructure and reduced levels of government support. Top-line revenue growth is also a concern for the water industry given the decline in per capita residential water usage resulting from conservation measures and increased use of water efficient appliances. The inability to adjust rate structures and address the misalignment of rising fixed costs and flat to declining variable revenues, without sacrificing affordability, could adversely affect certain water customers.

Credit Quality Conditions and Measurements in Our Loan Portfolio

The following table presents loans and accrued interest receivable classified by management pursuant to our regulator’s Uniform Loan Classification System, as a percent of total loans and accrued interest.

	December 31, 2018			December 31, 2017		
	Wholesale Loans ⁽¹⁾	Commercial Loans ⁽²⁾	Total Bank	Wholesale Loans ⁽¹⁾	Commercial Loans ⁽²⁾	Total Bank
Acceptable	98.95 %	95.86 %	97.37 %	99.02 %	95.54 %	97.22 %
Special Mention	0.93	1.88	1.42	0.98	2.52	1.78
Substandard	0.12	2.25	1.20	-	1.93	1.00
Doubtful	-	0.01	0.01	-	0.01	- ⁽³⁾
Loss	-	-	-	-	-	-
Total	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

⁽¹⁾ Represents loans in our Farm Credit Banking operating segment

⁽²⁾ Represents loans in our Agribusiness and Rural Infrastructure operating segments

⁽³⁾ Represents less than 0.01 percent of total bank loans and accrued interest

While our overall loan quality measures remain strong at December 31, 2018, we experienced deterioration in 2018. The level of adversely classified loans (“Substandard”, “Doubtful” and “Loss”) and related accrued interest as a percent of total loans and accrued interest increased to 1.21 percent at December 31, 2018 compared to 1.00 percent at December 31, 2017. This increase primarily resulted from deterioration in credit quality in our Rural Infrastructure and Agribusiness operating segments.

At December 31, 2018, Special Mention loans included a \$471.2 million participation in a wholesale loan made by FCBT to one of its affiliated Associations and Substandard loans included a \$58.9 million wholesale loan to one of our affiliated Associations. Pursuant to our regulatory requirements, we classify our wholesale loans using the same credit rating methodology as is used with our commercial loans. Our loans to Associations are collateralized by substantially all of the Association assets. In addition, the earnings, capital and loan loss reserves of the Associations

provide additional layers of protection against losses in their retail loan portfolios. While the Special Mention and Substandard classifications primarily reflect internal control weaknesses at these Associations, some of which were material weaknesses, as a result of the collateralization and

other mitigants described above, we do not anticipate any losses related to these wholesale loans. As of December 31, 2018, CoBank has not made any provision for loan loss or recorded any allowance for credit loss related to any of our wholesale loans to Associations.

Summary of High-Risk Assets (\$ in Thousands)

December 31,	2018	2017	2016	2015	2014
Nonaccrual Loans	\$ 326,288	\$ 246,837	\$ 207,247	\$ 156,805	\$ 130,340
Accruing Loans 90 Days or More Past Due	1,685	670	804	754	239
Accruing Restructured Loans	-	-	42,575	-	-
Total Impaired Loans	327,973	247,507	250,626	157,559	130,579
Other Property Owned	3	3	19	-	230
Total High-Risk Assets	\$ 327,976	\$ 247,510	\$ 250,645	\$ 157,559	\$ 130,809

Total nonaccrual loans were \$326.3 million at December 31, 2018 compared to \$246.8 million at December 31, 2017. The increase primarily resulted from credit quality deterioration impacting a limited number of customers in our Agribusiness and Rural Infrastructure operating segments. As noted previously, our nonaccrual loans are typically composed of a relatively small number of customers, and as such, the balances can fluctuate period to period based on a small number of loans and leases. Nonaccrual loans as a percent of our total loan portfolio were 0.31 percent as of December 31, 2018 compared to 0.25 percent at December 31, 2017. Over the past 10 years, nonaccrual loans have averaged 0.29 percent of the total loan portfolio.

Total loan charge-offs, net of recoveries, were \$33.6 million in 2018 compared to \$33.7 million in 2017. Gross charge-offs were \$35.7 million in 2018 relatively unchanged from 2017. Charge-offs have historically resulted from a relatively small number of customers. Accordingly, charge-offs can fluctuate significantly period to period based on a small number of loans and leases.

Our allowance for credit losses totaled \$703.2 million and represented 0.67 percent of total outstanding loans at the end of 2018, compared to 0.68 percent at December 31, 2017. At December 31, 2018 and 2017, our allowance for credit losses represented 1.33 percent of non-guaranteed loans outstanding, excluding wholesale loans to Associations.

As part of our overall assessment of risk in the loan portfolio and the allowance for credit losses as of December 31, 2018, we have considered a wide variety of factors, including volatile commodity prices and supplies; trade uncertainty; global economic uncertainty; the impact of changes in tariffs; a significant level of industry, borrower and attributed concentration risk resulting from our defined mission of service to rural communities and agriculture; and the imprecision inherent in estimating losses within our loan portfolio.

See “Critical Accounting Estimates – Allowance for Credit Losses” on page 66 for a more complete description of our process to determine the adequacy of our allowance for credit losses.

Credit Risk Related to Investments and Derivatives

We minimize credit risk in our investment portfolio by investing primarily in securities issued or guaranteed by the U.S. government or a government-sponsored enterprise (U.S. Agency). At year-end 2018, 63 percent of our \$31.3 billion investment portfolio consisted of securities that carry a full faith and credit guarantee of the U.S. government. Such securities include mortgage-backed securities (MBS) issued by the Government National Mortgage Association (Ginnie Mae), the Export-Import Bank of the United States securities and the U.S. Treasury and other debt securities, including securities backed by guaranteed portions of Small Business Administration loans. Approximately 29 percent of our investment portfolio consisted of securities issued by a U.S. Agency, including MBS issued by the Federal National Mortgage Association (Fannie Mae) and U.S. Agency debt issued by the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Federal Home Loan Bank (FHLB).

Included within our U.S. agency MBS portfolio are FHA/VA wrapped “reperformer” MBS where residential mortgage loans serving as collateral were cured after a default. The underlying loans supporting the FHA/VA wrapped reperformer MBS are approximately 90 percent government guaranteed or insured, and are further supported by guarantees from either Fannie Mae or Freddie Mac.

Credit risk in our investment portfolio primarily exists in investment securities that are not guaranteed by the U.S. government or a U.S. Agency, which include our certificates of deposit, non-agency MBS, corporate bonds and asset-backed securities (ABS). Excluding certificates of deposit with commercial banks carrying the highest short-term credit rating, these securities collectively total 5 percent of our total investment portfolio as of December 31, 2018. The significant majority of our ABS are backed by pools of prime auto loans.

Credit risk in our investment portfolio could also arise from the inability of guarantors and third-party providers of other credit enhancements to meet their contractual obligations to us.

We recorded no other-than-temporary impairment losses on investment securities in 2018 and 2017 as compared to \$0.8 million of impairment losses on investment securities in 2016. The credit quality of our investment portfolio as of

December 31, 2018 is more fully discussed in “Liquidity and Capital Resources” beginning on page 60.

The use of derivative instruments exposes us to counterparty credit risk. Generally, when the fair value of a derivative contract is positive, we are exposed to credit risk. Our counterparty credit risk arising from derivative transactions is managed within credit methodologies and limits approved by the CLC. Credit risk limits are established based on potential future exposure. Customer derivative transactions are typically secured through our loan agreements. For non-customer derivatives not cleared through a central clearinghouse, we minimize this risk by diversifying our derivative positions among various financial institution counterparties, using master netting agreements, and requiring collateral with zero thresholds and daily posting to support credit exposures with active counterparties. We evaluate the creditworthiness of each counterparty, establishing individual credit exposure limits, and deal exclusively with derivative counterparties that have an investment grade credit rating from a major credit rating agency. In addition, we monitor counterparty credit default swap spreads and other market-related information which may indicate reduced creditworthiness of a counterparty. Credit default swap spreads are taken into account in establishing counterparty limits.

We estimate that the amount of losses related to derivatives we could be exposed to in the event of nonperformance by dealer counterparties to our derivative positions, net of collateral held by us, was \$0.1 million, \$0.7 million and \$1.1 million at December 31, 2018, 2017 and 2016, respectively.

We measure counterparty credit risk daily based on the current fair market values of our derivative positions. Employees who are independent of the derivative portfolio management function monitor the derivative exposures against approved limits. Exceptions to approved limits, along with a plan detailing actions to address limit overages, are reported to the CLC. Changes to the counterparty limits must be approved by the CLC.

We also perform stress tests on the derivative portfolio using pricing models to analyze the potential effects of market rate changes on fair value, including extreme rate changes. The forward interest rate curves used to project the future expected cash flows for the derivative positions are modeled under potential scenarios which increase and decrease interest rates within a 99 percent confidence interval. These extreme rate scenarios are then used to further evaluate potential counterparty credit risk and to establish placement limits.

Notwithstanding our credit evaluation process and the maintenance of collateral agreements with our derivative counterparties, the failure of a counterparty to perform on its obligations could negatively impact our earnings. Furthermore, although our credit evaluations consider the possibility of default by a counterparty, our ultimate exposure to default by a counterparty could be greater than expected.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”) requires certain derivative transactions to be cleared through a central

clearinghouse and traded on regulated swap execution facilities. The U.S. Commodity Futures Trading Commission has exempted certain qualifying swaps entered into by end-users and financial cooperatives from these requirements. The exemptions do not cover all swaps executed by CoBank and are generally limited to swaps entered into in connection with loans and derivatives for customer-owners. CoBank has also voluntarily chosen to clear some swap transactions for economic and risk management purposes. As a result, certain of our derivative transactions are cleared through a futures commission merchant (FCM) with a clearinghouse or central counterparty (CCP). When these swaps are cleared, a 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 initial and variation margin that is required to be posted by participants. FCMs prequalify counterparties to all cleared swaps, set exposure limits for each counterparty and collect initial and variation margin or settlement payments daily for changes in the value of cleared derivatives. The margin and settlement payments collected from both parties to the swap mitigates credit risk in the event of a counterparty default. Initial and variation margin or settlement payment requirements are set by and held for the benefit of the CCP. Additional initial margin may be required and held by the FCM in some instances.

The following table details the notional amount of our derivatives and related exposure to dealer counterparties, which excludes \$12.7 billion of derivatives cleared through a central clearinghouse, classified by their S&P Global Ratings (S&P) credit rating as of December 31, 2018.

Derivative Counterparty Exposure (\$ in Millions)				
	AAA	AA	A	Below A
Exposure to Counterparties				
in Net Gain Position	\$ -	\$ 40	\$ 42	\$ -
Collateral Held	-	40	42	-
Exposure, Net of Collateral	\$ -	\$ -	\$ -	\$ -
Total Notional Amount	\$ -	\$ 3,726	\$ 7,291	\$ 25
Total Number of Counterparties	-	3	8	1

The notional amount of our derivatives and related exposure to approximately 150 customer counterparties were \$9.2 billion and \$66.3 million, respectively, at December 31, 2018 compared to \$8.0 billion and \$80.3 million, respectively, at December 31, 2017. At December 31, 2018 and 2017, the notional amount of our cleared derivatives was \$12.7 billion and \$10.4 billion, respectively.

The FCA and various other federal agencies, known as the Prudential Regulators under the Dodd-Frank Act, jointly adopted final rules which will subject many non-cleared swaps to margin requirements. Such requirements become effective over the next several years. The Prudential Regulators also issued an interim final rule excluding swaps that qualify for certain exemptions from the scope of the final margin rules. CoBank is eligible for certain regulatory exemptions related to, among other things, transactions with end users and with

customer-owners. Accordingly, we do not currently anticipate that adoption of these rules will have a material impact on our use of derivatives or our overall financial position.

In January 2017, our CCP, the Chicago Mercantile Exchange (CME), made certain amendments to its rule book that resulted in changes to the legal characterization of variation margin on centrally cleared derivatives. At December 31, 2016, the rules of the CME, legal agreements, and the legal framework governing the agreements caused posted variation margin to be considered collateral. In the event of default, the collateral posted would be available to offset amounts owed by the defaulting counterparty. Effective January 1, 2017, the rule amendments changed the legal nature of the variation margin so that it is now considered a settlement payment as opposed to 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 consolidated balance sheet as of December 31, 2017. This change had no impact to our results of operations or cash flows.

Market Risk Management

We are subject to market risk, defined as the risk to current or anticipated earnings or capital arising primarily from movements in interest rates. This risk primarily arises from our equity positioning and differences in the timing between the contractual maturities, repricing characteristics, and prepayments of our assets and the liabilities funding these assets. This risk can also arise from embedded caps or floors in floating-rate investments and loans as well as differences between the interest rate indices used to price and fund our assets. Our asset/liability management objective is to manage the mix of interest-earning assets and interest-bearing liabilities to reduce interest rate risk and stabilize our net interest income while optimizing profitability and insulating shareholders' equity from significant adverse fluctuations in market interest rates. While we actively manage our interest rate risk position within policy limits approved by the Board of Directors using strategies established by our ALCO, and within our risk appetite, there can be no assurance that changes in interest rates will not adversely impact our earnings and capital.

The following is a more detailed description of our primary interest rate risks and strategies used to mitigate those risks.

Equity Positioning Risk

Shareholders' equity serves as an interest-free source of funding for the balance sheet and thus requires that we make decisions about the maturity mix of the assets funded by it. Using equity to fund short-term assets results in increased volatility of net interest income, whereas using equity to fund long-term assets results in increased volatility in the market value of our equity.

Repricing Risk

Mismatches in interest rate repricing and maturities of assets and liabilities arise from the interaction of customer business needs, our investment portfolio composition and the mix of liabilities funding these assets. In addition, we may also undertake funding strategies designed to maximize earnings on our asset/liability position in certain interest rate environments, including using short-term liabilities to fund longer-term assets. However, funding longer-term assets with shorter-term liabilities exposes the Bank to changes in interest rates and spreads to market indices for debt issuances. If interest rates increase or spreads widen, income would be negatively impacted as higher cost funding is required to continue to fund the longer-term assets.

Exposure to changes in the level and direction of interest rates is managed by adjusting the Bank's mix of interest-sensitive assets and liabilities through various strategies and through the utilization of interest rate risk management products, including interest rate swaps and other derivatives. We do not use derivatives for speculative or trading purposes and regulatory requirements prohibit us from taking speculative derivative positions. Refer to page 53 for additional information related to derivatives.

Prepayment/Extension Risk

Prepayment risk in our loan portfolio exists in loans that are considered fully prepayable, which represents approximately 29 percent of total fixed-rate loans. Prepayment risk in this portfolio results when intermediate and longer-term fixed interest rates fall and prepayments increase as borrowers refinance to a lower rate. Prepayments can adversely impact loan portfolio income to the extent prepayments exceed the level of fixed-rate callable debt in the portfolio. This funding can be called in lower-rate environments, thus allowing liabilities to reprice to a lower rate. Approximately 71 percent of our fully prepayable loan portfolio is funded with callable debt, which lowers prepayment risk.

The remaining 71 percent of fixed-rate loans contain, at a minimum, make-whole prepayment penalties. These provisions require a borrower to compensate us for the cost we incur in retiring debt funding associated with loan prepayments. This allows us generally to fund our loan assets with debt of similar maturities to manage the risk of prepayments in the loan portfolio.

Extension risk in the loan portfolio occurs when long-term interest rates rise and prepayments decrease more than expected causing the underlying loans to pay down slower than expected. Loan portfolio income will be negatively impacted as additional higher-rate term funding is required to continue to fund extended loans.

Prepayment risk in the investment portfolio results when long-term interest rates fall and prepayments increase as underlying borrowers refinance their mortgages to a lower rate. Prepayments adversely affect investment portfolio income in a falling interest rate environment because investments are predominately funded with non-callable debt and any proceeds from prepaid investments will be reinvested at a lower interest rate. Prepayment risk in our investment

portfolio is moderate based on the type and average life of securities. Purchases of MBS are currently subject to a price risk eligibility test based on a stressed interest rate environment. The test is designed to manage our exposure to prepayment risk at the time of investment purchase. In addition, approximately half of our fixed-rate MBS (other than hybrid adjustable-rate mortgage securities), contain some embedded prepayment protection in the form of planned amortization class (PAC) bands. These PAC securities are structured so that principal payments are expected to follow a predetermined schedule as long as the prepayments of the underlying collateral fall within a prescribed band. Over time, these bands may erode resulting in an incremental increase in prepayment risk within the investment portfolio.

We also fund a portion of our fixed-rate prepayable investment portfolio with term fixed-rate callable debt that provides a partial hedge against prepayment risk in certain falling interest rate environments. The rate we pay on these liabilities effectively reprices downward with a drop in short-term and intermediate-term interest rates.

Extension risk in the investment portfolio occurs when long-term interest rates rise and prepayments decrease more than expected causing the underlying investment securities to pay down at a slower rate than initially expected. In this scenario, investment portfolio income will be negatively impacted as additional higher-rate term funding is required to continue to fund extended securities. Extension risk in the investment portfolio is moderate based on the type and average life of securities purchased. In the same way PAC bands protect against prepayment risk, they also serve to limit extension risk as the amortization of these securities is defined as long as prepayments of the underlying collateral fall within a prescribed band.

Cap and Floor Risk

Cap risk is embedded in the floating-rate MBS in our investment portfolio and to a lesser extent floating-rate loans. When short-term interest rates rise, the interest rate paid by the floating-rate MBS or floating-rate loan may become capped and limit the amount of income earned on the asset while underlying funding costs are not capped. Exposure to cap risk is managed by monitoring the concentration of strike levels in our floating-rate MBS and floating-rate loans and related interest rate shock sensitivities. We also purchase interest rate

caps and other derivatives to manage cap risk. Further, we have the ability to reduce cap risk by selling our floating-rate investment securities.

Floor risk exists within our floating-rate loans and investments. During periods of declining interest rates or sustained low interest rates, the interest we receive on floating-rate loans and investments declines or remains low thereby reducing our net interest income. This effect is particularly pronounced during periods of very low or negative interest rates, and adversely impacts our financial condition, cash flows and results of operations. We purchase interest rate floors to mitigate this risk.

Basis Risk

Basis risk arises due to the differences between the interest rate indices used to price our assets and the indices used to fund those assets. We manage our basis risk through match funding, when possible, and using derivatives (primarily interest rate swaps) and other funding strategies. However, basis risk will always exist as unanticipated loan volume changes cause an excess or shortage of some forms of funding. Further, reform and regulation which impacts LIBOR and other benchmark interest rates could introduce additional basis risks.

Measurement and Monitoring of Market Risk

The Enterprise Risk Management Division is responsible for independently measuring and monitoring market risk. We utilize several risk measurement and monitoring tools to assist in the management of market risk. These include interest rate gap analysis, duration gap analysis, sensitivity analysis of net interest income and market value of equity, and net interest income forecasting, each of which is described in further detail in the following pages.

Interest Rate Gap Analysis

The interest rate gap analysis shown in the following table presents a comparison of interest-earning assets and interest-bearing liabilities in defined repricing timeframes as of December 31, 2018. The interest rate gap analysis is a static indicator that does not reflect future changes in repricing characteristics and may not necessarily indicate the sensitivity of net interest income in a changing interest rate environment.

Interest Rate Sensitivity Analysis at December 31, 2018 (\$ in Millions)

	One Month or Less	Over One Month Through Six Months	Over Six Months Through One Year	Over One Year Through Five Years	Over Five Years and Not Rate Sensitive	Total
Interest-earning Assets:						
Floating-rate Loans:						
Adjustable-rate/Indexe-rate Loans	\$ 38,595	\$ 4,773	\$ 46	\$ 39	\$ -	\$ 43,453
Administered-rate Loans	16,823	-	-	-	-	16,823
Fixed-rate Loans:						
Fixed-rate Loans ⁽¹⁾	1,968	4,969	2,741	9,201	12,274	31,153
Fixed-rate Loans, Prepayable ⁽²⁾	193	714	881	6,072	4,879	12,739
Nonaccrual Loans	-	-	-	-	326	326
Total Loans	57,579	10,456	3,668	15,312	17,479	104,494
Federal Funds Sold and Other Overnight Funds	1,300	-	-	-	-	1,300
Investment Securities	7,590	2,887	1,965	13,439	5,411	31,292
Total Interest-earning Assets⁽³⁾	\$ 66,469	\$ 13,343	\$ 5,633	\$ 28,751	\$ 22,890	\$ 137,086
Interest-bearing Liabilities:						
Callable Bonds and Notes	\$ 218	\$ 639	\$ 1,466	\$ 4,702	\$ 2,708	\$ 9,733
Noncallable Bonds and Notes	56,490	11,958	8,745	24,106	15,367	116,666
Bonds, Medium Term Notes and Discount Notes	56,708	12,597	10,211	28,808	18,075	126,399
Effect of Interest Rate Swaps, Forwards, Futures, etc.	10,280	(877)	(1,326)	(7,698)	(379)	-
Cash Investment Services Payable and Other						
Interest-bearing Liabilities	973	10	-	45	205	1,233
Total Interest-bearing Liabilities	\$ 67,961	\$ 11,730	\$ 8,885	\$ 21,155	\$ 17,901	\$ 127,632
Interest Rate Sensitivity Gap (Total Interest-earning Assets less Total Interest-bearing Liabilities)	\$ (1,492)	\$ 1,613	\$ (3,252)	\$ 7,596	\$ 4,989	\$ 9,454
Cumulative Gap	\$ (1,492)	\$ 121	\$ (3,131)	\$ 4,465	\$ 9,454	
Cumulative Gap/Total Interest-earning Assets	(1.09) %	0.09 %	(2.28) %	3.26 %	6.90 %	

⁽¹⁾ Prepayment penalties apply that compensate CoBank for economic losses.

⁽²⁾ Freely prepayable or only minimal prepayment penalties apply.

⁽³⁾ Does not include \$1.4 billion in cash and cash equivalents as of December 31, 2018.

The preceding table excludes \$1.4 billion of cash and cash equivalents as of December 31, 2018. Our interest rate sensitivity position at December 31, 2018 may be characterized as “asset sensitive” to net interest income risk. As detailed on page 52, our net interest income will generally be favorably impacted in the near term in rising interest rate environments.

We continually monitor interest rates and have the ability to reposition our balance sheet as a result of anticipated interest rate changes. If we expected a meaningful change to interest rates, we could shift our position in short order.

Duration Gap Analysis

The duration gap is the difference between the estimated durations of assets and liabilities, which is calculated using an asset/liability model. The duration gap summarizes the extent to which estimated cash flows for assets and liabilities are matched, on average, over time. A positive duration gap means there is increased market value exposure to rising interest rates over the long-term because it indicates that the duration of our assets exceeds the duration of our liabilities. A negative duration gap indicates increased exposure to declining interest rates over the long-term because the

duration of our assets is less than the duration of our liabilities. We apply the same interest rate methods, prepayment models, and volatility assumptions to generate the portfolio duration gap that we use in our sensitivity analysis, which is discussed below. The duration gap provides a relatively concise and simple measure of the interest rate risk inherent in our balance sheet, but it is not directly linked to expected future earnings performance. Our aggregate positive duration gap was 2.5 months at December 31, 2018 and 2.3 months at December 31, 2017.

Sensitivity Analysis

We use asset/liability models to evaluate the dynamics of our balance sheet and to estimate earnings volatility under different interest rate scenarios. Our analysis includes calculating the impact of significant increases or decreases in interest rates on net interest income, over a 12 month period, and the estimated market value of equity.

Our analysis estimates the effect of immediate and sustained parallel positive (up) and negative (down) shifts in the yield curve (called “shocks”) of down 300, down 200, down 100, up 100, up 200 and up 300 basis points. Pursuant to regulation and our Board policy, when the three-month

Treasury rate is below 4 percent, as it was for each of the periods presented, we perform a shock equal to one-half the three-month Treasury rate. This resulted in downward shocks of -120 basis points, -69 basis points, and -25 basis points at December 31, 2018, 2017 and 2016, respectively. When analyzing net interest income at risk, we also estimate the effect of gradual upward or downward changes in market rates (called “ramps”) over a one-year period of 100, 200 and 300 basis points, where possible.

The following tables summarize the impact of interest rate changes on net interest income and the market value of equity. Market value of equity is the net present value of all future cash flows discounted to a valuation date, using discounting factors derived from observed market rates on the same valuation date. In all cases, the underlying assumptions and hedging strategies are held constant so that results are comparable from scenario to scenario. However, actual results would differ to the extent changes in strategy were undertaken to mitigate the unfavorable impact of interest rate changes.

Net Interest Income at Risk			
December 31,	2018	2017	2016
Scenario:			
- 300 bp shock	n/a	n/a	n/a
- 200 bp shock	n/a	n/a	n/a
- 120 bp shock	(0.8) %	n/a	n/a
- 100 bp shock	(1.1)	n/a	n/a
- 69 bp shock	n/a	(1.9) %	n/a
- 25 bp shock	n/a	n/a	(0.7) %
+ 100 bp shock	1.6	2.0	2.1
+ 200 bp shock	3.1	3.8	4.2
+ 300 bp shock	4.5	5.4	5.7
- 300 bp ramp	n/a	n/a	n/a
- 200 bp ramp	n/a	n/a	n/a
- 100 bp ramp	(0.2)	n/a	n/a
+ 100 bp ramp	1.3	0.6	1.0
+ 200 bp ramp	2.0	1.2	1.8
+ 300 bp ramp	2.7	1.6	3.4

Market Value of Equity at Risk			
December 31,	2018	2017	2016
Scenario:			
- 300 bp shock	n/a	n/a	n/a
- 200 bp shock	n/a	n/a	n/a
- 120 bp shock	4.4 %	n/a	n/a
- 100 bp shock	3.9	n/a	n/a
- 69 bp shock	n/a	2.8 %	n/a
- 25 bp shock	n/a	n/a	1.2 %
+ 100 bp shock	(4.8)	(4.6)	(4.9)
+ 200 bp shock	(9.5)	(9.3)	(9.9)
+ 300 bp shock	(14.0)	(13.9)	(14.8)

Our net interest income is impacted negatively in the declining interest rate scenarios due to an asset sensitive balance sheet position as of December 31, 2018. Our Board limits the amount of adverse change to net interest income and market value of equity under a down regulatory shock and an up 200 basis point rate shock. The limit for market value of equity was 15 percent and the limit for net interest income was 10 percent for all three years presented. At December 31, 2018, 2017 and 2016, we were within our policy limits as detailed in the preceding tables.

Forecasting

We update our asset/liability model monthly with information on loans, investment securities, borrowings and derivatives. This “current position” is the starting point for all analysis. The current position data is then combined with assumptions and independent interest rate forecasts, including market implied forward rates, to derive our estimates of future net interest income. Generally, we set assumptions on pricing, maturity characteristics and funding mix using trend analysis of actual asset and liability data.

Net interest income projections are derived utilizing different interest rate scenarios to assess the sensitivity of net interest income to changing interest rates. We obtain independent interest rate projections designed around economic forecasts that estimate the most likely path of interest rates for the planning horizon and alternate views of an expanding economy and a slowing economy. We also review the impact on net interest income of parallel and nonparallel shifts in the yield curve over different time horizons.

Use of Derivatives

We use derivatives as an integral part of our market risk management activities. To achieve risk management objectives and satisfy the financing needs of our borrowers, we execute various derivative transactions with other financial institutions. Derivatives (primarily interest rate swaps) are used to manage liquidity and the market risk arising from maturity and repricing mismatches between assets and liabilities. We also hedge cap and floor risk embedded within our floating-rate investments and loans by entering into derivative transactions. In addition, we execute foreign exchange spot and forward contracts to manage currency risk on our relatively nominal amount of loans denominated in foreign currencies. We also enter into derivatives for our customers as a service to enable them to transfer, modify or reduce their interest rate risk and foreign exchange risk. The notional amounts of derivatives, weighted average interest rates to be received and paid, and fair values at December 31, 2018, are shown in the following table. We also discuss derivatives in Note 11 to the accompanying consolidated financial statements.

Derivative Financial Instruments at

December 31, 2018 (\$ in Millions)

Derivative Product	Notional Amount	Weighted Average Receive Rate	Weighted Average Pay Rate	Fair Value
Receive Fixed Swaps	\$ 14,147	1.97 %	2.46 %	\$ (3)
Receive Fixed				
Amortizing Swaps	5,366	2.42	2.60	9
Pay Fixed Swaps	3,600	2.86	2.33	23
Pay Fixed				
Amortizing Swaps	5,366	2.60	2.26	30
Interest Rate Options	4,360	-	-	42
Foreign Currency				
Spots and Forwards	85	-	-	-
Total	\$ 32,924	2.29 %	2.43 %	\$ 101

The following section includes a summary of our derivatives portfolio by strategy and further explanation of each strategy.

Notional Amounts of Derivative

Financial Instruments by Strategy (\$ in Millions)

December 31,	2018	2017	2016
Liquidity Management	\$ 9,587	\$ 9,502	\$ 9,162
Equity Positioning	952	1,351	2,186
Options Risk Management ⁽¹⁾	3,862	4,647	2,657
Customer Transactions	18,443	15,989	13,067
Foreign Currency Risk			
Management ⁽²⁾	80	172	186
Total	\$ 32,924	\$ 31,661	\$ 27,258

⁽¹⁾ Excludes \$498 million, \$476 million and \$443 million of interest rate options at December 31, 2018, 2017 and 2016, respectively, which are classified as customer transactions.

⁽²⁾ Excludes \$5 million, \$11 million and \$41 million of foreign currency spot and forward contracts at December 31, 2018, 2017 and 2016, respectively, which are classified as customer transactions.

Liquidity Management

Interest rate swaps are executed to improve liquidity, primarily by effectively converting specific longer-term fixed-rate bonds and notes into floating-rate debt indexed to LIBOR or similar short-term rates. The fixed rate received on the swap largely offsets the fixed rate paid on the associated debt leaving a net floating-rate payment on the swap. This allows us to issue longer-term fixed-rate debt and still match fund the predominantly short-term repricing nature of our interest-sensitive asset portfolio. Liquidity risk management is discussed further on the following page.

Equity Positioning

We also use interest rate swaps to manage market risk as it relates to investment of our equity. If the cash flows of loans and investments on the balance sheet do not create the targeted maturity for the investment of our equity, we enter into receive-fixed interest rate swaps to produce the desired equity investment maturity profile.

Options Risk Management

In the course of managing risk in our investment and loan portfolios, we periodically hedge cap and floor risk embedded within our floating-rate investments and loans by entering into derivative transactions.

Customer Transactions

Derivatives are offered to customers as a service to enable them to modify or reduce their interest rate and foreign exchange risk by transferring such risk to us. We offset this risk transference by concurrently entering into offsetting agreements with counterparties.

Foreign Currency Risk Management

We enter into foreign exchange spot and forward contracts to manage currency risk on our relatively nominal amount of loans denominated in foreign currencies. Typically, foreign currency contracts are purchased to fund the principal cash flows of the loan and simultaneously sold to lock in the principal and interest cash flows upon the repricing or maturity date of the loan.

Liquidity Risk Management

Liquidity risk is the risk arising from an inability to repay or issue obligations to fund borrowers and operations on a timely basis. We must continually raise funds to provide credit and related services to customers, repay maturing debt obligations and meet other obligations. Our primary sources of liquidity are the ability to issue Systemwide Debt Securities and the use of available cash. As a result of the System's credit quality and standing in the capital markets as a GSE, we have traditionally maintained ready access to debt-funding, notwithstanding volatility in the credit markets. Additionally, if necessary, we could convert high credit quality liquid investments to cash.

One of the ways in which we measure and monitor our liquidity position is by assuming no ability to issue debt and calculating the number of days into the future we could meet maturing debt obligations by using available cash and eligible investments. System banks are required by regulation to maintain a minimum of 90 days of liquidity (cash and readily marketable investments generally discounted by 5 to 10 percent of market value) on a continuous basis and to establish an incremental liquidity reserve. At December 31, 2018, our liquidity was 177 days, compared to 176 days at December 31, 2017. During 2018, we averaged 176 days of liquidity compared to an average of 182 days in 2017.

FCA regulations require each System bank to maintain a three-tiered liquidity reserve. The first tier consists of a sufficient amount of cash and cash-like instruments to cover each bank's maturing debt for 15 days. The second and third tiers contain highly liquid instruments sufficient to cover each bank's maturing debt for the next 15 and subsequent 60 days, respectively. In addition, the banks are required to establish an incremental liquidity reserve composed of eligible investments, which can be drawn upon during an emergency and which is sufficient to cover each bank's liquidity needs beyond 90 days. CoBank has established a minimum liquidity standard of 150 days, which is 60 days greater than the 90 days resulting from the tier one through tier three regulatory standards.

Our liquidity management objectives are to provide a reliable source of funding to borrowers, meet maturing debt obligations, provide additional liquidity if market conditions

deteriorate and to fund operations on a cost-effective basis. Approximately 62 percent of our interest-earning assets mature or reprice in one year or less with 48 percent maturing or repricing in one month or less. Match-funding these assets from a maturity perspective would create an unacceptable concentration of short-term liabilities. Instead, we manage this risk by issuing longer-term fixed-rate debt and swapping this debt from a fixed to floating rate using derivative transactions, as previously described, or by issuing term floating-rate debt. By so doing, we reduce the need to fund maturing liabilities on any given business day to a more manageable level. While we believe that sufficient resources are available to meet liquidity management objectives through our debt maturity structure, holdings of liquid assets and access to the capital markets via the Funding Corporation, the volatility of our loan volume and the cash flow requirements from our cash management program causes our liquidity needs to vary significantly from day to day.

The amounts and maturities of our debt obligations are set forth in the table below.

Debt Maturities as of December 31, 2018 (\$ in Millions)		
	Book	Par
1 Day ⁽¹⁾	\$ 953	\$ 953
2-7 Days	1,058	1,058
8-30 Days	5,141	5,144
31-90 Days	10,303	10,316
91-180 Days	14,313	14,346
181-365 Days	27,030	27,129
1-5 Years	49,567	49,608
Over 5 Years	19,267	19,254
Total	\$ 127,632	\$ 127,808

⁽¹⁾ Includes \$99.2 million of cash collateral payable to derivative counterparties that does not have a stated maturity date.

See Notes 5 and 15 to the accompanying consolidated financial statements for information regarding interest rates and maturities of Systemwide Debt Securities, and contingencies.

Due to the often volatile funding needs of certain customers, in particular Agribusiness customers impacted by seasonal borrowing requirements and changing commodity prices and supplies, we provide a significant amount of revolving loan commitments. At December 31, 2018, commitments to extend credit and commercial letters of credit were \$27.3 billion and \$55.8 million, respectively. In addition, we provide standby letters of credit, which guarantee payment or performance of an obligation. As of December 31, 2018, the maximum amount of future payments that could potentially be required under standby letters of credit was \$1.2 billion. Since many of these commitments may expire without being drawn, the total commitments do not necessarily represent future cash requirements. Our exposure to many of these commitments is mitigated by borrowing base requirements contained in loan agreements. See Note 10 to the accompanying consolidated financial statements for a full discussion of financial instruments with off-balance sheet risk.

Our liquidity plan covers certain contingencies in the event our access to normal funding sources is disrupted. We purchase only high credit quality investments to ensure our investment portfolio is readily marketable and available to serve as a source of contingent funding. Our investment portfolio may also be used as collateral to borrow funds to cover maturing liabilities and other needs. We are required by FCA regulations to exclude from our liquidity reserve certificates of deposit that no longer carry one of the two highest short-term credit ratings, non-agency MBS and ABS that are no longer rated triple-A by at least one major rating agency, corporate bonds that no longer carry one of the two highest ratings by at least one major rating agency or any investment whose market value is less than 80 percent of book value. As a result, as of December 31, 2018 and 2017, \$131.3 million and \$437.2 million, respectively, of securities were not included in our liquidity reserve.

We have identified certain portions of our loan portfolio that we believe could be sold or participated out in the event our access to normal funding mechanisms is disrupted. These loans serve as an additional source of contingent funding. We also maintain uncommitted lines of credit with various financial institutions that could provide liquidity during unanticipated short-term disruptions in funding. However, it is uncertain whether we would be able to sell or participate loans or fully utilize uncommitted lines of credit in the event of a systemic funding disruption.

An additional source of liquidity is cash provided by our operating activities (primarily generated from net interest income in excess of operating expenses), which totaled \$1,464 million, \$1,016 million and \$1,011 million in 2018, 2017 and 2016, respectively.

The assets of the Insurance Fund would be used to repay maturing Systemwide Debt Securities, to the extent available, if no other sources existed to repay such debt. 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, 2019, unless otherwise extended. 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.

Operational Risk Management

Operational risk is the risk arising from human errors or misconduct, failures in human capital objectives, inadequate enterprise information management, systems and technology or process failures, and external cyber risk and data security impacting the Bank, our critical vendors or our customers. We utilize a risk management framework, business policies and processes, and employee training and disclosures to manage operational risk. Under this framework, business segments and support units have direct and primary responsibility and accountability for identifying, controlling and monitoring operational risk. Managers maintain controls with the objective of providing proper transaction authorization and execution, proper system operations, safeguarding of assets from misuse or theft, fraud monitoring and ensuring access, reliability and security of financial and other data. Employees receive regular training on business ethics, fraud identification and prevention, compliance with laws and regulations, and information security. Employees are also subject to standards of conduct requirements in the performance of their job responsibilities, including the periodic disclosure of potential conflicts of interest. We also mitigate operational risk through the use of insurance coverages.

Business continuity and disaster recovery planning are important mitigants to potential operational risks. Critical business units, including our Information Technology Division, are required to develop, maintain and test such plans at least annually to ensure that continuity and recovery activities, if needed, could sustain critical functions including systems and information supporting customers and business operations. While we believe that we have designed effective business continuity policies and procedures, there is no absolute assurance that business disruption or operational losses would not occur in the event of a disaster.

Our Risk Management Group is responsible for coordinating the completion of the quarterly and annual risk assessment and reports results to senior management and the Board. Our internal audit function validates internal controls through risk-based, regular audits, and reports on the effectiveness of internal controls to executive management and the Audit Committee of the Board of Directors. In addition, the CRO reports annually to the Audit Committee of the Board of Directors on the current state of the Bank's risks and controls. The asset review function evaluates the adequacy and effectiveness of the Bank's internal control processes related to loan quality, collateral, credit administration and risk identification. The Audit Committee of the Board of Directors reviews, modifies as necessary, and approves the scope and level of review performed by the internal audit and asset review functions.

The Enterprise Risk Management Division, which is part of the Risk Management Group, is responsible for aggregating and monitoring enterprise-wide risk. This Division is responsible for the maintenance and development of the model and third-party risk management programs. As with other risks, business segments and support units have direct and primary responsibility and accountability for identifying, controlling and monitoring these risks.

To enhance our governance and internal controls, we apply policies and procedures that mirror the material provisions of the Sarbanes-Oxley Act of 2002, including section 404, *Management Assessment of Internal Controls Over Financial Reporting*.

Strategic and Reputation Risk Management

Strategic risk is the risk to current or anticipated earnings, capital, or enterprise value arising from adverse business decisions or lack of responsiveness to changes in the banking/operating environment. Reputation risk is the risk arising from negative external perception about CoBank. The Bank is subject to a wide variety of reputation risks both within and outside its control, including, among other things, credit difficulties with individual customers or industries, business disputes, lawsuits, credit market disruptions, regulatory events, public criticism by competitors, public allegations of misconduct and misunderstanding of our lending authorities or congressionally-mandated mission. As a member of the System, CoBank could be indirectly impacted by events that damage the reputation of another System entity.

Effective Board governance, strong management, solid business plan execution and business practices ensuring conformity with laws and regulations and consistency with CoBank's mission are key controls in ensuring strategic alignment and managing and mitigating the Bank's reputation risk.

The Board has adopted leading industry practices in its governance of CoBank. Consistent with these practices, CoBank directors are required to meet prescribed qualifications standards prior to standing for election. Directors are required to complete initial training upon election and subsequent training during their tenure. The Board conducts annual self-evaluations and a periodic peer evaluation. As part of its ongoing processes, the Board is required to convene a restructuring committee at least once every five years to review current governance practices and make recommendations for changes to those practices to ensure a strong and equitable governance structure is maintained. In 2014, a Board restructuring committee was convened to examine key aspects of governance at CoBank, including board size, director terms, voting methods, the number and geography of voting regions, and eligibility requirements for director candidates. In 2015, CoBank shareholders approved bylaw amendments implementing a plan to reduce the size of the Board of Directors. Pursuant to the plan, which began to take effect in 2016, a total of 10 Board seats will be eliminated by 2020, reducing the number of elected directors on the Board from 24 to 14. The Board will also have up to four appointed directors and will continue to have two outside directors with no customer or System affiliations.

The Bank regularly communicates with customer-owners to ensure they have the information they need to accurately evaluate the Bank's overall business and financial performance. Furthermore, customers, System partners and others have regular access to members of the Board of Directors and management through numerous customer and

industry meetings and events held by the Bank throughout the year, which helps to ensure the Bank is aligned with the interests of its members.

CoBank's executive management team possesses the requisite banking skills and experience, financial expertise and sophistication to run the Bank. CoBank identifies and develops leaders from within the organization through talent management and development processes, and attracts high-quality talent from external sources.

The controls and processes surrounding credit risk, market risk, liquidity risk and operational risk mitigate reputation risk by lowering the likelihood of significant problems in each of those areas. In addition, the Bank has a formal crisis communications plan in place in order to help it manage communications with stakeholders if an unplanned, reputation-impacting event occurs.

We place considerable emphasis on ethical behavior and ensure that our directors and employees receive regular training related to business ethics, fraud identification and prevention, compliance with laws and regulations, and information security. In addition, as discussed on page 169, each year all employees certify their compliance with our Associate Responsibilities and Conduct Policy. Senior officers and other senior professionals with financial reporting or critical decision making responsibilities also annually certify compliance with the Bank's code of ethics.

As a mission-based lender, CoBank is committed to mission objectives that expand market penetration into an increasingly diverse customer base. Our Board-directed activities include supporting causes and programs that support the health and welfare of rural communities and the industries we serve across rural America. By strengthening relationships with key stakeholders and enriching service to agriculture, rural infrastructure and rural communities, CoBank's corporate social responsibility program aims to make a positive impact in our marketplace. The Bank also supports and participates in various committees which manage the System's reputation and business practices. These committees, which consist of representatives from Farm Credit banks and Associations, coordinate business and operational issues across System institutions.

Regulatory and Compliance Risk Management

Regulatory and compliance risk is the risk to current or anticipated earnings, capital, or reputation arising from failure to comply with laws or regulations. We are subject to a variety of regulatory and compliance risks. We actively manage and mitigate these risks through quarterly evaluation and monitoring within the Bank's Enterprise Risk Management framework. We have designated a Chief Regulatory, Legislative and Compliance Officer as an integrated second line of defense along with the CRO and CCO roles. CoBank monitors and comments on emerging regulatory requirements. Our Compliance Group provides assistance to business lines with the implementation of new requirements, and performs internal reviews of the Bank's compliance with legal and regulatory requirements on an as-needed basis or to address complex compliance areas. The Bank's management of

regulatory and compliance risk is closely coordinated with the General Counsel to address potential litigation risk that may arise from ongoing business activities. Our internal audit and asset review divisions also review compliance with regulatory requirements. In addition, we are subject to review by the FCA and other governmental authorities, which could lead to enforcement actions, fines and penalties or the assertion of private litigation claims and damages. While we believe that we have adopted appropriate risk management and compliance programs, legal and compliance risks will continue to exist. Further, additional legal proceedings and other contingencies, the outcome of which cannot be predicted with certainty, will arise from time to time.

Other Risk Factors

Joint and Several Liability for the Debt of the Farm Credit System

Farm Credit System banks and Associations are not authorized to accept deposits and therefore cannot use deposits as a funding source. Instead, banks raise funds for their operations primarily through Systemwide Debt Securities issued on the banks' behalf by the Funding Corporation. Systemwide Debt Securities are the joint and several liabilities of the System banks and are not obligations of, nor are they guaranteed by, the U.S. government or a U.S. Agency or instrumentality thereof, other than the System banks. Under the Farm Credit Act, each System bank is primarily liable for the portion of the Systemwide Debt Securities issued on its behalf. At December 31, 2018, we were primarily liable for \$126.4 billion of Systemwide Debt Securities. Additionally, each System bank is contingently liable for Systemwide Debt Securities of the other System banks. At December 31, 2018, the total aggregate principal amount of the outstanding Systemwide Debt Securities was \$281.5 billion.

Although the System banks have established mutual covenants and measures, which are monitored on a quarterly basis, there is no assurance that these would be sufficient to protect a System bank from liability should another System bank default and the Insurance Fund be insufficient to cure the default. See Note 5 to the accompanying consolidated financial statements for a more complete description of the interbank agreements among the System banks.

The Insurance Fund, which totaled \$5.0 billion as of December 31, 2018, is available from the Insurance Corporation to ensure the timely payment by each System bank of its primary obligations on Systemwide Debt Securities and can also be used by the Insurance Corporation for its operating expenses and for other mandatory and permitted purposes. Under the Farm Credit Act, before joint and several liability can be invoked, available amounts in the Insurance Fund would first be exhausted. There is no assurance, however, that the Insurance Fund would have sufficient resources to fund a System bank's defaulted obligations. If the Insurance Fund was insufficient, then the remaining System banks would be required to pay the default amount in proportion to their respective available collateral positions.

Available collateral approximates the amount of total shareholders' equity of the System banks. The Insurance Corporation does not insure any payments on our other debt obligations, preferred stock or common stock. See Note 5 to the accompanying consolidated financial statements for more information about the Insurance Fund.

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, 2019, unless otherwise extended. 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.

To the extent we must fund our allocated portion of another System bank's portion of the Systemwide Debt Securities due to a default, our earnings and total shareholders' equity would be reduced, possibly materially.

Reforms Impacting Government Sponsored Enterprises Could Have an Adverse Impact on our Business

The System is a GSE and, as a member of the System, CoBank benefits from ready access to debt funding and favorable debt-funding costs. Our individual credit ratings are also positively impacted by the GSE status of the System. In addition, as provided in our charter, portions of our business activities, including lending to Associations, are exempt from many forms of taxation, including federal income taxes.

As a direct result of the financial difficulties experienced by the housing-related GSEs, with both Fannie Mae and Freddie Mac having been placed into conservatorship by the U.S. government, GSE status has been and will continue to be a topic of debate and concern to various stakeholders, including the public and Congress. Congressional deliberations over structural reform of the housing-related GSEs are likely to continue. The Bank and the System are under the jurisdiction of the U.S. Senate and House of Representatives Committees on Agriculture and thus have not been the subject of this specific congressional scrutiny. However, there could be some risk that further efforts to reform GSEs would impact the System's status or erode some of the GSE-related benefits that it currently enjoys, including favorable funding costs and funding flexibility.

Our Funding Costs Could Be Negatively Impacted by Downgrades of the Long-Term U.S. Sovereign Credit Rating and the System's Long-Term Debt Rating

As a member of the System, we have historically benefited from the favorable funding costs and funding flexibility associated with the debt securities issued through the Funding Corporation. The credit ratings of GSEs, including the System, are influenced by the sovereign credit rating of the United States. S&P currently maintains the long-term sovereign credit rating of the United States of AA+, which continues to drive its AA+ long-term debt rating of the System. Both Moody's Investors Service (Moody's) and Fitch Ratings Inc. (Fitch) currently maintain the long-term sovereign credit rating for the United States and its agency securities of AAA, which continues to drive their AAA long-term debt rating of the System. Any future downgrades could negatively impact funding costs, earnings and funding flexibility for CoBank and other System institutions.

Our Funding is Dependent Upon the System's Ability to Access the Capital Markets

The primary source of liquidity for CoBank and the other System institutions is the ability to issue Systemwide Debt Securities. This access has provided the System with a dependable source of funding. The System's ability to continue to issue Systemwide Debt Securities depends, in part, on the conditions in the capital markets, which are outside the System's control. As a result, the System cannot make any assurances that it will be able to fund itself by issuing Systemwide Debt Securities. If the System cannot issue Systemwide Debt Securities or cannot access the capital markets, CoBank's funding would be negatively impacted, which would have a negative effect on our financial condition and results of operations, which could be material.

We are Subject to Liquidity Risk with Respect to Certain Investments and Derivatives

We are subject to liquidity risk in the course of our investing activities, particularly with respect to our investments in non-agency MBS and ABS and corporate bonds, which together represent approximately 5 percent of our investment securities held for liquidity as of December 31, 2018. In volatile market conditions, it could be difficult to sell such investments, if the need arises, and the discounts from face value would likely be significant. 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 our investments may differ significantly from the values that would have been used had a ready market existed for the investments.

Our over-the-counter derivative contracts require the Bank or its counterparties to post cash or securities as collateral when the fair values of the derivatives change based on changes in interest rates. Collateral is exchanged between parties daily with zero posting thresholds for all counterparties. Likewise, the Bank is required to pledge initial margin and make daily settlement payments related to our cleared derivative transactions. As a result of these derivative

contracts, we are exposed to liquidity risk when changes in interest rates require us to post collateral to our counterparties, or make settlement payments for changes in the fair value of cleared derivatives. As of December 31, 2018, our counterparties had posted \$99.2 million in cash as collateral with us. Additionally, initial margin and settlement payments totaling \$46.5 million and \$61.9 million, respectively, were held by our CCP for our cleared derivatives as of December 31, 2018.

CoBank and Our Affiliated Associations Face Intense Competition in a Rapidly Changing Financial Services Industry

CoBank and our affiliated Associations face intense competition from commercial banks, thrift institutions, insurance companies, finance companies, mortgage banking companies, other GSEs, U.S. Agencies and the U.S. government. Future results may become increasingly sensitive to fluctuations in the volume and cost of lending activities. Furthermore, continued expansion of the digital economy, technological advances and the introduction of disruptive technologies have altered how many financial services get delivered to customers and have introduced new competitors for certain services. There can be no assurance that CoBank or our affiliated Associations will be able to continue to successfully compete in the markets we serve or to effectively adapt to technological or other changes impacting the financial services marketplace.

Uncertainty Surrounding Potential Changes to LIBOR

On July 27, 2017, the United Kingdom Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit LIBOR rates after 2021. Furthermore, 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. Specifically, the ARRC has proposed the Secured Overnight Financing Rate (SOFR) as the recommended alternative to LIBOR. At this time, it is not possible to predict whether any such changes will occur, whether LIBOR will be phased out or any such alternative reference rates or other reforms to LIBOR will be enacted in the United Kingdom, 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 our borrowings, loans, investments and derivatives. Reform of, or the replacement or disappearance of, LIBOR and other "benchmarks" may adversely affect the rates of interest we pay on Systemwide Debt as well as the value of and return on our loans and investments and the value and effectiveness of our derivatives. This could have an adverse effect on our cash flows. Moreover, if LIBOR is replaced, we will need to take steps to restructure our LIBOR-based instruments, which could adversely affect our operations. We are currently evaluating the potential impact of the eventual replacement of the LIBOR benchmark interest rate, including the possibility of using

SOFR as the alternative to LIBOR. The transition from LIBOR to SOFR 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. Accordingly, the transition may introduce additional basis risk for us, as a market participant. There can be no guarantee that SOFR will become the dominant alternative to LIBOR or that SOFR will be widely used. In addition, other alternatives may or may not be developed with additional complications.

Relationship with the Federal Agricultural Mortgage Corporation

Farmer Mac is a federally chartered corporation that was established to create a secondary market for agricultural mortgages and other loans. Although Farmer Mac is statutorily defined as an institution of the System and is examined and regulated by the FCA, it is financially and operationally separate and distinct from the System, and any reference to “the System” herein does not include Farmer Mac. Neither CoBank nor any other System entity is liable for any debt or obligation of Farmer Mac. Further, the assets of the Insurance Fund do not support any debt or obligation of Farmer Mac nor do the System’s independent credit ratings apply to Farmer Mac. Except for contractual obligations arising from business transactions between Farmer Mac and certain System institutions, Farmer Mac is not liable for any debt or obligation of any System entity, including Systemwide Debt Securities, either directly or on a joint and several basis. At December 31, 2017 and 2016, CoBank held \$78.0 million and \$96.8 million of agricultural MBS guaranteed by Farmer Mac. During 2018, CoBank sold all of its remaining Farmer Mac MBS.

We believe that if Farmer Mac, as an institution of the System, were to experience financial difficulty, it could create financial, reputational, political and/or regulatory risk to the System.

We Are Subject to Cybersecurity Risks that Could Negatively Affect Our Ability to Conduct and Manage Our Business

Information security risk at financial institutions has increased in recent years as a result of the proliferation of new technologies and the increased activities of organized crime, hackers and other external parties. CoBank and its customers, like many other financial institutions and their customers, have been the target of cyber-attacks aimed at committing fraud. Companies across many industries, including financial institutions, have reported being victims of cyber-attacks, resulting in, among other things, compromise of customer or

other confidential data, theft of funds or resources and disruption of services. Cybersecurity and the continued development and enhancement of our controls, processes, and systems to protect our information systems and data remain a priority for CoBank. To date, we have not experienced any material losses relating to cyber-attacks. Although we believe we have robust information security procedures and controls, our information systems, as well as those of our customers, used to access our services, may become the target of further cyber-attacks, which could result in material losses. Our risk and exposure to cyber-attacks remain high due to the evolving nature of such attacks. We also rely on third-party service providers to conduct various aspects of our business operations and face similar risks relating to them. While we conduct security reviews on these third parties, we cannot ensure their security protocols are sufficient to withstand a cyber-attack or other security breach.

We Are Subject to Risks Arising From Changes to Our Collaborative Partnerships With Other System Entities

CoBank’s collaborative partnerships with other System entities are key to the Bank’s financial growth, strength and stability. These collaborations are rooted in the philosophy that working constructively together optimizes our ability to fulfill our mission to serve rural America. In addition, we continue to collaborate with our affiliated Associations on business model solutions that further strengthen the ability to fulfill our collective mission, including through the more efficient use of capital. Notwithstanding the importance of these relationships and collaborations, Systemwide exposures could result from negative perception, regulatory risk, or inter-related financial risks arising from other System entities. The failure to maintain effective System cooperation in mitigating these exposures could adversely affect our financial condition, results of operations and ability to meet the needs of our customers.

Our Ability to Attract and Retain Qualified Board Members, Senior Officers and Employees is Critical to Successfully Fulfilling Our Mission

The success of CoBank is dependent on the talents and efforts of our Board members, senior officers and employees, and the competition for individuals who possess the requisite knowledge of the banking, agricultural, finance and other relevant industries is intense. The failure to attract and retain qualified Board members, senior officers and employees could adversely affect our business performance, competitive position and the ability to fulfill our mission.

Liquidity and Capital Resources

Funding

We use our capital in addition to short-term and long-term debt to fund our assets. Our debt consists primarily of Systemwide Debt Securities issued on CoBank's behalf by the Funding Corporation. Refer to Notes 5 and 6 to the accompanying consolidated financial statements for additional information regarding our debt obligations.

As a member of the System, CoBank has traditionally maintained ready access to debt funding. As of December 31, 2018, Systemwide Debt Securities were rated AAA by Moody's and Fitch, and AA+ by S&P.

Investment Securities, Cash, Federal Funds Sold and Other Overnight Funds

We hold investment securities, cash, federal funds sold and other overnight funds primarily to maintain a liquidity reserve and to manage short-term surplus funds. In accordance with Board-approved policies, we purchase high credit quality investment securities with the aim of ensuring that the investment portfolio is readily marketable and available to serve as a source of liquidity in the event of disruption to our normal funding sources.

Our investment securities increased \$4.4 billion to \$31.3 billion at December 31, 2018 compared to \$26.9 billion at December 31, 2017. The following tables summarize our investment securities and related unrealized gains/losses by asset class.

Investment Securities (\$ in Millions)

	Amortized	Fair	Unrealized
December 31, 2018	Cost	Value	Gains (Losses)
Certificates of Deposit	\$ 975	\$ 975	\$ -
U.S. Treasury Debt	15,424	15,268	(156)
U.S. Agency Debt	2,257	2,239	(18)
Residential Mortgage-Backed:			
Ginnie Mae	2,969	2,940	(29)
U.S. Agency	5,613	5,528	(85)
Non-Agency	12	13	1
Commercial Mortgage-Backed:			
U.S. Agency	2,882	2,867	(15)
Corporate Bonds	120	119	(1)
Asset-Backed and Other	1,342	1,343	1
Total	\$ 31,594	\$ 31,292	\$ (302)

Investment Securities (\$ in Millions)

	Amortized	Fair	Unrealized
December 31, 2017	Cost	Value	Gains (Losses)
Certificates of Deposit	\$ 775	\$ 775	\$ -
U.S. Treasury Debt	11,137	11,029	(108)
U.S. Agency Debt	3,369	3,356	(13)
Residential Mortgage-Backed:			
Ginnie Mae	1,876	1,856	(20)
U.S. Agency	6,758	6,718	(40)
FHAVA Non-Wrapped			
Reperformer	235	257	22
Non-Agency	26	29	3
Commercial Mortgage-Backed:			
U.S. Agency	2,504	2,499	(5)
Agricultural Mortgage-Backed:			
Farmer Mac	79	78	(1)
Corporate Bonds	40	40	-
Asset-Backed and Other	225	233	8
Total	\$ 27,024	\$ 26,870	\$ (154)

At each reporting period, we perform impairment assessments of our investment securities based on evaluations of both current and future market and credit conditions and expected cash flows. Subsequent changes in market and credit conditions or expected cash flows could change these evaluations.

As all of our investment securities are classified as "available for sale", we recognize changes in the fair value of our investment securities in accumulated other comprehensive income (loss), a component of shareholders' equity, unless losses are credit-related and considered other-than-temporary, in which case that portion of the loss is recorded in earnings. We recorded unrealized losses on our investment securities of \$302.4 million in 2018 compared to unrealized losses of \$154.0 million in 2017. The unrealized losses recorded in both periods primarily related to the impact of higher market interest rates on the valuations of fixed-rate securities.

Approximately 92 percent of our investment securities are composed of securities that carry an explicit or implicit government guarantee. Another 3 percent are certificates of deposit with commercial banks. Credit risk in our investment portfolio primarily exists in the remaining 5 percent of investment securities that are not guaranteed by the U.S. government or a U.S. Agency, which include our certificates of deposit, non-agency MBS, corporate bonds and ABS. Excluding certificates of deposit with counterparties that carry the highest short-term credit rating, these securities collectively total \$1,475 million (fair value) of our total investment securities as of December 31, 2018. Credit risk in our investment portfolio also arises from counterparties to short-term investments and from the inability of guarantors and third-party providers of other credit enhancements to meet their contractual obligations to us.

We recorded no other-than-temporary impairment losses in 2018 and 2017. In 2016, we recorded \$0.8 million of impairment losses related to one investment security.

In 2018, we sold five U.S. Treasury debt securities for total proceeds of \$1.4 billion which approximated their combined book value. The U.S. Treasury debt securities were primarily sold to manage liquidity. We also sold all of our remaining FHA/VA non-wrapped reperformer MBS for total proceeds of \$262.1 million and eight non-agency debt securities for total proceeds of \$30.1 million resulting in gains of \$37.8 million and \$11.1 million, respectively. These securities sold were acquired in our 2012 merger with U.S. AgBank and were credit-impaired. We sold these securities to manage credit exposure and take advantage of favorable market conditions. Lastly, we sold our Farmer Mac MBS for total proceeds of \$61.0 million resulting in gains of \$0.1 million. The Farmer Mac securities were also acquired in the 2012 merger with U.S. AgBank.

In 2017, we sold nine U.S. Agency debt securities for total proceeds of \$1.6 billion as well as six non-agency MBS for total proceeds of \$34.1 million resulting in gains of \$1.7 million and \$7.7 million, respectively. The U.S. Agency debt securities were sold to better position our overall investment portfolio. The non-agency MBS had been previously impaired and were excluded from our liquidity reserve, and were sold due to favorable market conditions.

In 2016, we sold six U.S. Agency debt investment securities and a U.S. Treasury debt investment security for total proceeds of \$752.4 million resulting in gains of \$0.9 million for balance sheet positioning purposes. We also sold three FHA/VA non-wrapped reperformer MBS for total proceeds of \$54.9 million resulting in gains of \$2.9 million. These securities had been previously impaired and were excluded from our liquidity reserve, and were sold due to favorable market conditions. In addition, we sold six non-impaired corporate bonds for total proceeds of \$76.8 million resulting in gains of \$0.8 million. These corporate bonds were sold to manage credit exposure.

Derivatives

We use derivatives for the purposes described on page 53. Derivatives are recorded at fair value as assets or liabilities in the accompanying consolidated balance sheets. Changes in the fair value of these derivatives are accounted for as gains or losses through current period earnings or as a component of accumulated other comprehensive income (loss), depending on the use of the derivatives and whether they qualify for hedge accounting treatment. Net changes in the fair value of derivatives and hedged items recorded in the accompanying consolidated statements of income resulted in total gains of \$5.1 million and losses of \$2.6 million for 2018 and 2017, respectively. Changes in the fair value of derivatives recorded as other comprehensive income (loss) totaled a gain of \$28.7 million in 2018 and a loss of \$12.6 million in 2017.

Capital

We believe that a sound capital position is critical to our long-term financial success and future growth. Our shareholders' equity is primarily composed of common and preferred stock and retained earnings, and totaled \$9.5 billion and \$9.1 billion at December 31, 2018 and 2017, respectively.

The increase in 2018 was primarily due to our earnings of \$1,191 million, partially offset by \$571.8 million in cash patronage (including \$96.2 million of special cash patronage), \$86.9 million in preferred stock dividends and \$104.5 million in other comprehensive loss. Other comprehensive loss for 2018 was primarily driven by changes in the fair values of fixed-rate investment securities due to higher market interest rates.

Effective January 1, 2017, CoBank implemented new regulatory capital requirements (the New Capital Regulations), as required by the FCA. Under the New Capital Regulations, common equity tier 1 (CET1), which includes common stock and retained earnings, is the largest component of the Bank's capital structure. Preferred stock is also included in tier 1 regulatory capital, subject to certain limitations. In addition, our allowance for credit losses is included in tier 2 regulatory capital, subject to certain limitations. See "New Capital Regulations" on the following page for detailed discussion related to the FCA's capital adequacy regulations which require us to maintain certain minimum capital requirements.

In December 2016, our shareholders approved an increase in the amount of preferred stock that CoBank may have outstanding at any time from \$1.5 billion to \$2.5 billion effective January 1, 2017, and provided authorization for the Bank to issue preferred stock up to the new limit through December 31, 2026. These measures allow us to access outside capital more quickly and efficiently in response to dynamic market conditions, without the necessity of obtaining shareholder approval for each issuance. However, any preferred stock issuances would still require approval from the Board of Directors and the FCA. As of December 31, 2018, we had \$1.5 billion of preferred stock outstanding.

On April 8, 2016, we issued \$375 million of Series I non-cumulative perpetual preferred stock. We used the net proceeds from the Series I preferred stock issuance to increase our regulatory capital and for general corporate purposes. Dividends on the Series I preferred stock, if declared by the Board of Directors in its sole discretion, are non-cumulative and are payable semi-annually in arrears at a fixed annual rate of 6.25 percent from the date of issuance up to, but excluding, October 1, 2026. Thereafter, dividends will accrue at an annual rate equal to the 3-month USD LIBOR plus 4.66 percent and will be payable quarterly.

All of our outstanding preferred stock is included in tier 1 capital and permanent capital for regulatory capital purposes. Through December 31, 2016, all of our outstanding preferred stock was included in permanent capital, total surplus, and core surplus pursuant to the regulatory capital requirements effective at that time. All of our outstanding preferred stock ranks equally, both as to dividends and upon liquidation, and senior to all of our outstanding common stock.

We had no subordinated debt outstanding at December 31, 2018 and 2017 compared to \$500.0 million at December 31, 2016. For regulatory capital purposes under the New Capital Regulations, subject to certain limitations, our subordinated debt was included in tier 2 capital and permanent capital through the redemption date of June 15, 2017. Through December 31, 2016, subordinated debt was included as total

surplus and permanent capital, and excluded from total liabilities for purposes of calculating the net collateral ratio, also subject to certain limitations. On June 15, 2017, we redeemed all of our outstanding floating-rate subordinated notes due 2022 totaling \$500.0 million. The redemption price was 100 percent of the principal amount, together with accrued and unpaid interest up to, but excluding, the date of redemption. On April 15, 2016, we redeemed all of our outstanding 7.875 percent subordinated notes due in 2018 totaling \$404.7 million. The redemption price was 100 percent of the principal amount, together with accrued and unpaid interest up to, but excluding, the date of redemption. For information relating to a complaint filed by a number of investors who had held the subordinated notes due in 2018 alleging CoBank impermissibly redeemed the subordinated notes, see Note 15 to the accompanying consolidated financial statements.

We may from time to time seek to retire our outstanding debt or equity securities through calls, tender offers and/or exchanges, open market purchases, privately negotiated transactions or otherwise. Such calls, tender offers, exchanges, open market purchases or new issuances, if any, will depend on prevailing market conditions, the Bank's capital position and liquidity requirements, contractual restrictions, changes to capital regulations and other factors.

New Capital Regulations

In 2016, the FCA adopted the New Capital Regulations relating to regulatory capital requirements for System banks, including CoBank, and Associations. The New Capital Regulations took effect January 1, 2017. The stated objectives of the New Capital Regulations are as follows:

- To modernize capital requirements while ensuring that System institutions continue to hold sufficient regulatory capital to fulfill the System's mission as a government-sponsored enterprise;
- To ensure that the System's capital requirements are comparable to the Basel III framework and the standardized approach that the federal banking regulatory agencies have adopted, but also to ensure that the rules recognize the cooperative structure and the organization of the System;

- To make System regulatory capital requirements more transparent; and
- To meet certain requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act).

The New Capital Regulations, among other things, replaced existing core surplus and total surplus requirements with CET1, tier 1 and total capital (tier 1 plus tier 2) risk-based capital ratio requirements. The New Capital Regulations also added a tier 1 leverage ratio for all System institutions, which replaced the existing net collateral ratio for System banks. In addition, the New Capital Regulations established a capital conservation buffer and a leverage buffer; enhanced the sensitivity of risk weightings; and, for System banks only, required additional public disclosures. The revisions to the risk-weightings included alternatives to the use of credit ratings, as required by the Dodd-Frank Act.

The New Capital Regulations set the following minimum risk-based requirements:

- A CET1 capital ratio of 4.5 percent;
- A tier 1 capital ratio (CET1 capital plus additional tier 1 capital) of 6 percent; and
- A total capital ratio (tier 1 capital plus tier 2) of 8 percent.

The New Capital Regulations also set a minimum tier 1 leverage ratio (tier 1 capital divided by total assets) of 4 percent, of which at least 1.5 percent must consist of unallocated retained earnings (URE) and URE equivalents, which are nonqualified allocated equities with certain characteristics of URE.

The New Capital Regulations established a capital cushion (capital conservation buffer) of 2.5 percent above the risk-based CET1, tier 1 and total capital requirements. In addition, the New Capital Regulations established a leverage capital cushion (leverage buffer) of 1 percent above the tier 1 leverage ratio requirement. If capital ratios fall below the regulatory minimum plus buffer amounts, capital distributions (equity redemptions, cash dividend payments, and cash patronage payments) and discretionary senior executive bonuses are restricted or prohibited without prior FCA approval. The New Capital Regulations established a three-year phase-in of the capital conservation buffer beginning January 1, 2017. There is no phase-in of the leverage buffer.

As shown in the following table, at December 31, 2018, our capital and leverage ratios exceeded regulatory minimums. If these capital standards are not met, the FCA can impose restrictions, including limiting our ability to pay patronage distributions, retire equities and pay preferred stock dividends.

2018 and 2017 Regulatory Capital Requirements and Ratios

	Regulatory Minimums	December 31, 2018		December 31, 2017		Required Buffer
		Actual	Actual Buffer	Actual	Actual Buffer	
Common Equity Tier 1 Capital Ratio	4.5 %	12.38 %	7.88 %	11.67 %	7.17 %	2.5 % ⁽¹⁾
Tier 1 Capital Ratio	6.0	14.57	8.57	13.97	7.97	2.5 ⁽¹⁾
Total Capital Ratio	8.0	15.58	7.58	15.24	7.24	2.5 ⁽¹⁾
Tier 1 Leverage Ratio	4.0	7.53	3.53	7.26	3.26	1.0
Unallocated Retained Earnings (URE) and URE Equivalents Leverage Ratio	1.5	3.19	n/a	2.96	n/a	n/a
Permanent Capital Ratio	7.0	14.69	n/a	14.29	n/a	n/a

⁽¹⁾ The capital conservation buffer will be phased in over three years, reaching its full value of 2.5 percent in 2020.

See pages 129 through 138 for more information on required regulatory capital disclosures, including the components of the ratios displayed above.

Previous Capital Regulations

FCA regulations in effect through December 31, 2016 included requirements to maintain regulatory capital at or above minimum levels for our permanent capital ratio, total surplus ratio, core surplus ratio, and net collateral ratio. Our capital and collateral ratios calculated in accordance with the FCA regulations effective through December 31, 2016 are summarized as follows:

- The permanent capital ratio is quarterly average permanent capital (generally shareholders' equity and subordinated debt subject to certain limitations, excluding accumulated other comprehensive income (loss) and other deductions) as a percentage of quarterly average risk-adjusted assets.
- The total surplus ratio is quarterly average total surplus (quarterly average permanent capital, net of purchased stock) as a percentage of quarterly average risk-adjusted assets.
- The core surplus ratio is quarterly average core surplus (generally URE, non-cumulative preferred stock and a portion of common stock) as a percentage of quarterly average risk-adjusted assets.
- The net collateral ratio is net collateral (generally net loans, cash and investments) divided by total liabilities, as adjusted to exclude subordinated debt (subject to certain limitations) and the fair value of certain derivatives.

Pursuant to FCA guidance effective through December 31, 2016, a portion of our common stock was included in core surplus, subject to certain conditions. Through December 31, 2016, the FCA required us to also calculate our core surplus ratio excluding common stock and had established a 3.0 percent minimum for such ratio. As of

December 31, 2016, our core surplus ratio excluding common stock was 9.55 percent. As displayed in the following table, at December 31, 2016, 2015 and 2014, we exceeded the minimum regulatory capital requirements effective through December 31, 2016, which are noted parenthetically.

2012 - 2016 Regulatory Capital Requirements and Ratios

December 31,	2016	2015	2014
Permanent Capital Ratio (7.0%)	15.47 %	14.95 %	15.70 %
Total Surplus Ratio (7.0%)	14.52	14.07	14.81
Core Surplus Ratio (5.59%) ⁽¹⁾	11.02	10.29	10.47
Net Collateral Ratio (104.0%) ⁽²⁾	106.94	106.82	107.22

⁽¹⁾ Through December 31, 2016, the regulatory minimum core surplus ratio was 3.5 percent, but the FCA required the higher 5.59 percent during a period in which we included a portion of our common stock as core surplus.

⁽²⁾ Through December 31, 2016, the regulatory minimum net collateral ratio was 103.0 percent, but the FCA required the higher 104.0 percent during a period in which we had subordinated debt outstanding.

Capital Adequacy and Business Planning

In conjunction with the annual business and financial planning process, the Board of Directors reviews and approves a capital adequacy plan which includes target levels for capital and capital ratio baselines. When reviewing the capital adequacy plan and setting an appropriate target equity level, the Board considers the following: the Bank's overall risk assessment and profile; capital composition; loan volume projections; anticipated future capital needs; and the Bank's capital levels in comparison to commercial banks and regulatory minimum capital standards. The Board-established baselines under the New Capital Regulations are 8 percent for the CET1 capital ratio, 9.5 percent for the tier 1 capital ratio, 11.5 percent for the total capital ratio and 5.5 percent for the tier 1 leverage ratio. As of December 31, 2016, the Board-established capital ratio baselines were 11 percent for the permanent capital and total surplus ratios, 7 percent for the core surplus ratio, 6 percent for the core surplus ratio

excluding common stock, and 106 percent for the net collateral ratio.

The Board balances the amount required to properly capitalize the Bank with the desire to distribute a level of patronage that provides appropriate returns to our customer-owners. The Board may increase or decrease these patronage levels (provided we remain within the regulatory capital minimums) based on its ongoing evaluation of the Bank's business.

As part of our business planning process, we perform stress tests to examine the Bank's financial condition and performance, including capital levels, under a variety of market and economic environments, including unanticipated loan growth and prolonged periods of financial and loan quality stress. These stress tests illustrate the Bank's ability to continue to maintain compliance with regulatory requirements through severe market conditions while continuing to fulfill our mission. Results of these stress tests are reviewed with the Board of Directors and the FCA.

Capital Plans

In accordance with the Farm Credit Act, cooperatives and other eligible borrowers are required to purchase equity in CoBank as a condition of borrowing. Eligible borrowers that borrow on a patronage basis have voting rights while they are active borrowers. Generally, for borrowers other than affiliated Associations, the minimum initial borrower investment is equal to the lesser of one thousand dollars or 2 percent of the amount of the loan. The minimum initial investment for borrowers other than affiliated Associations is generally received by CoBank in cash at the time the borrower receives the loan proceeds. Affiliated Associations provide an initial and ongoing voting stock investment of 4 percent of their average outstanding loan balance. Collectively, the customer-owners that hold voting stock elect our Board of Directors.

We operate on a cooperative basis and return a significant portion of our earnings to our customer-owners in the form of patronage distributions. All patronage payments and retirements of equity require the prior approval of our Board of Directors, which may increase or decrease such payments based upon the Bank's current or projected business performance and capital levels. In addition, patronage payments can only be made if the Bank is in compliance with minimum regulatory capital requirements and preferred stock dividends for the immediately preceding period have been paid in full.

Patronage distributions are made in the form of cash and/or common stock, as shown in the following table. Eligible shareholders will receive patronage distributions from CoBank for 2018 in the first quarter of 2019. Patronage distributions for 2018 also reflect a special cash patronage distribution as well as certain changes to our capital plans which took effect on January 1, 2018, both of which are described further below.

Patronage Distributions (\$ in Thousands)			
Year Ended December 31,	2018	2017	2016
Common Stock	\$ 127,910	\$ 118,570	\$ 114,258
Cash	475,571	491,856	473,853
Special Cash	96,187	-	-
Total Patronage Distributions	\$ 699,668	\$ 610,426	\$ 588,111
Patronage Distributions/			
Total Average Common Stock			
Owned by Active Borrowers	22.35 %	20.70 %	21.32 %

In September 2018, we made a special cash patronage distribution of \$96.2 million to eligible customer-owners. The distribution reflected the Bank's plan to share the benefits of recently enacted federal tax reform legislation with eligible borrowers and other key stakeholders, along with earnings from significant nonrecurring items in 2018. The distribution was incremental to regular patronage distributions the Bank typically makes in March of each year.

Our capital plans govern the level of capital investment required by customer-owners. Capital plans in effect during 2016 and 2017 included a plan for cooperative and other eligible direct borrowers, a plan for loan participations purchased from System institutions, a plan for affiliated Associations, a plan for nonaffiliated entities, and a plan for financial service members.

On January 1, 2018, changes to our capital plans went into effect which included, among other things, the creation of two separate capital plans for cooperative and other eligible direct borrowers. Pursuant to these new plans, agribusiness, communications and project finance customers are in one plan, while rural electric and water customers are in a separate plan. The targeted patronage levels and cash/equity splits under these new plans are more equitably balanced between the earnings generated by different customer portfolios and the use of the Bank by its patronage-eligible members. In addition, target patronage levels for all customers and partners are reduced under the new plans. No changes were made to target equity requirements for any borrower or commercial partner and the capital plan for financial service members remains unchanged.

Capital plans and patronage programs for each customer or loan type are summarized in the following table.

Capital Plans and Patronage Programs						
Customer or Loan Type	Equity Requirement⁽¹⁾	Target Patronage⁽²⁾		Cash / Equity Split⁽³⁾		
		2018	2017-2016	2018	2017-2016	
		Plan	Plan	Plan	Plan	
Agribusiness, Communications and Project Finance	8 %	95 bps	100 bps	75 / 25 %	75 / 25 %	
Rural Electric and Water	8	80	100	60 / 40	75 / 25	
Loans Purchased from Farm Credit Institutions	8	95	100	75 / 25	75 / 25	
Affiliated Associations	4	45	45	100 / 0	100 / 0	
Nonaffiliated Farm Credit and Other Financing Institutions	4	35	45	20 / 80	20 / 80	

⁽¹⁾ Cooperatives and other eligible direct borrowers fulfill their equity requirement over time through the equity portion of their annual patronage distributions, as do loans purchased from other Farm Credit entities, and nonaffiliated Farm Credit and other financing institutions. Affiliated Associations capitalize their wholesale loans from the Bank in full on an annual basis.

⁽²⁾ Target patronage is defined as the number of basis points (bps) of current-year average loan volume for eligible borrowers.

⁽³⁾ Once borrowers reach their target equity requirement, they effectively receive 100 percent of their patronage distribution in cash.

For agribusiness, communications, and project finance customers, rural electric and water customers and loans purchased from other Farm Credit institutions, the new target patronage levels took effect for 2018. Affiliated Associations and nonaffiliated Farm Credit entities and other financing institutions will transition to their new targeted patronage levels over a multi-year period ending in 2020. For 2018, the targeted patronage rate was 45 and 35 basis points for affiliated Associations and nonaffiliated Farm Credit and other financing institutions, respectively. Patronage for affiliated Associations is targeted at 40 and 36 basis points for 2019 and 2020, respectively. Patronage for nonaffiliated Farm Credit and other financing institutions is targeted at 30 and 26 basis points for 2019 and 2020, respectively. Patronage distributions, if approved by the Board of Directors in its sole discretion, are made in March following the calendar year to which they relate.

The targeted equity level for the agribusiness, communications and project finance capital plan is 8 percent of the 10-year historical average loan volume. Additionally, when a borrower's loans are paid in full, stock is retired over a 10-year loan base period beginning in the year following loan payoff, subject to Board approval and compliance with minimum regulatory capital requirements. The targeted patronage rate was 95 basis points for the 2018 plan year and 100 basis points for the 2017 and 2016 plan years. The cash portion of patronage was 75 percent for all agribusiness, communications and project finance plan members with the remaining portion of 25 percent paid in common stock.

The targeted equity level for the rural electric and water capital plan is 8 percent of the 10-year historical average loan volume. Additionally, when a borrower's loans are paid in full, stock is retired over a 10-year loan base period beginning in the year following loan payoff, subject to Board approval and compliance with minimum regulatory capital requirements. The targeted patronage rate was 80 basis points for the 2018 plan year and 100 basis points for the 2017 and 2016 plan years. Pursuant to the capital plans in effect during 2018, the cash portion of patronage was 60 percent for all rural electric and water capital plan members with the

remaining portion of 40 percent paid in common stock. For plan years 2017 and 2016, the cash portion of patronage was 75 percent with the remaining portion of 25 percent paid in common stock.

The capital plan for loan participations purchased from System entities is similar to the agribusiness, communications and project finance capital plan described above.

The targeted equity level for the affiliated Association capital plan is 4 percent of the one-year historical average loan volume. Pursuant to the capital plans in effect during 2018, 2017 and 2016, the targeted patronage rate for the affiliated Association capital plan was 45 basis points of the current year average loan volume, with all patronage being paid in cash.

The targeted equity level for the nonaffiliated Farm Credit and other financing institutions capital plan is 4 percent of the ten-year historical average loan volume. Additionally, when these borrowers' loans are paid in full, stock is retired over a ten-year loan base period beginning in the year following loan payoff, subject to Board approval and compliance with minimum regulatory capital requirements. Pursuant to the capital plan in effect during 2018, the targeted patronage rate for the nonaffiliated Farm Credit and other financing institutions capital plan was 35 basis points of the current year average loan volume. For the 2017 and 2016 capital plan years, the targeted patronage rate was 45 basis points of the current year average loan volume. The cash portion of patronage was 20 percent for all nonaffiliated Farm Credit and other financing institutions capital plan members, with the remaining portion of 80 percent paid in common stock for the 2016, 2017 and 2018 capital plan years.

Effective January 1, 2016, eligible customers receiving certain financial services from the Bank who are not otherwise shareholders are issued a single share of one hundred dollar par value Class A common stock. These members are not entitled to vote or receive patronage. When a financial service member's activity concludes, the stock requirement may be retired, subject to Board approval and compliance with minimum regulatory capital requirements.

Critical Accounting Estimates

Management's discussion and analysis of the financial condition and results of operations are based on the Bank's consolidated financial statements, which we prepare in accordance with GAAP. In preparing these financial statements, we make estimates and assumptions. Our financial position and results of operations are affected by these estimates and assumptions, which are integral to understanding reported results.

Note 1 to the accompanying consolidated financial statements contains a summary of our significant accounting policies. We consider certain of these policies to be critical to the presentation of our financial condition, as they require us to make complex or subjective judgments that affect the value of certain assets and liabilities. Some of these estimates relate to matters that are inherently uncertain. Most accounting policies are not, however, considered critical. Our critical accounting policies relate to determining the level of our allowance for credit losses and the valuation of financial instruments with no ready markets (primarily derivatives and certain investment securities). Management has reviewed these critical accounting policies with the Audit Committee of the Board of Directors.

Certain of the statements below contain forward-looking statements, which are more fully discussed on page 69.

Allowance for Credit Losses

Our allowance for loan losses is an adjustment to the value of our total loan and finance lease portfolio for inherent credit losses related to outstanding balances. We provide line of credit financing to customers to cover short-term and variable needs, the usage of which, particularly for farm supply and grain marketing customers, is influenced by a number of factors, including changing commodity prices and supplies. As a result, we have significant unfunded commitments for which we maintain a separate reserve. This reserve is reported as a liability on the Bank's consolidated balance sheet. We refer to the combined amounts of the allowance for loan losses and the reserve for unfunded commitments as the "allowance for credit losses."

Our allowance for credit losses reflects our assessment of the risk of probable and estimable loss related to outstanding balances and unfunded commitments in our loan and finance lease portfolio. The allowance for credit losses is maintained at a level consistent with this assessment, considering such factors as loss experience, portfolio quality, portfolio concentrations, production conditions, modeling imprecision, our mission, and economic and environmental factors specific to our business segments.

The allowance for credit losses is based on our regular evaluation of our loan and finance lease portfolio. We establish the allowance for credit losses via a process that begins with estimates of probable loss within the portfolio. Our methodology consists of analysis of specific individual credits and evaluation of the remaining portfolio. We evaluate significant individual credit exposures, including adversely classified loans, based upon the borrower's overall financial

condition, resources, payment record and projected viability. We also evaluate the prospects for support from any financially viable guarantors and the estimated net realizable value of any collateral. Senior-level committees approve specific credit and reserve-related activities. The Audit and Risk Committees of the Board of Directors review the allowance for credit losses on a quarterly basis, and the Board of Directors approves the year-end allowance for credit losses.

Our determination of the allowance for credit losses for commercial loans is sensitive to the assigned risk ratings and probabilities of default, assumptions surrounding loss given default and loss emergence timing and the overall level of exposure within our loan portfolio. Changes in these components underlying this critical accounting estimate could increase or decrease our provision for loan losses. Such a change would increase or decrease net income and the related allowance for loan losses and reserve for unfunded commitments, which could have a material effect on the Bank's financial position and results of operations.

To analyze the impact of assumptions on our provision for loan losses and the related allowance for credit losses, we changed a critical assumption to reflect the impact of deterioration or improvement in loan quality. In the event that 10 percent of loans (calculated on a pro-rata basis across all risk ratings), excluding wholesale loans to Associations and guaranteed loans, experienced downgrades or upgrades of one risk rating category, the provision for loan losses and related allowance for credit losses would have increased or decreased by \$26.8 million at December 31, 2018.

Valuation of Financial Instruments with No Ready Markets and Other-Than-Temporary Impairment Analyses

We use fair value measurements to record fair value adjustments to certain financial instruments and to determine fair value disclosures. All of our investment securities and derivative instruments are reported at their estimated fair value on the accompanying consolidated balance sheets. We also estimate the amount of other-than-temporary impairment for certain investment securities.

As discussed in Note 12 to the accompanying consolidated financial statements, we maximize the use of observable inputs when measuring fair value. Observable inputs reflect market-derived or market-based information obtained from independent sources, while unobservable inputs primarily reflect our estimates about market data.

The fair value of our derivative financial instruments is the estimated amount to be received to sell a derivative asset or paid to transfer or extinguish a derivative liability in active markets among willing participants at the reporting date. Estimated fair value is determined through internal market valuation models. These models use an income approach and incorporate benchmark interest rate curves, volatilities, counterparty credit quality, and other inputs that are observable directly or indirectly in the marketplace. For derivative transactions with dealers, we compare internally calculated derivative valuations to counterparty results. The fair value of collateral assets and liabilities related to

derivative contracts is their face value, plus accrued interest, as these instruments are cash balances; therefore, fair value approximates face value.

The fair value of nearly all investment securities is determined by a third-party pricing service that uses valuation models to estimate current market prices. For a small portion of our investment securities, market value is calculated internally using third-party models. Inputs and assumptions related to all of these models are typically observable in the marketplace. Such models incorporate prepayment assumptions and underlying mortgage- or asset-backed collateral information to generate cash flows that are discounted using appropriate benchmark interest rate curves and volatilities. These third-party valuation models also incorporate information regarding non-binding broker/dealer quotes, available trade information, historical cash flows, credit ratings, and other market information. Such valuations represent an estimated exit price, or price to be received by a seller in active markets to sell the investment securities to a willing participant.

Credit risk in our portfolio of investment securities is primarily limited to the 3 percent of securities that are certificates of deposit with commercial banks with counterparties that carry the highest short-term credit rating, and the 5 percent of securities that do not carry an explicit or implied government guarantee. In instances where the fair value of investment securities is less than the carrying value, we estimate the component of unrealized losses attributable to credit losses. No significant changes were made to our methodology for estimating credit losses in 2018, 2017 or 2016.

All models used for these financial statement estimates or for independent risk monitoring purposes are periodically reviewed and validated in accordance with our policies.

The degree of management judgment involved in determining the fair value and impairment of a financial instrument is dependent upon the availability of observable market inputs. For financial instruments that trade actively and have observable market prices and inputs, there is minimal subjectivity involved. When observable market prices and inputs are not fully available, management judgment is necessary to estimate fair value and impairment. Changes in market conditions may reduce the availability of market prices or observable data. For example, reduced liquidity in the capital markets or changes in secondary market activities could result in observable market inputs becoming unavailable. When market data is not available, we use valuation techniques requiring more management judgment to estimate the appropriate fair value measurement and level of impairment, if any. Changes in assumptions could affect these estimates.

At December 31, 2018, approximately 24 percent of total assets, or \$32.9 billion, consisted of financial instruments recorded at fair value. Over 99 percent of these financial instruments used valuation methodologies involving market-based or market-derived information to measure fair value. The remaining financial instruments were measured using model-based techniques, consisting of a small portion of our ABS. At December 31, 2018, less than 1 percent of total liabilities, or \$0.3 billion, consisted of financial instruments recorded at fair value, the substantial majority of which are valued using methodologies involving market-based or market-derived information. The fair value of investment securities with previously recorded other-than-temporary impairment losses was \$3.4 million at December 31, 2018.

Business Outlook

We operate in an environment that poses a number of challenges for the Bank and its customers. Although interest rates have increased recently, they remain low by historical standards and continue to limit returns on capital and investment securities. Monetary policy as established by the Federal Reserve and the policies of other central banks around the world could create further uncertainty regarding interest rates and asset valuations. The direction of the U.S. economic, trade and foreign policies continues to create uncertainty. In particular, the imposition of tariffs continues to introduce significant uncertainty and the related reactions by governments around the world could lead to further disruption in markets for agricultural products. Although the United States has entered into a new trade agreement with Canada and Mexico, until passed by Congress and fully implemented, it is uncertain how this agreement will impact the U.S. economy and our customers. Competition for the business of our customers across most of the industries we serve continues to be intense. Agricultural commodity prices have remained relatively low due to strong global supplies and are subject to volatility driven by weather conditions, trade policies and other factors. Customers in many of the industries we serve are impacted by commodity prices and agricultural yields, fluctuations in the value of the U.S. dollar, weather, and ongoing political and regulatory uncertainty. Many of our power customers continue to be impacted by energy efficiency initiatives, price volatility of various fuel sources including coal and natural gas, rural population decline, changing regulation of carbon dioxide emissions, renewable energy standards and customer demand for distributed generation. Rapidly changing technology, consolidation and customer demands create volatility in the communications industry. Although these challenges could reduce the credit quality and impact the level of loan demand in certain sectors of our loan portfolio, CoBank remains well-positioned to continue to serve as a dependable financial partner for our customers.

The enactment of the Tax Cuts and Jobs Act of 2017 (TCJA) generated a significant favorable earnings adjustment in 2017 and, to a lesser extent, in 2018. It also lowered our ongoing effective tax rate, which includes federal and state income taxes, and contributed to the special all-cash patronage distribution in September 2018.

We continue to focus on delivering the credit and financial services our customers need to compete, grow and achieve business success, enhancing our enterprise risk management capabilities and maintaining our financial strength. In addition, we continue to collaborate with our affiliated Associations on business model solutions that further strengthen the ability to fulfill our collective mission, including through the more efficient use of capital. We believe that the System's and our strong liquidity and capital will continue to provide the capacity to support customers in all market conditions. We also believe that paying patronage is an important part of our value proposition as it effectively lowers the net cost of borrowing for our customer-owners. We continue our disciplined approach to managing risk and monitoring asset quality. We also continue to make prudent investments in our people, processes, data infrastructure and technology, including enhancing our digital banking capabilities, to strengthen the value and improve the experience we provide to our customers.

Under the guidance of our Board of Directors and through the focus of an experienced executive management team, we are focused on achieving continued success through execution of our business strategies. This includes, among other objectives, creating mutually beneficial partnerships with other System institutions, maintaining effective access to the agency debt capital markets, educating policy makers and other key stakeholders of the critical mission of CoBank and the System, prudently optimizing current lending authorities and maintaining compliance with laws and regulations. We continue to explore strategic alliances and other opportunities with our customers, other System institutions, financial service providers and other public and private entities as we strive to better fulfill our mission in rural America in a safe and sound manner.

Forward Looking Statements

Certain of the statements contained in this annual report that are not historical facts are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Our actual results may differ materially from those included in the forward-looking statements that relate to our plans, projections, expectations and intentions. Forward-looking statements are typically identified by words such as “believe,” “expect,” “anticipate,” “intend,” “estimate,” “plan,” “project,” “may,” “will,” “should,” “would,” “could” or similar expressions. Although we believe that the information expressed or implied in such forward-looking statements is reasonable, we can give no assurance that such projections and expectations will be realized or the extent to which a particular plan, projection or expectation may be realized. These forward-looking statements are based on current knowledge and are subject to various risks and uncertainties, including, but not limited to:

- Government trade policies in the United States and other countries, including tariffs and other restrictions that impact markets for agricultural and other products;
- Changes in economic, marketplace or regulatory environments that negatively impact the agricultural, power, communications, water and leasing industries;
- The level of interest rates and relationships between various interest rate indices and actions taken by the Federal Reserve to manage the monetary policy of the United States;
- Currency fluctuations that impact the value of the U.S. dollar in global markets;
- Adverse food safety and weather events, disease, and other unfavorable conditions that periodically occur and impact agricultural productivity and income;
- Adverse effect of wildfires and other natural disasters which may have a direct or indirect impact on certain of our borrowers;
- Changes in levels of global crop production, exports, usage and inventories;
- Credit performance of the loan portfolio;
- Performance of underlying collateral, including farmland values and specialized property that secures rural infrastructure credits;
- Loan portfolio growth and seasonal factors;
- Weakening domestic and global economic conditions;
- Government policies and political developments in the United States and other countries in which we do business;
- Geopolitical uncertainties throughout the world that may impact the industries we lend to, or, economic, fiscal or monetary conditions;
- Changes in the U.S. government’s support of the System, the agricultural industry, agricultural exports, rural infrastructure and rural economies;
- Legislative or regulatory actions that affect current and ongoing operations of the System or the banking, financial services, agricultural, power, communications, water and leasing industries;
- Legislative or regulatory actions that affect our relationships with our employees;
- Actions taken by the U.S. Congress relative to other government-sponsored enterprises, including Fannie Mae, Freddie Mac, the FHLB and Farmer Mac;
- Actions taken by the U.S. government to manage U.S. immigration or fiscal policies;
- Changes impacting the Bank or its customers as a result of the implementation of the TCJA;
- A decrease in the credit outlook or ratings of U.S. government debt and agency debt, including Systemwide Debt Securities;
- Cybersecurity risks, including a failure or breach of our operational or security systems or infrastructure, that could adversely affect our business, financial performance and reputation;
- Disruptive technologies impacting the banking and financial services industries or implemented by our competitors which negatively impact our ability to compete in the marketplace;
- Changes in assumptions underlying the valuations of financial instruments;
- Changes in the basis for our estimates underlying the allowance for credit losses;
- Failure of our investment portfolio to perform as expected or deterioration in the credit quality of such investments;
- The resolution of legal proceedings and related matters;
- Environmental-related conditions or laws impacting our lending activities;
- Nonperformance by counterparties under our derivative and vendor contracts;
- Reform and regulation which impacts LIBOR and other benchmark interest rates;
- Success of business model solutions focused on strengthening our ability to fulfill the System’s collective mission, including through the more efficient use of capital; and
- Our ability to continue to partner with various System and other entities in light of ongoing consolidation within the System and the industries we serve.

We expressly disclaim any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.



Report of Independent Registered Public Accounting Firm

To the Board of Directors of CoBank, ACB:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of CoBank, ACB and its subsidiaries (the Company) as of December 31, 2018, 2017, and 2016, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018, 2017, and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing on page 125 of Annual Report to Shareholders. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the 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 consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

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



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

Definition and Limitations of Internal Control over Financial Reporting

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

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

A handwritten signature in cursive script that reads "PricewaterhouseCoopers LLP".

Denver, Colorado
March 1, 2019

We have served as the Company's auditor since 1989.

Consolidated Balance Sheets

CoBank, ACB

(\$ in Thousands)

As of December 31,	2018	2017	2016
Assets			
Total Loans	\$ 104,493,855	\$ 99,265,505	\$ 95,258,281
Less: Allowance for Loan Losses	621,591	576,927	558,974
Net Loans	103,872,264	98,688,578	94,699,307
Cash and Cash Equivalents	1,368,075	1,313,620	1,660,517
Federal Funds Sold and Other Overnight Funds	1,300,000	1,035,000	750,000
Investment Securities	31,291,720	26,870,378	27,765,188
Accrued Interest Receivable	454,396	381,544	348,652
Interest Rate Swaps and Other Financial Instruments	255,926	180,845	208,434
Other Assets	473,276	740,848	698,528
Total Assets	\$ 139,015,657	\$ 129,210,813	\$ 126,130,626
Liabilities			
Bonds and Notes	\$ 127,632,183	\$ 118,406,283	\$ 115,085,880
Subordinated Debt	-	-	498,820
Accrued Interest Payable	433,300	309,340	281,154
Interest Rate Swaps and Other Financial Instruments	154,841	86,732	162,724
Reserve for Unfunded Commitments	81,649	93,865	103,496
Other Liabilities	1,178,751	1,254,516	1,424,794
Total Liabilities	129,480,724	120,150,736	117,556,868
Commitments and Contingent Liabilities (Note 15)			
Shareholders' Equity			
Preferred Stock	1,500,000	1,500,000	1,500,000
Common Stock	3,415,654	3,240,445	3,072,232
Unallocated Retained Earnings	4,982,383	4,551,600	4,121,409
Accumulated Other Comprehensive Loss	(363,104)	(231,968)	(119,883)
Total Shareholders' Equity	9,534,933	9,060,077	8,573,758
Total Liabilities and Shareholders' Equity	\$ 139,015,657	\$ 129,210,813	\$ 126,130,626

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Statements of Income

CoBank, ACB

(\$ in Thousands)

Year Ended December 31,	2018	2017	2016
Interest Income			
Loans	\$ 3,348,737	\$ 2,603,019	\$ 2,173,387
Investment Securities, Federal Funds Sold and Other Overnight Funds	682,396	538,121	436,226
Total Interest Income	4,031,133	3,141,140	2,609,613
Interest Expense			
Net Interest Income	1,431,296	1,392,825	1,361,778
Provision for Loan Losses	66,000	42,000	63,000
Net Interest Income After Provision for Loan Losses	1,365,296	1,350,825	1,298,778
Noninterest Income			
Net Fee Income	106,247	109,160	103,365
Patronage Income	75,835	63,970	58,385
Prepayment Income	14,754	18,585	34,142
Losses on Early Extinguishments of Debt	(15,021)	(42,088)	(34,197)
Gains on Sale of Investment Securities	49,074	9,387	4,617
Return of Excess Insurance Funds	35,045	-	-
Other, Net	23,726	16,219	18,573
Total Noninterest Income	289,660	175,233	184,885
Operating Expenses			
Employee Compensation	184,853	172,540	165,159
General and Administrative	27,482	29,331	25,109
Information Technology	38,138	35,776	31,696
Insurance Fund Premium	52,100	83,686	90,561
Travel and Entertainment	18,418	18,247	21,583
Farm Credit System Related	15,569	15,823	14,736
Occupancy and Equipment	16,055	16,020	16,083
Purchased Services	11,192	14,250	14,775
Total Operating Expenses	363,807	385,673	379,702
Income Before Income Taxes	1,291,149	1,140,385	1,103,961
Provision for Income Taxes	100,374	15,064	158,285
Net Income	\$ 1,190,775	\$ 1,125,321	\$ 945,676

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Statements of Comprehensive Income

CoBank, ACB

(\$ in Thousands)

Year Ended December 31,	2018	2017	2016
Net Income	\$ 1,190,775	\$ 1,125,321	\$ 945,676
Other Comprehensive (Loss) Income, Net of Tax:			
Net Change in Unrealized Losses on Investment			
Securities Not Other-Than-Temporarily Impaired	(136,193)	(105,571)	(58,215)
Net Change in Unrealized Losses on			
Other-Than-Temporarily Impaired Investment Securities	(3,404)	(1,733)	(2,904)
Net Change in Unrealized Gains (Losses) on Interest Rate			
Swaps and Other Financial Instruments	28,842	(12,274)	2,450
Net Pension Adjustment	6,233	7,493	(1,227)
Other Comprehensive Loss	(104,522)	(112,085)	(59,896)
Comprehensive Income	\$ 1,086,253	\$ 1,013,236	\$ 885,780

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Statements of Changes in Shareholders' Equity

CoBank, ACB

(\$ in Thousands)

	Preferred Stock	Common Stock	Unallocated Retained Earnings	Accumulated Other Comprehensive Loss	Total Shareholders' Equity
Balance at December 31, 2015	\$ 1,125,000	\$ 2,899,728	\$ 3,845,728	\$ (59,987)	\$ 7,810,469
Comprehensive Income (Loss)			945,676	(59,896)	885,780
Preferred Stock:					
Dividends			(77,232)		(77,232)
Issuance	375,000		(4,652)		370,348
Common Stock:					
Issuances		87,355			87,355
Redemptions		(29,109)			(29,109)
Patronage Distribution:					
Cash			(473,853)		(473,853)
Common Stock		114,258	(114,258)		-
Balance at December 31, 2016	\$ 1,500,000	\$ 3,072,232	\$ 4,121,409	\$ (119,883)	\$ 8,573,758
Comprehensive Income (Loss)			1,125,321	(112,085)	1,013,236
Preferred Stock:					
Dividends			(84,704)		(84,704)
Common Stock:					
Issuances		75,531			75,531
Redemptions		(25,888)			(25,888)
Patronage Distribution:					
Cash			(491,856)		(491,856)
Common Stock		118,570	(118,570)		-
Balance at December 31, 2017	\$ 1,500,000	\$ 3,240,445	\$ 4,551,600	\$ (231,968)	\$ 9,060,077
Balance Sheet Reclassification of Stranded Tax Effects from Accumulated Other Comprehensive Income (Loss) to Retained Earnings (Note 2)			26,614	(26,614)	-
Balance at January 1, 2018, as adjusted	\$ 1,500,000	\$ 3,240,445	\$ 4,578,214	\$ (258,582)	\$ 9,060,077
Comprehensive Income (Loss)			1,190,775	(104,522)	1,086,253
Preferred Stock:					
Dividends			(86,938)		(86,938)
Common Stock:					
Issuances		78,463			78,463
Redemptions		(31,164)			(31,164)
Patronage Distribution:					
Cash			(475,571)		(475,571)
Special Cash			(96,187)		(96,187)
Common Stock		127,910	(127,910)		-
Balance at December 31, 2018	\$ 1,500,000	\$ 3,415,654	\$ 4,982,383	\$ (363,104)	\$ 9,534,933

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Statements of Cash Flows

CoBank, ACB

(\$ in Thousands)

Year Ended December 31,	2018	2017	2016
Cash Flows Provided by Operating Activities			
Net Income	\$ 1,190,775	\$ 1,125,321	\$ 945,676
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities:			
Provision for Loan Losses	66,000	42,000	63,000
Remeasurement of Deferred Tax Liabilities / Deferred Tax Assets	(15,782)	(142,323)	-
Deferred Income Taxes	103,289	12,873	26,934
Depreciation and Amortization/Accretion, Net	6,772	29,090	24,941
Losses on Early Extinguishments of Debt	15,021	42,088	34,197
Net Gains on Sale of Investment Securities	(49,074)	(9,387)	(4,617)
Losses on Impairment of Available-for-Sale Investments	-	-	750
Increase in Accrued Interest Receivable	(72,852)	(32,892)	(17,204)
Decrease (Increase) in Other Assets	80,948	(18,869)	(105,043)
Increase (Decrease) in Accrued Interest Payable	123,960	28,186	(8,565)
Increase (Decrease) in Other Liabilities	236	(17,630)	58,168
Net Losses (Gains) on Interest Rate Swaps and Other Financial Instruments	16,463	(26,872)	1,127
Proceeds (Payments) from Termination of Interest Rate Swaps and Caps	3,124	(395)	1,911
Purchase of Interest Rate Caps and Floors	(808)	(14,424)	(9,327)
Other	(3,741)	(525)	(810)
Net Cash Provided by Operating Activities	1,464,331	1,016,242	1,011,137
Cash Flows Used in Investing Activities			
Net Increase in Loans	(5,286,186)	(4,068,160)	(6,254,420)
Investment Securities:			
Purchases	(21,687,411)	(19,925,597)	(23,312,600)
Proceeds from Maturities and Prepayments	15,533,807	19,097,511	19,195,177
Proceeds from Sales	1,752,299	1,492,332	869,565
Net Increase in Federal Funds Sold and Other Overnight Funds	(265,000)	(285,000)	(750,000)
Construction of Corporate Headquarters	-	-	(2,989)
Proceeds from Sale-Leaseback of Corporate Headquarters	-	-	7,653
Net Cash Used in Investing Activities	(9,952,491)	(3,688,914)	(10,247,614)
Cash Flows Provided by Financing Activities			
Bonds and Notes Proceeds	82,111,925	69,331,856	69,741,775
Bonds and Notes Retired	(72,914,602)	(65,362,082)	(61,099,144)
Payments on Early Extinguishments of Debt	(15,021)	(42,088)	(34,197)
Net Decrease in Notes Payable and Other Interest-bearing Liabilities	(10,193)	(595,474)	(361,951)
Subordinated Debt Redemption	-	(500,000)	(404,685)
Preferred Stock Issued, Net	-	-	370,348
Preferred Stock Dividends Paid	(86,386)	(84,456)	(71,086)
Common Stock Issued	78,463	75,531	87,355
Common Stock Retired	(31,164)	(25,888)	(29,109)
Cash Patronage Distribution Paid	(494,220)	(471,623)	(415,414)
Special Cash Patronage Distribution Paid	(96,187)	-	-
Net Cash Provided by Financing Activities	8,542,615	2,325,775	7,783,893
Net Increase (Decrease) in Cash and Cash Equivalents	54,455	(346,897)	(1,452,584)
Cash and Cash Equivalents at Beginning of Year	1,313,620	1,660,517	3,113,101
Cash and Cash Equivalents at End of Year	\$ 1,368,075	\$ 1,313,620	\$ 1,660,517

The accompanying notes are an integral part of the consolidated financial statements.

Supplemental Consolidated Statements of Cash Flows Information

CoBank, ACB

(\$ in Thousands)

Year Ended December 31,	2018	2017	2016
Supplemental Noncash Investing and Financing Activities			
Net Change in Accrued Purchases of Securities	\$ 84,395	\$ 14,852	\$ (99,247)
Net Change in Receivables from Investment Securities	(174,365)	99,863	13,826
Change in Unrealized Losses on Investment Securities, Before Taxes	(148,507)	(132,864)	(78,613)
Patronage in Common Stock	127,910	118,570	114,258
Removal of Corporate Headquarters from Balance Sheet in Sale-Leaseback Accounting	-	-	(76,063)
Reclassification of Collateral Asset to an Offset of the Fair Value of Interest Rate Swaps and Other Financial Instruments (Note 11)	-	70,415	-
Reclassification of Stranded Tax Effect from Accumulated Other Comprehensive Income to Retained Earnings (Note 2)	26,614	-	-
Supplemental Noncash Fair Value Changes Related to Hedging Activities			
(Increase) Decrease in Interest Rate Swaps and Other Financial Instrument Assets	\$ (75,081)	\$ 27,589	\$ 87,555
Increase (Decrease) in Bonds and Notes Related to Hedging Activities	36,284	(44,558)	(148,256)
Increase (Decrease) in Interest Rate Swaps and Other Financial Instrument Liabilities	68,109	(75,992)	49,327
Supplemental Disclosure of Cash Flow Information			
Interest Paid	\$ 2,420,343	\$ 1,645,399	\$ 1,234,540
Income Taxes Paid	12,222	13,173	141,952

The accompanying notes are an integral part of the consolidated financial statements.

Notes to Consolidated Financial Statements

CoBank, ACB

(\$ in Thousands, Except Per Share Amounts and as Noted)

Note 1 – Description of Business and Summary of Significant Accounting Policies

Description of Business

CoBank, ACB (CoBank or the Bank) is one of the four banks of the Farm Credit System (System). CoBank provides loans, leases and other financial services to support agriculture, rural infrastructure and rural communities across the United States. The System is a federally chartered network of borrower-owned lending institutions composed of cooperatives and related service organizations. The System was established in 1916 by the U.S. Congress and is a Government Sponsored Enterprise (GSE). We are federally chartered under the Farm Credit Act of 1971, as amended (the Farm Credit Act), and are subject to supervision, examination and safety and soundness regulation by an independent federal agency, the Farm Credit Administration (FCA).

We are cooperatively owned by our U.S. customers. Our customers consist of agricultural cooperatives; other food and agribusiness companies; rural power, communications and water cooperatives and companies; rural community facilities; Agricultural Credit Associations (Associations), which are regulated, farmer-owned financial institutions and members of the System; and other businesses that serve agriculture and rural communities. We are the primary funding source for certain Associations serving specified geographic regions in the United States. We collectively refer to these entities as our affiliated Associations. We provide a broad range of loans and other financial services through three operating segments: Agribusiness, Farm Credit Banking and Rural Infrastructure. In 2018, the Strategic Relationships operating segment was renamed the Farm Credit Banking operating segment.

Our wholly-owned leasing subsidiary, Farm Credit Leasing Services Corporation (FCL), specializes in lease financing and related services for a broad range of equipment, machinery, vehicles and facilities.

In conjunction with other System entities, the Bank jointly owns three service organizations: the Federal Farm Credit Banks Funding Corporation (Funding Corporation), the FCS Building Association and the Farm Credit Association Captive Insurance Corporation. The Funding Corporation issues, markets and processes Federal Farm Credit Banks Consolidated Systemwide bonds, medium term notes and discount notes (collectively referred to as Systemwide Debt Securities) and also provides financial management and reporting services for the combined entities of the System. The FCS Building Association leases premises and equipment to the FCA as required by the Farm Credit Act. The Farm Credit Association Captive Insurance Company is a reciprocal insurer that provides insurance services such as directors and

officers liability, fiduciary liability and a bankers bond to System organizations.

We have a minority ownership interest in AgVantis, Inc., which is chartered under the Farm Credit Act as a service organization to provide a range of support and technology services to certain Associations. We also have small equity interests in certain other System banks and Associations as required in connection with the purchase and sale of participation loans.

Copies of CoBank's financial reports are available on request by calling or visiting one of our banking center locations and through our website at www.cobank.com. Copies of financial reports of our affiliated Associations and the System are available on their respective websites.

Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The consolidated financial statements include the accounts of CoBank, CoBank, FCB and FCL. All significant intercompany accounts and transactions have been eliminated.

The accompanying consolidated financial statements exclude financial information of our affiliated Associations. CoBank and our affiliated Associations are collectively referred to as the "District." Additional information about our affiliated Associations is contained in Note 18.

We prepare our financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) and prevailing practices within the financial services industry. These principles require us to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results may differ from those estimates. Significant estimates are discussed in these notes to the consolidated financial statements, as applicable. Certain reclassifications have been made to amounts reported in previous years to conform to the 2018 presentation.

Loans

We report loans, excluding leases, at their principal amount outstanding and accrue interest income based upon the daily principal amount outstanding. For loans purchased at a discount, we amortize unearned income using the straight-line method, which approximates the interest method. We defer loan origination fees and costs, and amortize them over the life of the related loan as an adjustment to yield. Most of our fixed-rate loans provide borrowers with the option to prepay their loans for a fee. When such loans are refinanced, loan prepayment fees are recognized upon extinguishment of the original loan and issuance of a new loan. For a refinancing determined to be a modification of the original loan, we defer and amortize loan prepayment fees over the life of the modified loan. This determination is based on the change in cash flows resulting from the refinancing.

Except as otherwise noted, leases are included with loans in the consolidated financial statements and related notes. We record leases as either direct financing or operating leases. Under direct financing leases, unearned finance income from lease contracts represents the excess of gross lease receivables over the cost of leased equipment, net of estimated residual values. Residual values, which are reviewed at least annually, represent the estimated amount to be received at lease termination from the disposition of leased assets. We amortize net unearned finance income to interest income using the interest method. Under operating leases, property is recorded at cost and depreciated on a straight-line basis over the lease term to an estimated residual or salvage value. We recognize revenue as earned ratably over the term of the operating lease.

In the normal course of business, we manage lending credit exposures by selling or syndicating loans to System entities and other financial institutions. Such transactions include the transfer of participating interests, as defined pursuant to GAAP. We account for these transactions as sales and, accordingly, the assets transferred are not recognized in our consolidated balance sheets. We earn and recognize fees, which are reflected in net fee income in the accompanying consolidated statements of income, for acting as arranger or agent in these transactions and upon satisfying certain retention, timing and yield criteria.

Impaired Loans

Impaired loans are loans for which it is probable that not all principal and interest will be collected according to the contractual terms of the loans. Impaired loans include loans that are in nonaccrual status, accruing restructured, or 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 remains 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.

We do not accrue interest income on impaired loans unless they are adequately secured and in the process of collection. When interest accruals are suspended, accrued and unpaid interest income is reversed with current year accruals charged to earnings and prior-year amounts charged off against the allowance for loan losses.

For nonaccrual loans, we primarily apply cash receipts against the outstanding principal balance. If collectability of the loan balance is fully expected and certain other criteria are met, we recognize interest payments as interest income. We may return such loans to accrual status when the borrower is current, has demonstrated payment performance, collection of future payments is fully expected and there are no unrecovered charge-offs.

Generally, troubled debt restructurings (TDRs) are reported as either performing or nonperforming loans. Accruing restructured loans, which represent performing TDRs, are those for which the contractual terms and conditions have been amended or otherwise revised to incorporate certain monetary concessions because the

borrower was experiencing financial difficulty at the time of restructuring. Such a loan that is subsequently refinanced at a current market rate with no concessionary terms is accounted for as a new loan and is no longer reported as a TDR. We place the loan in nonaccrual status if the borrower's ability to meet the revised contractual terms is uncertain.

We establish an impairment reserve if the fair value of assets held for operating leases decreases to below book value and such difference is not recoverable.

Allowance for Loan Losses and Reserve for Unfunded Commitments

Our allowance for loan losses is an adjustment to the value of our total loan and finance lease portfolio for inherent credit losses related to outstanding balances. We also maintain a separate reserve for unfunded commitments which is reported as a liability on the Bank's consolidated balance sheet. The reserve for unfunded commitments represents an additional reserve for binding commitments to extend credit and for commercial letters of credit. We had \$27.3 billion and \$55.8 million of commitments to extend credit and commercial letters of credit, respectively, at December 31, 2018. The amount of our allowance for loan losses and reserve for unfunded commitments can fluctuate based on the seasonal nature of borrowings in the agriculture industry, which is impacted by various factors including changing commodity prices and supplies. We refer to the combined amounts of the allowance for loan losses and the reserve for unfunded commitments as the "allowance for credit losses." At December 31, 2018, our allowance for credit losses totaled \$703.2 million, of which \$621.6 million related to the allowance for loan losses and \$81.6 million related to the reserve for unfunded commitments.

The allowance for credit losses is maintained at a level we consider sufficient to absorb losses inherent in the loan and finance lease portfolio and in unfunded commitments. We base the allowance for credit losses on our regular evaluation of these portfolios.

To determine our allowance for credit losses, we divide our loans and finance leases into two broad categories: those that are impaired and those that are not. A loan or finance lease is impaired when, based on current information and events, it is probable that we will not collect all amounts due under the contractual terms. Impairment of loans and finance leases is measured based on the fair value of the collateral, if the loan or finance lease is collateral dependent, or the present value of expected future cash flows discounted at the effective interest rate of the contract. In limited cases, we base the impairment on observable market prices. Changes in the financial condition of our borrowers and in the general economy will cause these estimates, appraisals and evaluations to change.

For loans and finance leases that are not individually assessed for impairment, we establish an allowance for credit losses for losses that are both probable and estimable as of the balance sheet date. The evaluation of this portion of our portfolio generally considers default rates from industry data, internal risk ratings, loss given default assumptions, loss timing, historical recovery rates, specific industry conditions,

weather conditions, general economic and political conditions, and changes in the character, composition and performance of the portfolio, among other factors. We also consider overall portfolio indicators, including trends in internally risk-rated exposures, classified exposures, and historical charge-offs and recoveries. Additionally, we consider borrower, industry, geographic and portfolio concentrations, including current developments within operating segments, and modeling imprecision. Changes in these factors, or our assumptions and estimates thereof, could result in a change in the allowance for credit losses and could have a direct and material impact on the provision for loan losses and our results of operations. The total allowance for credit losses is available to absorb probable and estimable credit losses within our entire portfolio.

We increase or decrease the allowance for credit losses by recording a provision or reversal for loan losses in the statement of income. We record loan losses against the allowance for loan losses when management determines that any portion of the loan or finance lease is uncollectible. We add subsequent recoveries, if any, to the allowance for loan losses. Transfers between the allowance for loan losses and the reserve for unfunded commitments can occur in conjunction with funding a seasonal line of credit or other loan and decreasing a related unfunded commitment or, conversely, receiving a loan payment and increasing a related unfunded commitment. Newly-executed loan commitments will also increase this liability.

We also assess the credit risk associated with off-balance sheet loan commitments and letters of credit and determine the appropriate level of reserve for unfunded commitments that should be recorded.

No significant changes were made to our methodology for estimating the allowance for credit losses in 2018, 2017 or 2016.

Cash and Cash Equivalents

For purposes of these financial statements, cash represents demand deposits at banks and deposits in the process of clearing, which are used for operating or liquidity purposes.

Federal Funds Sold and Other Overnight Funds

Federal funds sold transactions involve lending excess reserve balances on a short-term basis, generally overnight. The Bank also places deposits with commercial banks, which earn interest overnight. Such investments are reported at their estimated fair value.

Investment Securities

We classify investment securities as available-for-sale and report them at their estimated fair value. We have no trading or held-to-maturity securities. We amortize or accrete purchased premiums and discounts using the constant yield method, which approximates the interest method, over the terms of the respective securities. We report unrealized gains and losses, net of applicable income taxes and credit losses, in the accumulated other comprehensive income (loss) component of shareholders' equity on the consolidated balance sheets. We report realized gains and losses on sales of investments in noninterest income in our consolidated statements of income. We use the specific identification

method for determining cost in computing realized gains and losses on sales of investment securities.

We evaluate investments in a loss position to determine if such a loss is other-than-temporary. If losses are deemed to be other-than-temporary, we record the portion related to credit losses in earnings and the portion related to all other factors in other comprehensive income (loss). For additional information, refer to Note 4.

Premises and Equipment

We carry premises and equipment at cost less accumulated depreciation and amortization. We provide for depreciation and amortization on the straight-line method over the estimated useful lives of the assets. We record gains and losses on dispositions in current operating results. We record maintenance and repairs to operating expenses when incurred and capitalize improvements.

We capitalize leased property and equipment meeting certain criteria and depreciate such assets using the straight-line method over the terms of the respective leases.

During 2014, CoBank entered into a build-to-suit arrangement for the construction of a new corporate headquarters in Greenwood Village, Colorado. CoBank moved into the new headquarters building in 2015 and commenced a lease agreement at that time. In 2015, the building and lease were sold to an investor. However, for accounting purposes, the sale transaction was not recognized until all construction contingencies were finalized. Upon resolution of all construction contingencies in 2016, the building asset was removed from the balance sheet and sale-leaseback accounting treatment was applied to this transaction. As of December 31, 2018, rental payments associated with the lease total approximately \$83.7 million over the remaining term of 12 years. On January 1, 2019, we recorded a right-of-use (ROU) asset and lease liability related to this building lease with the adoption of the new lease accounting standard, which is described in Note 2.

Mineral Rights

As a result of our 2012 merger with U.S. AgBank, FCB (AgBank), we own mineral rights in Arizona, California, Colorado, Kansas, Nevada, New Mexico, Oklahoma and Utah. As required by the merger agreement, the net earnings from these mineral rights are passed on directly to certain Associations. Mineral income is primarily generated from royalties on natural gas and crude oil production, leasing bonuses and rental payments. This income may vary from year to year based on fluctuations in energy demand, prices and production. In 2018, net mineral income passed directly to these Associations totaled \$8.6 million compared to \$7.7 million in 2017 and \$7.5 million in 2016. As a result of the agreement to pass the net earnings from mineral rights to certain Associations, these mineral rights have no carrying value in our consolidated balance sheet.

Derivative Financial Instruments and Hedging Activities

We record derivatives as assets or liabilities at their fair value on the consolidated balance sheets. We record changes in the fair value of a derivative in current period earnings or accumulated other comprehensive income (loss), depending

on the use of the derivative and whether it qualifies for fair value or cash flow hedge accounting. For derivatives not designated as hedging instruments, we record the related change in fair value in current period earnings.

We formally document all relationships between derivatives and hedged items, as well as risk management objectives and strategies for undertaking various hedge transactions. This process includes linking all derivatives that are designated as fair value or cash flow hedges to assets and liabilities on the consolidated balance sheet or to forecasted transactions.

We also formally assess (both at the hedge's inception and on an ongoing basis) whether the derivatives that are used in hedging transactions have been effective in offsetting changes in the fair value or cash flows of hedged items and whether those derivatives are expected to remain effective in future periods. We typically use regression analyses or other statistical analyses to assess the effectiveness of hedges. Hedge accounting is discontinued prospectively if: (i) it is determined that the derivative is no longer effective in offsetting changes in the fair value or cash flows of a hedged item; (ii) the derivative expires or is sold, terminated or exercised; or (iii) management determines that the fair value or cash flow hedge designation is no longer appropriate.

If we determine that a derivative no longer qualifies as an effective fair value or cash flow hedge, or if management removes the hedge designation, we continue to carry the derivative on the balance sheet at fair value, with changes in fair value recognized in current period earnings as part of noninterest income. For discontinued cash flow hedges, we amortize the component of other comprehensive income (loss) to net interest income over the original term of the hedge contract. For cash flow hedges in which the forecasted transaction is not probable of occurring, we immediately reclassify amounts in other comprehensive income (loss) to current period earnings. For additional information, refer to Note 11.

Systemwide Debt Securities

We, along with the other System banks, obtain funds for lending activities and operations primarily from the sale of debt securities issued by System banks through the Funding Corporation. These debt securities are composed of bonds, medium-term notes and discount notes and are collectively referred to as Systemwide Debt Securities. Pursuant to the Farm Credit Act, Systemwide Debt Securities are the general unsecured joint and several obligations of the System banks and each System bank is primarily liable for the portion of the Systemwide Debt Securities issued on its behalf. CoBank accounts for its joint and several liabilities for all Systemwide Debt Securities as a contingent liability. We do not record a liability unless it is probable that we will be required to pay an amount and that amount can be reasonably estimated. At December 31, 2018, CoBank was primarily liable for \$126.4 billion of Systemwide Debt Securities, which was recorded as a liability on our consolidated balance sheet. For additional information, refer to Note 5.

Fair Value Measurements

Our fair value measurements represent the estimated amount to be received to sell an asset or paid to transfer or extinguish a liability (an exit price) in active markets among willing participants at the reporting date. We maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The classification of assets and liabilities measured at fair value within the disclosure hierarchy is based on three levels of inputs to the fair value measurement process, which are described in Note 12.

Fair Value of Guarantor's Obligations

We provide standby letters of credit, which are irrevocable undertakings to guarantee payment of a specified financial obligation. As a guarantor, we recognize a liability for the fair value of the obligation undertaken in issuing the guarantee. Our liability for the fair value of these obligations is determined by applying a risk-adjusted spread percentage to those obligations.

Employee Benefit Plans

Our employee benefit plans are described in Note 8. The net expense for employee benefit plans is recorded as employee compensation expense. For defined benefit pension plans, we use the "Projected Unit Credit" actuarial method for financial reporting and funding purposes.

The anticipated costs of benefits related to postretirement health care and life insurance are accrued during the period of the employees' active service and are classified as employee compensation expense.

Income Taxes

CoBank operates as a non-exempt cooperative, which qualifies for tax treatment under Subchapter T of the Internal Revenue Code. Accordingly, amounts distributed as qualified patronage distributions to borrowers in the form of cash or stock may be deducted from taxable income and are generally included in the recipients' taxable income. We base provisions for income taxes for financial reporting purposes only on those taxable earnings that will not be distributed as qualified patronage distributions. Substantially all of the Bank's statutorily tax-exempt activities reside in CoBank, FCB, a wholly-owned subsidiary of CoBank.

We record deferred tax assets and liabilities for temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases except for our nontaxable entity. We measure these deferred amounts using the current marginal statutory tax rate on the taxable portion of our business activities. Calculating deferred tax assets and liabilities involves various management estimates and assumptions as to future taxable earnings. We expect to fully realize deferred tax assets based on the projected level of future taxable income and other factors.

See Note 9 for further information regarding income taxes, including a discussion of the impact of the enactment of federal tax legislation in late 2017.

Note 2 – Recently Issued or Adopted Accounting Pronouncements

In August 2018, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU), “Compensation – Retirement Benefits – Defined Benefit Plans – General (Topic 715): Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans.” This ASU modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. For public business entities, the ASU becomes effective for fiscal years ending after December 15, 2020 with early adoption permitted. The adoption of this guidance will not impact the Bank’s financial condition or its results of operations, but will result in removal or modification of certain of the employee benefit plan disclosures, which are contained in Note 8.

In August 2018, the FASB issued ASU, “Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.” This ASU eliminates, adds and modifies certain requirements to improve effectiveness of fair value measurement disclosures. This guidance becomes effective for financial statements issued for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted and an entity is permitted to early adopt any removed or modified disclosures and delay adoption of the additional disclosures until their effective date. The adoption of this guidance will not impact the Bank’s financial condition or its results of operations, but will impact the fair value measurements disclosures, which are contained in Note 12. The Bank early adopted the removed and modified disclosures during the fourth quarter of 2018.

New U.S. tax laws resulting from legislation commonly known as the Tax Cuts and Jobs Act of 2017 (TCJA) were enacted in late 2017. Among other things, the TCJA reduced the federal corporate tax rate from 35 percent to 21 percent. In accordance with GAAP, the change to a lower corporate tax rate led to a remeasurement of our deferred tax liabilities and deferred tax assets in the period of enactment (2017). For deferred tax amounts originally recorded in accumulated other comprehensive income (loss), this remeasurement resulted in a disproportionate effect of \$26.6 million which remained “stranded” in accumulated other comprehensive loss as of December 31, 2017. In February 2018, the FASB issued ASU, “Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income.” The guidance provided entities the option to reclassify the stranded tax effects of the TCJA from accumulated other comprehensive income (loss) to retained earnings. We adopted this guidance in 2018. As a result, the stranded tax effect was reclassified in 2018 resulting in increases to accumulated other comprehensive loss and retained earnings of \$26.6 million. The Bank utilizes the item-by-item approach for releasing income tax effects from accumulated other comprehensive income (loss). The reclassification by component of accumulated other comprehensive loss is presented in Note 7.

In August 2017, the FASB issued ASU, “Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities.” The new guidance will make more financial and non-financial hedging strategies eligible for hedge accounting. It also amends the presentation and disclosure requirements and changes how companies assess effectiveness. It is intended to more closely align hedge accounting with companies’ risk management strategies, simplify the application of hedge accounting, and increase transparency as to the scope and results of hedging programs. We adopted the new standard on January 1, 2019 and recorded a cumulative-effect adjustment to retained earnings of \$0.2 million to reflect the removal of previously recorded hedge ineffectiveness on cash flow hedges. This amount is not material to our consolidated financial position and results of operations. In addition, we will adopt certain new derivative disclosures required under the ASU beginning in the first quarter of 2019.

In August 2016, the FASB issued ASU, “Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments.” The ASU is intended to reduce diversity in practice in how certain transactions are classified in the statement of cash flows. The guidance addresses, among other issues, the presentation of debt prepayment or extinguishment costs and settlement of zero-coupon debt instruments in the statement of cash flows. We adopted this standard in 2018. While the adoption did not have a significant impact on our statement of cash flows as a whole, the classification of certain transactions changed as a result of this guidance. Specifically, payments on early extinguishments of debt are now presented within financing activities whereas such cash outflows were previously classified within operating activities. In addition, upon settlement of our discount notes, which are zero-coupon debt instruments, the portion of the cash payment attributed to the accreted interest related to the debt discount has been classified as a cash outflow within operating activities whereas previously this outflow was classified as a financing activity. The adoption of this standard resulted in a decrease in net cash provided by operating activities of \$209.6 million, \$80.8 million and \$31.5 million during 2018, 2017 and 2016, respectively. This impact is fully offset by the corresponding increase in net cash provided by financing activities resulting from the changes in classification. The adoption of this guidance did not impact our consolidated financial position or results of operations.

In June 2016, the FASB issued ASU, “Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments.” The ASU introduces a new model for recognizing credit losses on financial instruments based on an estimate of current expected credit losses. The new model will apply to: (1) loans, accounts receivable, trade receivables, and other financial assets measured at amortized cost; (2) loan commitments and certain other off-balance sheet credit exposures; (3) debt securities and other financial assets measured at fair value through other comprehensive income (loss); and (4) beneficial interests in securitized financial assets. For public business entities that are not U.S. Securities and Exchange Commission filers the ASU becomes effective in fiscal years beginning after

December 15, 2020, including interim periods within those fiscal years, and early application is permitted. While we continue to review the guidance and evaluate assumptions and models, we believe the ASU may result in an increase in the allowance for credit losses given the change to estimated losses over the contractual life with an anticipated impact from longer duration portfolios, as well as the addition of an allowance for investment securities and other financial instruments. The amount of the increase or decrease, if any, will be impacted by the composition of our portfolios and credit quality at the adoption date as well as economic conditions and forecasts at that time.

In February 2016, the FASB issued ASU, “Leases (Topic 842).” This guidance is intended to improve financial reporting about leasing transactions and affects all organizations that lease assets. The ASU establishes an ROU model that requires organizations that lease assets, referred to as lessees, to recognize on the balance sheet the ROU assets and liabilities created by those leases. The accounting for organizations that own the assets leased by the lessee, also known as lessor accounting, remains largely unchanged from current GAAP. In July 2018, the FASB issued additional guidance which provided a new and optional transition method whereby an entity initially applies the leasing standard at the adoption date and recognizes a cumulative-effect adjustment to opening retained earnings. We adopted the new lease accounting standard effective January 1, 2019, under the optional transition method. The new standard provides a number of optional practical expedients in transition. We elected certain of the practical expedients, which among other things, allowed us to carry forward our historical lease classification. On adoption, we recorded ROU assets of \$82.3 million, with offsetting lease liabilities of the same amount, and therefore, no cumulative effect adjustment to retained earnings. The most significant ROU assets and lease

liabilities are related to operating leases at our corporate headquarters and banking center offices. The new lease accounting standard had an insignificant impact on our consolidated results of operations, and no impact on our cash flows. In addition, we will adopt certain new lease disclosures required under the ASU beginning in the first quarter of 2019.

In January 2016, the FASB issued ASU, “Financial Instruments – Overall: Recognition and Measurement of Financial Assets and Financial Liabilities.” The guidance affects, among other things, the presentation and disclosure requirements for financial instruments. For public entities, the ASU eliminates the requirement to disclose the methods and significant assumptions used to estimate the fair value of financial instruments carried at amortized cost. We adopted this guidance in 2018 and therefore certain previous disclosures have been eliminated from Note 12. The adoption of this guidance did not have a material effect on our consolidated financial position, results of operations or cash flows.

In May 2014, the FASB issued guidance entitled “Revenue from Contracts with Customers.” The guidance governs revenue recognition from contracts with customers and requires an entity to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Financial instruments and other contractual rights within the scope of other guidance issued by the FASB are excluded from the scope of this new revenue recognition guidance. As such, the substantial majority of our contracts are excluded from the scope of this new guidance. We adopted this guidance in 2018. The adoption of this guidance did not have a material impact on our consolidated financial position, results of operations or cash flows.

Note 3 – Loans, Loan Quality and Allowance for Credit Losses

Loans Outstanding

Loans outstanding by operating segment are shown below.

(\$ in Millions)

December 31,	2018		2017		2016	
	Amount	%	Amount	%	Amount	%
Agribusiness	\$ 32,432	31 %	\$ 30,304	31 %	\$ 28,660	30 %
Farm Credit Banking	50,695	49	47,948	48	45,994	48
Rural Infrastructure	21,367	20	21,014	21	20,604	22
Total	\$ 104,494	100 %	\$ 99,266	100 %	\$ 95,258	100 %
Loans Purchased	\$ 17,616		\$ 16,910		\$ 17,883	
Loans Sold	18,895		17,617		18,485	

We have loans outstanding in all 50 states as well as certain foreign countries and a limited number of U.S. territories. Our agricultural export finance loan portfolio, which is part of our Agribusiness operating segment, includes U.S. government-sponsored trade financing programs which guarantee payment in the event of default by the borrower of

generally 98 percent of loan principal outstanding and varying percentages of interest due. Of the \$5.8 billion in agricultural export finance loans outstanding as of December 31, 2018, 18 percent were guaranteed by the U.S. government under one of these trade financing programs,

primarily the General Sales Manager program of the U.S. Department of Agriculture's Commodity Credit Corporation.

We make loans to customers in various industries. For the years ended December 31, 2018, 2017 and 2016, total loans outstanding (excluding wholesale loans to Associations) did not exceed 10 percent for any specific industry.

Wholesale loans to our affiliated Associations represented 44 percent of total loans outstanding at December 31, 2018 and 43 percent of total loans outstanding at December 31, 2017 and 2016. As of December 31, 2018, our affiliated Associations provided financing and other financial services to

farmer-owners for rural real estate, equipment, working capital, agricultural production and operating purposes in the Northwest, West, Southwest, Rocky Mountains, Mid-Plains and Northeast regions of the United States. Participations in loans made by other System banks to their affiliated Associations represented 5 percent of our total loans outstanding at December 31, 2018, 2017 and 2016.

Unamortized loan premiums and discounts, and unamortized deferred loan fees and costs totaled \$95.3 million, \$73.4 million and \$70.9 million as of December 31, 2018, 2017 and 2016, respectively.

Allowance for Credit Losses

The following tables present changes in the components of our allowance for credit losses and details of ending balances. The allowance for credit losses includes the allowance for loan losses and the reserve for unfunded commitments. The elements of our allowance for credit losses are presented by operating segment.

	Agribusiness	Farm Credit Banking ⁽¹⁾	Rural Infrastructure	Total
December 31, 2018				
Allowance for Loan Losses				
Beginning Balance	\$ 411,078	\$ -	\$ 165,849	\$ 576,927
Charge-offs	(33,575)	-	(2,135)	(35,710)
Recoveries	1,927	-	231	2,158
Provision for Loan Losses	54,000	-	12,000	66,000
Transfers from Reserve for Unfunded Commitments ⁽²⁾	5,374	-	6,842	12,216
Ending Balance	438,804	-	182,787	621,591
Reserve for Unfunded Commitments				
Beginning Balance	68,826	-	25,039	93,865
Transfers to Allowance for Loan Losses ⁽²⁾	(5,374)	-	(6,842)	(12,216)
Ending Balance	63,452	-	18,197	81,649
Allowance for Credit Losses	\$ 502,256	\$ -	\$ 200,984	\$ 703,240
Allowance for Credit Losses				
Ending Balance, Allowance for Credit Losses Related to Loans:				
Individually Evaluated for Impairment	\$ 64,289	\$ -	\$ 22,797	\$ 87,086
Collectively Evaluated for Impairment	437,967	-	178,187	616,154
Total	\$ 502,256	\$ -	\$ 200,984	\$ 703,240
Loans				
Ending Balance for Loans and Related Accrued Interest:				
Individually Evaluated for Impairment	\$ 288,125	\$ 50,825,304	\$ 38,163	\$ 51,151,592
Collectively Evaluated for Impairment	32,290,633	-	21,406,885	53,697,518
Total	\$ 32,578,758	\$ 50,825,304	\$ 21,445,048	\$ 104,849,110

⁽¹⁾ As a result of our strong collateral position with respect to loans to Associations, along with the earnings, capital, portfolio diversification and loss reserves of Associations that serve as an additional layer of protection against losses, no allowance for credit losses is recorded in our Farm Credit Banking operating segment.

⁽²⁾ These transfers generally occur as a result of advances on or repayments of seasonal lines of credit or other loans.

	Agribusiness	Farm Credit Banking ⁽¹⁾	Rural Infrastructure	Total
December 31, 2017				
Allowance for Loan Losses				
Beginning Balance	\$ 393,548	\$ -	\$ 165,426	\$ 558,974
Charge-offs	(35,675)	-	-	(35,675)
Recoveries	1,644	-	353	1,997
Provision for Loan Losses (Loan Loss Reversal)	43,650	-	(1,650)	42,000
Transfers from Reserve for Unfunded Commitments ⁽²⁾	7,911	-	1,720	9,631
Ending Balance	411,078	-	165,849	576,927
Reserve for Unfunded Commitments				
Beginning Balance	76,737	-	26,759	103,496
Transfers to Allowance for Loan Losses ⁽²⁾	(7,911)	-	(1,720)	(9,631)
Ending Balance	68,826	-	25,039	93,865
Allowance for Credit Losses				
Ending Balance, Allowance for Credit Losses Related to Loans:				
Individually Evaluated for Impairment	\$ 36,556	\$ -	\$ 8,300	\$ 44,856
Collectively Evaluated for Impairment	443,348	-	182,588	625,936
Total	\$ 479,904	\$ -	\$ 190,888	\$ 670,792
Loans				
Ending Balance for Loans and Related Accrued Interest:				
Individually Evaluated for Impairment	\$ 212,980	\$ 48,051,811	\$ 33,857	\$ 48,298,648
Collectively Evaluated for Impairment	30,196,160	-	21,070,306	51,266,466
Total	\$ 30,409,140	\$ 48,051,811	\$ 21,104,163	\$ 99,565,114
December 31, 2016				
Allowance for Loan Losses				
Beginning Balance	\$ 313,204	\$ -	\$ 172,940	\$ 486,144
Charge-offs	(4,276)	-	(324)	(4,600)
Recoveries	747	-	1,735	2,482
Provision for Loan Losses (Loan Loss Reversal)	71,000	-	(8,000)	63,000
Transfers from (to) Reserve for Unfunded Commitments ⁽²⁾	12,873	-	(925)	11,948
Ending Balance	393,548	-	165,426	558,974
Reserve for Unfunded Commitments				
Beginning Balance	89,610	-	25,834	115,444
Transfers (to) from Allowance for Loan Losses ⁽²⁾	(12,873)	-	925	(11,948)
Ending Balance	76,737	-	26,759	103,496
Allowance for Credit Losses				
Ending Balance, Allowance for Credit Losses Related to Loans:				
Individually Evaluated for Impairment	\$ 31,551	\$ -	\$ -	\$ 31,551
Collectively Evaluated for Impairment	438,734	-	192,185	630,919
Total	\$ 470,285	\$ -	\$ 192,185	\$ 662,470
Loans				
Ending Balance for Loans and Related Accrued Interest:				
Individually Evaluated for Impairment	\$ 207,247	\$ 46,060,386	\$ -	\$ 46,267,633
Collectively Evaluated for Impairment	28,539,237	-	20,692,216	49,231,453
Total	\$ 28,746,484	\$ 46,060,386	\$ 20,692,216	\$ 95,499,086

⁽¹⁾ As a result of our strong collateral position with respect to loans to Associations, along with the earnings, capital, portfolio diversification and loss reserves of Associations that serve as an additional layer of protection against losses, no allowance for credit losses is recorded in our Farm Credit Banking operating segment.

⁽²⁾ These transfers generally occur as a result of advances on or repayments of seasonal lines of credit or other loans.

The information in the tables under the Credit Quality, Aging Analysis and Impaired Loans captions is presented by operating segment, with guaranteed and non-guaranteed loans in our Agribusiness segment separately identified.

Credit Quality

The following table presents our loans and accrued interest classified, by management, pursuant to our regulator's Uniform Loan Classification System.

	Agribusiness		Farm Credit		Rural	
	Non-Guaranteed	Guaranteed	Banking	Infrastructure		Total
December 31, 2018						
Acceptable	\$ 29,678,071	\$ 1,075,376	\$ 50,295,238	\$ 21,034,895		\$ 102,083,580
Special Mention	877,840	-	471,155	138,826		1,487,821
Substandard	941,973	-	58,911	271,327		1,272,211
Doubtful	5,498	-	-	-		5,498
Loss	-	-	-	-		-
Total	\$ 31,503,382	\$ 1,075,376	\$ 50,825,304	\$ 21,445,048		\$ 104,849,110
December 31, 2017						
Acceptable	\$ 27,452,294	\$ 998,215	\$ 47,581,031	\$ 20,765,915		\$ 96,797,455
Special Mention	1,076,344	-	470,780	222,166		1,769,290
Substandard	878,047	-	-	116,082		994,129
Doubtful	4,240	-	-	-		4,240
Loss	-	-	-	-		-
Total	\$ 29,410,925	\$ 998,215	\$ 48,051,811	\$ 21,104,163		\$ 99,565,114
December 31, 2016						
Acceptable	\$ 25,785,154	\$ 1,258,464	\$ 46,060,386	\$ 20,236,049		\$ 93,340,053
Special Mention	1,007,981	-	-	380,218		1,388,199
Substandard	687,781	-	-	75,949		763,730
Doubtful	7,104	-	-	-		7,104
Loss	-	-	-	-		-
Total	\$ 27,488,020	\$ 1,258,464	\$ 46,060,386	\$ 20,692,216		\$ 95,499,086

Aging Analysis

The following tables present an aging of past due loans and accrued interest.

	Agribusiness		Farm Credit		Rural	
	Non-Guaranteed	Guaranteed	Banking	Infrastructure		Total
December 31, 2018						
30-89 Days Past Due	\$ 27,692	\$ -	\$ -	\$ 1,025		\$ 28,717
90 Days Past Due	15,748	-	-	21,521		37,269
Total Past Due	\$ 43,440	\$ -	\$ -	\$ 22,546		\$ 65,986
Current	31,459,942	1,075,376	50,825,304	21,422,502		104,783,124
Total	\$ 31,503,382	\$ 1,075,376	\$ 50,825,304	\$ 21,445,048		\$ 104,849,110
Accruing Loans 90 Days or More Past Due	\$ 1,685	\$ -	\$ -	\$ -		\$ 1,685
December 31, 2017						
30-89 Days Past Due	\$ 33,503	\$ -	\$ -	\$ -		\$ 33,503
90 Days Past Due	14,190	-	-	-		14,190
Total Past Due	\$ 47,693	\$ -	\$ -	\$ -		\$ 47,693
Current	29,363,232	998,215	48,051,811	21,104,163		99,517,421
Total	\$ 29,410,925	\$ 998,215	\$ 48,051,811	\$ 21,104,163		\$ 99,565,114
Accruing Loans 90 Days or More Past Due	\$ 670	\$ -	\$ -	\$ -		\$ 670

December 31, 2016	Agribusiness		Farm Credit		Rural		Total
	Non-Guaranteed	Guaranteed	Banking		Infrastructure		
30-89 Days Past Due	\$ 17,353	\$ -	\$ -	\$ -	\$ -	\$ -	17,353
90 Days Past Due	41,625	-	-	-	-	-	41,625
Total Past Due	\$ 58,978	\$ -	\$ -	\$ -	\$ -	\$ -	58,978
Current	27,429,042	1,258,464	46,060,386		20,692,216		95,440,108
Total	\$ 27,488,020	\$ 1,258,464	\$ 46,060,386	\$ -	\$ 20,692,216	\$ -	95,499,086
Accruing Loans 90 Days or More Past Due	\$ 804	\$ -	\$ -	\$ -	\$ -	\$ -	804

Impaired Loans

Impaired loan information is shown in the following table. Loans past due 90 days or more and still accruing interest are adequately secured and in the process of collection.

December 31, 2018	Agribusiness		Farm Credit		Rural		Total
	Non-Guaranteed	Guaranteed⁽¹⁾	Banking⁽¹⁾		Infrastructure		
Nonaccrual Loans ⁽²⁾	\$ 288,125	\$ -	\$ -	\$ -	\$ 38,163	\$ -	326,288
Accruing Loans 90 Days or More Past Due	1,685	-	-	-	-	-	1,685
Accruing Restructured Loans	-	-	-	-	-	-	-
Total Impaired Loans	\$ 289,810	\$ -	\$ -	\$ -	\$ 38,163	\$ -	327,973
December 31, 2017							
Nonaccrual Loans ⁽²⁾	\$ 212,980	\$ -	\$ -	\$ -	\$ 33,857	\$ -	246,837
Accruing Loans 90 Days or More Past Due	670	-	-	-	-	-	670
Accruing Restructured Loans	-	-	-	-	-	-	-
Total Impaired Loans	\$ 213,650	\$ -	\$ -	\$ -	\$ 33,857	\$ -	247,507
December 31, 2016							
Nonaccrual Loans ⁽²⁾	\$ 207,247	\$ -	\$ -	\$ -	\$ -	\$ -	207,247
Accruing Loans 90 Days or More Past Due	804	-	-	-	-	-	804
Accruing Restructured Loans	-	-	-	-	42,575	-	42,575
Total Impaired Loans	\$ 208,051	\$ -	\$ -	\$ -	\$ 42,575	\$ -	250,626

⁽¹⁾ There were no impaired loans in our Agribusiness Guaranteed or Farm Credit Banking portfolios for any of the periods presented.

⁽²⁾ Included in nonaccrual loans at December 31, 2018, 2017, and 2016 are \$101.9 million, \$17.3 million, and \$34.8 million, respectively, of loans that qualify as troubled debt restructurings.

The following tables present information on impaired loans and related amounts in the allowance for loan losses.

December 31, 2018	Agribusiness Non-Guaranteed	Agribusiness Guaranteed⁽¹⁾	Farm Credit Banking⁽¹⁾	Rural Infrastructure	Total
Impaired Loans With No Related Allowance for Loan Losses					
Carrying Amount	\$ 153,541	\$ -	\$ -	\$ -	153,541
Unpaid Principal	174,350	-	-	-	174,350
Average Balance	137,035	-	-	-	137,035
Interest Income Recognized	6,482	-	-	7,588	14,070
Impaired Loans With Related Allowance for Loan Losses					
Carrying Amount	136,269	-	-	38,163	174,432
Unpaid Principal	154,863	-	-	42,423	197,286
Allowance for Loan Losses	64,289	-	-	22,797	87,086
Average Balance	158,276	-	-	39,596	197,872
Interest Income Recognized	1,784	-	-	-	1,784
Total Impaired Loans					
Carrying Amount	289,810	-	-	38,163	327,973
Unpaid Principal	329,213	-	-	42,423	371,636
Allowance for Loan Losses	64,289	-	-	22,797	87,086
Average Balance	295,311	-	-	39,596	334,907
Interest Income Recognized	8,266	-	-	7,588	15,854
December 31, 2017					
Impaired Loans With No Related Allowance for Loan Losses					
Carrying Amount	\$ 99,838	\$ -	\$ -	\$ -	99,838
Unpaid Principal	141,715	-	-	-	141,715
Average Balance	102,234	-	-	9,277	111,511
Interest Income Recognized	2,487	-	-	4,118	6,605
Impaired Loans With Related Allowance for Loan Losses					
Carrying Amount	113,812	-	-	33,857	147,669
Unpaid Principal	122,027	-	-	34,841	156,868
Allowance for Loan Losses	36,556	-	-	8,300	44,856
Average Balance	111,929	-	-	7,206	119,135
Interest Income Recognized	49	-	-	-	49
Total Impaired Loans					
Carrying Amount	213,650	-	-	33,857	247,507
Unpaid Principal	263,742	-	-	34,841	298,583
Allowance for Loan Losses	36,556	-	-	8,300	44,856
Average Balance	214,163	-	-	16,483	230,646
Interest Income Recognized	2,536	-	-	4,118	6,654

⁽¹⁾ There were no impaired loans in our Agribusiness Guaranteed or Farm Credit Banking portfolios for any of the periods presented.

December 31, 2016	Agribusiness Non-Guaranteed	Agribusiness Guaranteed ⁽¹⁾	Farm Credit Banking ⁽¹⁾	Rural Infrastructure	Total
Impaired Loans With No Related Allowance for Loan Losses					
Carrying Amount	\$ 79,908	\$ -	\$ -	\$ 42,575	\$ 122,483
Unpaid Principal	88,820	-	-	53,940	142,760
Average Balance	45,536	-	-	42,560	88,096
Interest Income Recognized	2,292	-	-	4,050	6,342
Impaired Loans With Related Allowance for Loan Losses					
Carrying Amount	128,143	-	-	-	128,143
Unpaid Principal	139,028	-	-	-	139,028
Allowance for Loan Losses	31,551	-	-	-	31,551
Average Balance	89,156	-	-	12,888	102,044
Interest Income Recognized	3	-	-	-	3
Total Impaired Loans					
Carrying Amount	208,051	-	-	42,575	250,626
Unpaid Principal	227,848	-	-	53,940	281,788
Allowance for Loan Losses	31,551	-	-	-	31,551
Average Balance	134,692	-	-	55,448	190,140
Interest Income Recognized	2,295	-	-	4,050	6,345

⁽¹⁾ There were no impaired loans in our Agribusiness Guaranteed or Farm Credit Banking portfolios for any of the periods presented.

Interest income forgone on nonaccrual and accruing restructured loans is as follows:

Year Ended December 31, 2018	
Interest Income Which Would Have Been Recognized Per Original Terms	\$ 33,670
Less: Interest Income Recognized	(15,614)
Forgone Interest Income	\$ 18,056

Commitments on Impaired Loans

There were \$35.5 million in commitments available to be drawn by borrowers whose loans were classified as impaired at December 31, 2018.

Troubled Debt Restructurings

Troubled debt restructurings (TDRs) are loans in which we have granted a concession because the borrower is experiencing financial difficulty. Concessions may include payment deferrals, term extensions, interest rate reductions, and/or forgiveness of principal or interest. TDRs classified as nonaccrual loans, along with other impaired loans, may be returned to accruing status upon meeting specific criteria, as more fully described in Note 1. A summary of the number of modifications that qualified as TDRs and the dollar amounts before and after modification is as follows:

December 31,	2018	2017	2016
Number of Loan Modifications that			
Qualified as a TDR	3	-	1
Total Loan Amount Before Modification	\$ 124,136	\$ -	\$ 24,214
Total Loan Amount After Modification	115,636	-	24,214

One of the 2018 loan modifications that qualified as a TDR was subsequently restructured during the year. This additional modification reflected the inclusion of a payment default in our forbearance agreement which was subsequently waived and resulted in no reduction in principal or interest. As of December 31, 2018, this loan totaled \$71.7 million. There have been no other payment defaults on our TDR-classified loans subsequent to their restructuring.

Leases Outstanding

A summary of the components of FCL's net investment in direct financing leases and property on operating leases is as follows:

(\$ in Millions)

December 31,	2018	2017	2016
Net Investment in Direct Financing Leases:			
Minimum Lease Payments to be Received,			
Net of Participation Interests	\$ 2,186	\$ 2,096	\$ 2,074
Estimated Residual Values of Leased			
Property (Unguaranteed)	1,184	1,159	925
Initial Direct Costs	33	32	28
Less: Unearned Finance Income	(382)	(332)	(297)
Net Investment in Direct Financing Leases	\$ 3,021	\$ 2,955	\$ 2,730
Property on Operating Leases:			
Vehicles and Other Equipment	\$ 722	\$ 777	\$ 823
Initial Direct Costs	(1)	(1)	(1)
Total	721	776	822
Less: Accumulated Depreciation	(353)	(363)	(380)
Net Property on Operating Leases	\$ 368	\$ 413	\$ 442
Year Ended December 31,	2018	2017	2016
Depreciation Expense	\$ 132	\$ 148	\$ 150

At December 31, 2018, gross minimum lease payments to be received for direct financing leases and minimum future rental revenue for noncancelable operating leases are as follows:

(\$ in Millions)

Year	Minimum Lease Payments	Minimum Future Rental Revenue
2019	\$ 625	\$ 53
2020	503	39
2021	380	24
2022	232	18
2023	154	3
Subsequent Years	292	4

Note 4 – Investment Securities

A summary of the amortized cost and fair value of investment securities available-for-sale is as follows. See Note 12 for disclosures about estimated fair values of financial instruments, including investments.

(\$ in Millions)

December 31, 2018	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of Deposit	\$ 975	\$ -	\$ -	\$ 975
U.S. Treasury Debt	15,424	20	(176)	15,268
U.S. Agency Debt	2,257	3	(21)	2,239
Residential Mortgage-Backed Securities (MBS):				
Ginnie Mae	2,969	5	(34)	2,940
U.S. Agency	5,613	4	(89)	5,528
Non-Agency	12	1	-	13
Commercial MBS:				
U.S. Agency	2,882	1	(16)	2,867
Corporate Bonds	120	-	(1)	119
Asset-Backed and Other	1,342	1	-	1,343
Total	\$ 31,594	\$ 35	\$ (337)	\$ 31,292

(\$ in Millions)

December 31, 2017	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of Deposit	\$ 775	\$ -	\$ -	\$ 775
U.S. Treasury Debt	11,137	8	(116)	11,029
U.S. Agency Debt	3,369	7	(20)	3,356
Residential MBS:				
Ginnie Mae	1,876	1	(21)	1,856
U.S. Agency	6,758	24	(64)	6,718
FHA/VA Non-Wrapped Reperformer	235	22	-	257
Non-Agency	26	3	-	29
Commercial MBS:				
U.S. Agency	2,504	3	(8)	2,499
Agricultural MBS:				
Farmer Mac	79	-	(1)	78
Corporate Bonds	40	-	-	40
Asset-Backed and Other	225	8	-	233
Total	\$ 27,024	\$ 76	\$ (230)	\$ 26,870

(\$ in Millions)

December 31, 2016	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of Deposit	\$ 775	\$ 1	\$ -	\$ 776
U.S. Treasury Debt	11,189	38	(86)	11,141
U.S. Agency Debt	5,132	32	(20)	5,144
Residential MBS:				
Ginnie Mae	538	3	-	541
U.S. Agency	6,714	44	(47)	6,711
FHA/VA Non-Wrapped				
Reperformer	268	9	(2)	275
Non-Agency	63	8	-	71
Commercial MBS:				
U.S. Agency	2,649	4	(12)	2,641
Agricultural MBS:				
Farmer Mac	99	-	(2)	97
Corporate Bonds	40	-	-	40
Asset-Backed and Other	319	10	(1)	328
Total	\$ 27,786	\$ 149	\$ (170)	\$ 27,765

A summary of the contractual maturity, amortized cost, fair value and weighted average yield of investment securities by investment category at December 31, 2018 is as follows:

Certificates of Deposit

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ 975	\$ 975	2.66 %
One to Five Years	-	-	-
Five to Ten Years	-	-	-
After Ten Years	-	-	-
Total	\$ 975	\$ 975	2.66

U.S. Treasury Debt Securities

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ 2,731	\$ 2,722	1.71 %
One to Five Years	10,199	10,060	2.02
Five to Ten Years	2,494	2,486	2.48
After Ten Years	-	-	-
Total	\$ 15,424	\$ 15,268	2.04

U.S. Agency Debt Securities

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ 235	\$ 234	1.89 %
One to Five Years	1,074	1,062	2.28
Five to Ten Years	948	943	2.60
After Ten Years	-	-	-
Total	\$ 2,257	\$ 2,239	2.37

Ginnie Mae Residential MBS

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ -	\$ -	- %
One to Five Years	2	2	3.39
Five to Ten Years	4	4	3.64
After Ten Years	2,963	2,934	2.80
Total	\$ 2,969	\$ 2,940	2.80

U.S. Agency Residential MBS

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ 1	\$ 1	3.19 %
One to Five Years	5	5	3.04
Five to Ten Years	64	64	2.89
After Ten Years	5,543	5,458	2.58
Total	\$ 5,613	\$ 5,528	2.59

Non-Agency Residential MBS

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ -	\$ -	- %
One to Five Years	-	-	-
Five to Ten Years	-	-	-
After Ten Years	12	13	5.24
Total	\$ 12	\$ 13	5.24

U.S. Agency Commercial MBS

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ 66	\$ 65	2.17 %
One to Five Years	1,306	1,302	2.62
Five to Ten Years	1,510	1,500	2.67
After Ten Years	-	-	-
Total	\$ 2,882	\$ 2,867	2.64

Corporate Bonds

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ -	\$ -	- %
One to Five Years	35	35	4.36
Five to Ten Years	85	84	4.70
After Ten Years	-	-	-
Total	\$ 120	\$ 119	4.60

Asset-Backed Securities and Other

(\$ in Millions)

Contractual Maturity	Amortized Cost	Fair Value	Weighted Average Yield
In One Year or Less	\$ -	\$ -	- %
One to Five Years	1,330	1,331	2.74
Five to Ten Years	-	-	-
After Ten Years	12	12	5.87
Total	\$ 1,342	\$ 1,343	2.77

While the substantial majority of our residential mortgage-backed securities (MBS) and a portion of our asset-backed securities (ABS) have contractual maturities in excess of 10 years, expected maturities for these securities are shorter than contractual maturities because borrowers have the right to call or prepay obligations with or without penalties.

The following table shows the fair value and gross unrealized losses for investments in a loss position aggregated by investment category, and the length of time the securities have been in a continuous unrealized loss position at December 31, 2018, 2017 and 2016, respectively. The continuous loss position is based on the date the impairment first occurred.

(\$ in Millions)	Less Than 12 Months		Greater Than 12 Months	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
December 31, 2018				
Certificates of Deposit	\$ -	\$ -	\$ -	\$ -
U.S. Treasury Debt	2,839	(4)	10,001	(172)
U.S. Agency Debt	42	-	1,504	(21)
Residential MBS:				
Ginnie Mae	304	(3)	1,410	(31)
U.S. Agency	139	-	4,474	(89)
Non-Agency	2	-	3	-
Commercial MBS:				
U.S. Agency	1,695	(7)	746	(9)
Corporate Bonds	86	(1)	-	-
Asset-Backed and Other	647	-	13	-
Total	\$ 5,754	\$ (15)	\$ 18,151	\$ (322)
December 31, 2017				
Certificates of Deposit	\$ 280	\$ -	\$ -	\$ -
U.S. Treasury Debt	6,048	(46)	2,953	(70)
U.S. Agency Debt	977	(5)	1,039	(15)
Residential MBS:				
Ginnie Mae	1,540	(21)	53	-
U.S. Agency	2,109	(21)	1,406	(43)
FHA/VA Non-Wrapped Reperformer	21	-	-	-
Non-Agency	1	-	7	-
Commercial MBS:				
U.S. Agency	814	(4)	356	(4)
Agricultural MBS:				
Farmer Mac	-	-	78	(1)
Corporate Bonds	10	-	-	-
Asset-Backed and Other	77	-	127	-
Total	\$ 11,877	\$ (97)	\$ 6,019	\$ (133)
December 31, 2016				
Certificates of Deposit	\$ -	\$ -	\$ -	\$ -
U.S. Treasury Debt	5,441	(86)	-	-
U.S. Agency Debt	1,165	(14)	491	(6)
Residential MBS:				
Ginnie Mae	84	-	21	-
U.S. Agency	1,403	(10)	1,492	(37)
FHA/VA Non-Wrapped Reperformer	9	-	21	(2)
Non-Agency	-	-	11	-
Commercial MBS:				
U.S. Agency	1,245	(11)	333	(1)
Agricultural MBS:				
Farmer Mac	31	-	66	(2)
Corporate Bonds	10	-	-	-
Asset-Backed and Other	294	-	5	(1)
Total	\$ 9,682	\$ (121)	\$ 2,440	\$ (49)

As of December 31, 2018, we expect to collect all principal and interest payments on our investment securities. We do not intend to sell the securities in unrealized loss positions, nor is it likely that we will be required to sell such securities, for regulatory, liquidity or other purposes, before an anticipated recovery of our cost basis occurs.

We recorded no other-than-temporary impairment (OTTI) losses in 2018 and 2017. In 2016, we recorded \$0.8 million of impairment losses related to one FHA/VA non-wrapped reperformer residential MBS, which is reflected in other, net in the consolidated statement of income for the period ended December 31, 2016.

The fair value of our securities with previously recorded OTTI losses was \$3.4 million, \$9.6 million and \$35.0 million at December 31, 2018, 2017 and 2016, respectively.

Sales of Investment Securities

In 2018, we sold five U.S. Treasury debt securities for total proceeds of \$1.4 billion which approximated their combined book value. We also sold all of our remaining FHA/VA non-wrapped reperformer MBS for total proceeds of \$262.1 million and eight non-agency debt securities for total proceeds of \$30.1 million resulting in gains of \$37.8 million and \$11.1 million, respectively. These securities sold were acquired in our 2012 merger with U.S. AgBank and were credit-impaired. Lastly, we sold our Federal Agricultural Mortgage Corporation (Farmer Mac) MBS for total proceeds of \$61.0 million resulting in gains of \$0.1 million. The Farmer Mac securities were also acquired in the 2012 merger with U.S. AgBank.

In 2017, we sold nine U.S. Agency debt securities for total proceeds of \$1.6 billion as well as six non-agency MBS for total proceeds of \$34.1 million resulting in gains of \$1.7 million and \$7.7 million, respectively.

In 2016, we sold six U.S. Agency debt securities and a U.S. Treasury debt security for total proceeds of \$752.4 million resulting in gains of \$0.9 million. We also sold three FHA/VA non-wrapped reperformer MBS for total proceeds of \$54.9 million resulting in gains of \$2.9 million. These securities had been previously impaired. In addition, we sold six non-impaired corporate bonds for total proceeds of \$76.8 million resulting in gains of \$0.8 million.

All gains on sale of investment securities are recorded in noninterest income in our consolidated statements of income.

Note 5 – Bonds and Notes

We are primarily liable for the following bonds and notes:

(\$ in Millions)			
December 31,	2018	2017	2016
Bonds	\$ 112,067	\$ 100,950	\$ 100,987
Medium-term Notes	89	89	95
Discount Notes	14,243	16,124	12,210
Total Systemwide			
Debt Securities	126,399	117,163	113,292
Cash Investment			
Services Payable	883	941	1,501
Other	350	302	293
Total Bonds and Notes	\$ 127,632	\$ 118,406	\$ 115,086

Systemwide Debt Securities

We, along with the other System banks, obtain funds for lending activities and operations primarily from the sale of debt securities issued by System banks through the Funding Corporation. These debt securities are composed of bonds, medium-term notes and discount notes and are collectively referred to as Systemwide Debt Securities. Pursuant to the Farm Credit Act, Systemwide Debt Securities are the general unsecured joint and several obligations of the System banks. Systemwide Debt Securities are not obligations of, and are not guaranteed by, the U.S. government or any agency or instrumentality thereof, other than the System banks. Bonds and medium-term notes are issued at fixed or floating interest rates. Bonds have original maturities of three months to 30 years, while medium-term notes have original maturities ranging from one to 30 years. Discount notes are issued with maturities ranging from one to 365 days. The weighted average remaining maturity of CoBank's discount notes outstanding at December 31, 2018 was 129 days.

Other Bonds and Notes

Cash investment services payable mature within one year. Other bonds and notes includes cash collateral payable to derivative counterparties that have posted collateral to us.

Other bonds and notes also includes \$250.0 million at December 31, 2018 and 2017 and \$205.0 million at December 31, 2016 in funding pursuant to a bond guarantee program offered by the Rural Utilities Service (RUS) agency of the United States Department of Agriculture. At December 31, 2018, CoBank could borrow an additional \$250.0 million to fund rural electric and telecommunications infrastructure loans under the program. This funding is provided under a bond purchase agreement with the Federal Financing Bank (FFB) and a bond guarantee agreement with RUS, which provides guarantees to the FFB. As part of the bond guarantee agreement with RUS, we are required to pledge collateral in an amount at least equal to the principal balance of the notes outstanding. The bonds outstanding mature in 5-8 years.

Maturities and Rates

The aggregate maturities and the weighted average interest rates of CoBank's Systemwide Debt Securities at December 31, 2018 are shown in the following table. Weighted average interest rates include the effect of related derivative financial instruments.

(\$ in Millions)

Maturities and Rates of Systemwide Debt Securities								
Year of Maturity	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
2019	\$ 43,570	2.28 %	\$ 1	6.67 %	\$ 14,243	2.41 %	\$ 57,814	2.31 %
2020	28,175	2.36	-	-	-	-	28,175	2.36
2021	10,915	2.38	4	7.35	-	-	10,919	2.38
2022	5,342	2.33	-	-	-	-	5,342	2.33
2023	5,087	2.68	-	-	-	-	5,087	2.68
2024 and thereafter	18,978	3.05	84	5.77	-	-	19,062	3.06
Total	\$ 112,067	2.46	\$ 89	5.85	\$ 14,243	2.41	\$ 126,399	2.46

Certain Systemwide Debt Securities include debt which may be called on the first call date and, subsequently, called daily or on each interest payment date thereafter. At December 31, 2018, callable debt was \$9.7 billion, with the range of first call dates being from January 2019 through December 2021.

Conditions for Issuing Systemwide Debt

Certain conditions must be met before we can participate in the issuance of Systemwide Debt Securities. One such condition of participation, required by the Farm Credit Act and FCA regulations, is that we must maintain specified, eligible, unencumbered assets at least equal in value to the total amount of debt obligations outstanding for which we are primarily liable. Such assets exceeded applicable debt by \$9.9 billion at December 31, 2018. This requirement does not provide holders of Systemwide Debt Securities with a security interest in any of our assets.

In addition, because System banks are contingently liable for Systemwide Debt Securities of the other System banks, the banks have entered into agreements to provide for mutual protection. The System banks and the Funding Corporation operate under a Third Amended and Restated Market Access Agreement (MAA) designed to address certain Funding Corporation statutory responsibilities. The MAA financial conditions establish mechanisms for monitoring, limiting and ultimately denying a troubled System bank's access to and participation in Systemwide debt issuances, thereby limiting other System banks' exposure to statutory joint and several liabilities. The MAA promotes the identification and resolution of financial problems of individual System banks in a timely manner. As required by the MAA, the System banks and the Funding Corporation undertake a periodic formal review of the MAA to consider whether any amendments are appropriate. A review of the MAA was undertaken in 2016 and modifications were made effective January 1, 2017 to adapt to new FCA capital regulations that became effective on January 1, 2017. For discussion related to the FCA's capital regulations, see Note 7.

The System banks and the Funding Corporation have also entered into an Amended and Restated Contractual Interbank Performance Agreement (CIPA). The CIPA establishes an agreed-upon standard of financial condition and performance for the System banks and their affiliated Associations (the Districts). The CIPA measures various ratios taking into account the capital, asset quality, earnings, interest rate risk and liquidity of the Districts and System banks. At December 31, 2018, 2017 and 2016, all System banks, including CoBank, were in compliance with all of the conditions of participation for the issuance of Systemwide Debt Securities. Periodically, the ratios in the CIPA model are reviewed to take into consideration current performance standards in the financial services industry. A review was conducted during 2016, however no adjustments to the CIPA model were made.

Insurance Fund

The Farm Credit Act established the Farm Credit System Insurance Corporation (Insurance Corporation) to administer the Farm Credit Insurance Fund (Insurance Fund). The Insurance Corporation insures the timely payment of principal and interest on Systemwide Debt Securities and carries out various other responsibilities.

The primary sources of funds for the Insurance Fund are premiums paid by the System banks and earnings on the Insurance Corporation assets. Premiums are determined and assessed to System banks semi-annually by the Insurance Corporation.

Each System bank is required to pay premiums into the Insurance Fund until the assets in the Insurance Fund reach the "secure base amount" (SBA), which is defined in the Farm Credit Act as 2 percent of the aggregate outstanding insured Systemwide Debt Securities (adjusted to reflect the reduced risk on loans or investments guaranteed by the U.S. or state governments) or such other percentage of the aggregate outstanding insured Systemwide Debt Securities as the Insurance Corporation in its sole discretion determines to be actuarially sound. When the amount in the Insurance Fund

exceeds the SBA, the Insurance Corporation is required to reduce premiums, and, in some instances, may return excess amounts, but must still ensure that premiums are sufficient to maintain the level of the Insurance Fund at the SBA. In 2018, the Insurance Corporation returned \$35.0 million in excess amounts related to the Insurance Fund to CoBank. There were no returns of excess amounts from the Insurance Corporation in the years ended December 31, 2017 and 2016.

The Insurance Corporation premium rates were 9 basis points of average outstanding adjusted insured debt obligations for all of 2018, 15 basis points for all of 2017, 16 basis points in the first half of 2016 and 18 basis points in the second half of 2016.

The Insurance Fund is available to assist with the timely payment of principal and interest on Systemwide Debt Securities, in the event of a default by a System bank, to the extent that net assets are available in the Insurance Fund. No other liabilities reflected in our financial statements are insured by the Insurance Corporation.

In addition, the Insurance Fund could be used to ensure the retirement of System entities' protected borrower equity at par or stated value and for other specified purposes. The Insurance Fund is also available for discretionary uses of providing assistance to certain troubled System institutions and to cover the operating expenses of the Insurance Corporation. The Insurance Fund does not insure the obligations of Farmer Mac.

At December 31, 2018, the assets of the Insurance Fund aggregated \$5.0 billion. However, due to the other authorized uses of the Insurance Fund, there is no assurance that any available amount in the Insurance Fund will be sufficient to fund the timely payment of principal or interest on Systemwide Debt Securities in the event of a default by any System bank having primary liability thereon.

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, 2019 unless otherwise extended. 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.

Early Extinguishment of Debt

During 2018, we recorded losses of \$15.0 million on the early extinguishment of \$1,831 million of Systemwide Debt Securities, which included \$1,471 million in Systemwide Debt Securities sold at market value to other Farm Credit Banks. During 2017 and 2016, we recorded losses of \$42.1 million and \$34.2 million, respectively, on the early extinguishment of \$897.4 million and \$2,147 million of Systemwide Debt

Securities, respectively. The Systemwide Debt Securities extinguished in 2017 and 2016, included \$474.6 million and \$1,805 million, respectively, in Systemwide Debt Securities sold at market value to other Farm Credit Banks. All losses on early extinguishment of debt are reported as a component of noninterest income.

Note 6 – Subordinated Debt

We had no subordinated debt outstanding at December 31, 2018 and 2017 compared to \$500.0 million at December 31, 2016.

On June 15, 2017, we redeemed all of our outstanding floating-rate subordinated notes due 2022 totaling \$500.0 million. The redemption price was 100 percent of the principal amount, together with accrued and unpaid interest up to, but excluding, the date of redemption.

On April 15, 2016, we redeemed all of our outstanding 7.875 percent subordinated notes due in 2018 totaling \$404.7 million. The redemption price was 100 percent of the principal amount, together with accrued and unpaid interest up to, but excluding, the date of redemption. For information relating to a complaint filed by a number of investors who had held the subordinated notes alleging CoBank impermissibly redeemed the subordinated notes, see Note 15.

Note 7 – Shareholders' Equity

Description of Equities

As of December 31, 2018, we had \$1.5 billion of preferred stock and \$3.4 billion of common stock outstanding, as summarized in the table below.

	Preferred and Common Stock		
	Preferred	Class A	Class A
Shares Authorized (000)	n/a ⁽¹⁾	Unlimited	Unlimited
Shares Outstanding (000)	9,600	1,369	32,788
Voting or Nonvoting	Nonvoting	Nonvoting	Voting
Par / Face Value (per share)	n/a ⁽¹⁾	\$ 100	\$ 100

⁽¹⁾ Shares authorized and par/face value varies by issuance. Refer to the table on the following page.

Pursuant to our bylaws, we have a single class of common equity – Class A common stock; however, only Class A shareholders that are directly eligible to borrow from CoBank, that borrow on a patronage basis and that are active borrowers, have voting rights. No other class of shareholders has voting rights.

The changes in the number of shares of common stock outstanding during 2018, 2017 and 2016 are summarized in the following table.

Shares of Common Stock (in Thousands)			
	2018	2017	2016
Beginning of the Year	32,404	30,722	28,997
Issuances	2,064	1,941	2,016
Retirements	(311)	(259)	(291)
End of the Year	34,157	32,404	30,722

In December 2016, our shareholders approved an increase in the amount of preferred stock that CoBank may have outstanding at any time from \$1.5 billion to \$2.5 billion effective January 1, 2017, and provided authorization for the Bank to issue preferred stock up to the new limit through December 31, 2026. These measures allow us to access third-party capital more quickly and efficiently in response to dynamic market conditions, without the necessity of obtaining shareholder approval for each issuance. However, any

preferred stock issuances would still require approval from the Board of Directors and the FCA.

Holder of common equities may not pledge, hypothecate or otherwise grant a security interest in such equities except as consented to by the Bank under FCA regulations. We have a statutory first lien on CoBank common stock. We pay dividends only on preferred stock.

In case of liquidation or dissolution, preferred stock, common stock and unallocated retained earnings (URE) would be distributed to shareholders, after the payment of all liabilities pursuant to FCA regulations, in the following order: (1) retirement of all Series E, Series F, Series G, Series H and Series I preferred stock at par plus all accrued but unpaid dividends for the then current dividend period; (2) retirement of all common stock at par; (3) retirement of all patronage surplus (a component of URE) in amounts equal to the face amount of the applicable nonqualified written notices of allocation or such other notice; and (4) remaining URE and reserves shall be paid to the holders of common stock in proportion to patronage to the extent possible.

Preferred Stock

The following table summarizes our outstanding preferred stock as of December 31, 2018.

Preferred Stock as of December 31, 2018					
	Series E	Series F	Series G	Series H	Series I
Type	Non-Cumulative Perpetual	Non-Cumulative Perpetual	Non-Cumulative Perpetual	Non-Cumulative Perpetual	Non-Cumulative Perpetual
Issue Date	January 2012	October 2012	April 2013	November 2014	April 2016
Shares Outstanding (000)	225	4,000	2,000	3,000	375
Amount Outstanding (000)	\$225,000	\$400,000	\$200,000	\$300,000	\$375,000
Par Value (per share)	\$1,000	\$100	\$100	\$100	\$1,000
Current Dividend Rate (%)	3-month USD LIBOR + 1.18 (3.594% at December 31, 2018)	6.25%	6.125%	6.20%	6.25%
Next Change in Dividend Rate (% and dates)	n/a	3-month USD LIBOR + 4.557% beginning on October 1, 2022	n/a	3-month USD LIBOR + 3.744% beginning on January 1, 2025	3-month USD LIBOR + 4.66% beginning on October 1, 2026
Dividend Frequency	Quarterly	Quarterly	Quarterly	Quarterly	Semi-Annual; Quarterly beginning on October 1, 2026
Optional Redemption Begins (Date) ⁽¹⁾	July 2012 and each five year anniversary thereafter at par plus accrued dividends	Quarterly calls on or after October 1, 2022 at par plus accrued dividends	Quarterly calls on or after July 1, 2018 at par plus accrued dividends	Quarterly calls on or after January 1, 2025 at par plus accrued dividends	Quarterly calls on or after October 1, 2026 at par plus accrued dividends

⁽¹⁾ Our preferred stock may also be redeemed at any time after the occurrence of a Regulatory Event (as defined in the terms of the preferred stock) at par plus accrued interest.

On April 8, 2016, we issued \$375 million of Series I non-cumulative perpetual preferred stock. We used the net proceeds from the Series I preferred stock issuance to increase our regulatory capital and for general corporate purposes. Dividends on the Series I preferred stock, if declared by the Board of Directors in its sole discretion, are non-cumulative and are payable semi-annually in arrears at a fixed annual rate of 6.25 percent from the date of issuance up to, but excluding,

October 1, 2026. Thereafter, dividends will accrue at an annual rate equal to the 3-month USD LIBOR plus 4.66 percent and will be payable quarterly.

All of our outstanding preferred stock ranks equally, both as to dividends and upon liquidation, and senior to all of our outstanding common stock.

If preferred stock dividends are not paid for 18 consecutive months on any of our preferred stock, holders

of all outstanding preferred stock, voting as a single class, will have the right to appoint two non-voting observers to attend our Board of Directors meetings until full dividends for a one-year period are paid. In addition, other than pursuant to an order issued by our regulator, we may not enter into agreements restricting our ability to declare or pay preferred stock dividends.

All stock retirements, including preferred stock redemptions, require the approval of our Board of Directors. Payments of preferred stock dividends also require the approval of our Board of Directors.

Capitalization Requirements

In accordance with the Farm Credit Act, eligible commercial borrowers are required to purchase common stock in CoBank as a condition of borrowing. The minimum initial borrower investment is equal to the lesser of one thousand dollars or 2 percent of the amount of the loan. The minimum initial investment is generally received in cash at the time the borrower receives the loan proceeds.

Association customers are also required to invest in our common stock, as discussed beginning on page 122. Additionally, effective January 1, 2016, eligible financial service members who are not otherwise shareholders have a one hundred dollar capitalization requirement and do not participate in patronage distributions.

Most agricultural export finance customers, customers of FCL and certain other borrowers are not required to purchase, nor do they own, common stock in CoBank. Likewise, they do not participate in patronage distributions.

Retirements of common stock, if any, are determined annually after the Board of Directors sets the target equity level. Net cash retirements are made at the sole discretion of the Board of Directors and are at book value not to exceed par or face value.

Patronage

As a cooperative bank, we return a portion of our earnings to eligible common shareholders in the form of patronage distributions. Eligible common shareholders will receive total patronage for 2018 of \$699.7 million, which includes a special all-cash patronage distribution of \$96.2 million made to customer-owners in September 2018. This distribution was incremental to the regular patronage distributions of \$475.6 million and \$127.9 million which will be paid in cash

and common stock, respectively, in 2019. For 2017 and 2016, total patronage was \$610.4 million and \$588.1 million, respectively, of which \$491.9 million and \$473.9 million, respectively, was paid in cash in the subsequent year. All patronage distributions require the approval of our Board of Directors.

Regulatory Capitalization Requirements and Restrictions

The FCA's capital adequacy regulations require us to maintain certain minimum capital requirements and collateral standards.

We are prohibited from retiring stock or making certain other distributions to shareholders unless prescribed capital standards are met. All such minimum regulatory capital requirements and collateral standards were met as of December 31, 2018.

Effective January 1, 2017, CoBank implemented new regulatory capital requirements (the New Capital Regulations), as required by the FCA. At December 31, 2018 and 2017, our capital and leverage ratios exceeded regulatory minimums as noted in the following table.

	Regulatory Minimum	December 31,	
		2018	2017
Common Equity Tier 1			
Capital Ratio	4.5 %	12.38 %	11.67 %
Tier 1 Capital Ratio	6.0	14.57	13.97
Total Capital Ratio	8.0	15.58	15.24
Tier 1 Leverage Ratio	4.0	7.53	7.26
Unallocated Retained Earnings (URE) and URE Equivalents			
Leverage Ratio	1.5	3.19	2.96
Permanent Capital Ratio	7.0	14.69	14.29

See pages 129 through 138 for more information on the required regulatory capital disclosures, including the components of the regulatory capital ratios above. At December 31, 2016, we exceeded the minimum regulatory capital requirements in effect at that time.

Accumulated Other Comprehensive Income (Loss)

Changes in accumulated other comprehensive income (loss) for 2018, 2017 and 2016 are presented in the following table.

	Changes in Accumulated Other Comprehensive Income (Loss) by Component ⁽¹⁾				
	Unrealized Gains (Losses) On Investment Securities		Unrealized Gains (Losses) on Interest Rate Swaps and Other Financial Instruments	Net Pension Adjustment	Total
	Non-OTTI	OTTI			
Balance at January 1, 2018	\$ (125,198)	\$ 3,236	\$ (49,981)	\$ (60,025)	\$ (231,968)
Balance Sheet Reclassification of Stranded Tax Effects from Accumulated Other Comprehensive Income (Loss) to Retained Earnings (Refer to Note 2)	(9,953)	270	(4,474)	(12,457)	(26,614)
Balance at January 1, 2018, as adjusted	\$ (135,151)	\$ 3,506	\$ (54,455)	\$ (72,482)	\$ (258,582)
Other Comprehensive Income (Loss) Before Reclassifications	(93,320)	2,793	9,895	368	(80,264)
Amounts Reclassified from Accumulated Other Comprehensive Income (Loss)	(42,873)	(6,197)	18,947	5,865	(24,258)
Net Current-Period Other Comprehensive Income (Loss)	(136,193)	(3,404)	28,842	6,233	(104,522)
Balance at December 31, 2018	\$ (271,344)	\$ 102	\$ (25,613)	\$ (66,249)	\$ (363,104)
Balance at January 1, 2017	\$ (19,627)	\$ 4,969	\$ (37,707)	\$ (67,518)	\$ (119,883)
Other Comprehensive Income (Loss) Before Reclassifications	(100,251)	1,939	(22,578)	4,211	(116,679)
Amounts Reclassified from Accumulated Other Comprehensive Income (Loss)	(5,320)	(3,672)	10,304	3,282	4,594
Net Current-Period Other Comprehensive Income (Loss)	(105,571)	(1,733)	(12,274)	7,493	(112,085)
Balance at December 31, 2017	\$ (125,198)	\$ 3,236	\$ (49,981)	\$ (60,025)	\$ (231,968)
Balance at January 1, 2016	\$ 38,588	\$ 7,873	\$ (40,157)	\$ (66,291)	\$ (59,987)
Other Comprehensive Loss Before Reclassifications	(56,662)	(1,297)	(583)	(5,400)	(63,942)
Amounts Reclassified from Accumulated Other Comprehensive Income (Loss)	(1,553)	(1,607)	3,033	4,173	4,046
Net Current-Period Other Comprehensive Income (Loss)	(58,215)	(2,904)	2,450	(1,227)	(59,896)
Balance at December 31, 2016	\$ (19,627)	\$ 4,969	\$ (37,707)	\$ (67,518)	\$ (119,883)

⁽¹⁾ Amounts are presented net of tax. Amounts reclassified shown in parentheses indicate a decrease in accumulated other comprehensive income or an increase in accumulated other comprehensive income (loss).

The following table presents the effect of reclassifications from accumulated other comprehensive income (loss) to net income for the years ended December 31, 2018, 2017 and 2016.

Reclassifications from Accumulated Other Comprehensive Income (Loss) to Net Income

Year Ended December 31, 2018	Amount Reclassified from Accumulated Other Comprehensive Income (Loss)	Location of Gain (Loss) Recognized in Income Statement
Unrealized Gains (Losses) on Available-For-Sale Investment Securities:		
Sales Gains and Losses	\$ 42,877	Noninterest Income - Other, Net
Tax Effect	(4)	Provision for Income Taxes
Unrealized Gains (Losses) on OTTI Investment Securities:		
Sales Gains and Losses	6,197	Noninterest Income - Other, Net
Unrealized Gains (Losses) on Interest Rate Swaps and Other Financial Instruments:		
Interest Rate Contracts	(8,481)	Interest Expense
Termination of Interest Rate Contracts	(13,073)	Noninterest Expense - Other, Net
Foreign Exchange Contracts	3,388	Interest Income
Tax Effect	(781)	Provision for Income Taxes
Pension and Other Benefit Plans:		
Net Actuarial Gain/Loss	(6,754)	Operating Expenses - Employee Compensation
Prior Service Cost/Credit	(1,025)	Operating Expenses - Employee Compensation
Tax Effect	1,914	Provision for Income Taxes
Total Reclassifications	\$ 24,258	
Year Ended December 31, 2017		
Unrealized Gains (Losses) on Available-For-Sale Investment Securities:		
Sales Gains and Losses	\$ 5,692	Noninterest Income - Other, Net
Tax Effect	(372)	Provision for Income Taxes
Unrealized Gains (Losses) on OTTI Investment Securities:		
Sales Gains and Losses	3,695	Noninterest Income - Other, Net
Tax Effect	(23)	Provision for Income Taxes
Unrealized Gains (Losses) on Interest Rate Swaps and Other Financial Instruments:		
Interest Rate Contracts	(6,701)	Interest Expense
Foreign Exchange Contracts	(6,157)	Interest Income
Tax Effect	2,554	Provision for Income Taxes
Pension and Other Benefit Plans:		
Net Actuarial Gain/Loss	(4,265)	Operating Expenses - Employee Compensation
Prior Service Cost/Credit	(1,029)	Operating Expenses - Employee Compensation
Tax Effect	2,012	Provision for Income Taxes
Total Reclassifications	\$ (4,594)	
Year Ended December 31, 2016		
Unrealized Gains (Losses) on Available-For-Sale Investment Securities:		
Sales Gains and Losses	\$ 1,708	Noninterest Income - Other, Net
Tax Effect	(155)	Provision for Income Taxes
Unrealized Gains (Losses) on OTTI Investment Securities:		
Sales Gains and Losses	2,909	Noninterest Income - Other, Net
Holding Gains and Losses	(750)	Noninterest Income - Net OTTI Losses Included in Earnings
Tax Effect	(552)	Provision for Income Taxes
Unrealized Gains (Losses) on Interest Rate Swaps and Other Financial Instruments:		
Interest Rate Contracts	(4,520)	Interest Expense
Foreign Exchange Contracts	1,135	Interest Income
Tax Effect	352	Provision for Income Taxes
Pension and Other Benefit Plans:		
Net Actuarial Gain/Loss	(5,739)	Operating Expenses - Employee Compensation
Prior Service Cost/Credit	(992)	Operating Expenses - Employee Compensation
Tax Effect	2,558	Provision for Income Taxes
Total Reclassifications	\$ (4,046)	

Note 8 – Employee Benefit Plans and Incentive Compensation Plans

Employee Benefit Plans

We have employer-funded, qualified defined benefit pension plans, which are noncontributory and cover employees hired prior to January 1, 2007. Depending on the date of hire, benefits are determined either by a formula based on years of service and final average pay, or by the accumulation of a cash balance with interest credits and contribution credits based on years of service and eligible compensation. Effective January 1, 2007, the Bank closed the remaining qualified defined benefit pension plan to new participants.

We also have noncontributory, unfunded nonqualified supplemental executive retirement plans (SERPs) covering certain senior officers and specified other senior managers. In addition, we have a noncontributory, unfunded nonqualified executive retirement plan (ERP) covering certain former senior officers. The defined benefit pension plans, SERPs and ERP are collectively referred to as Retirement Plans. We hold assets in trust accounts related to our SERPs and ERP;

however, such funds remain Bank assets and are not included as plan assets in the accompanying disclosures.

We have a 401(k) savings plan pursuant to which we match a certain percentage of employees' elective contributions. In addition, under this plan, employees hired on or after January 1, 2007 receive additional, non-elective employer defined contributions. Our contributions to the 401(k) savings plan, which are recorded as employee compensation expense, were \$10.5 million, \$9.8 million and \$7.7 million for 2018, 2017 and 2016, respectively. For eligible senior managers, including our senior officers, we also have a nonqualified deferred compensation plan, which includes benefits not provided under the employee savings plan due to certain Internal Revenue Code limitations.

Eligible retirees also have other postretirement benefits (OPEB), which primarily include access to health care benefits. Most participants pay the full premiums associated with these postretirement health care benefits. Premiums are adjusted annually.

The following table provides a summary of the changes in the plans' benefit obligations and fair values of assets over the three-year period ended December 31, 2018, as well as a statement of funded status as of December 31 of each year.

	Retirement Plans			Other Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Change in Benefit Obligation:						
Benefit Obligation at Beginning of Year	\$ 380,770	\$ 358,074	\$ 347,562	\$ 2,934	\$ 3,054	\$ 4,011
Service Cost	6,135	6,469	6,570	65	78	141
Interest Cost on Benefit Obligation	13,887	14,960	15,376	106	125	174
Plan Participant Contributions	-	-	-	459	515	523
Plan Amendments	-	-	683	-	-	-
Actuarial (Gain) Loss	(22,787)	20,345	6,459	(273)	172	(719)
Benefits Paid	(18,240)	(19,078)	(18,576)	(614)	(1,010)	(1,076)
Benefit Obligation at End of Year	359,765	380,770	358,074	2,677	2,934	3,054
Change in Plan Assets:						
Fair Value of Plan Assets at Beginning of Year	324,018	283,712	279,483	-	-	-
Actual Return on Plan Assets	(4,350)	44,753	16,127	-	-	-
Employer Contributions	13,746	14,631	6,678	155	495	553
Benefits Paid	(18,240)	(19,078)	(18,576)	(614)	(1,010)	(1,076)
Plan Participant Contributions	-	-	-	459	515	523
Fair Value of Plan Assets at End of Year	315,174	324,018	283,712	-	-	-
Funded Status – Fair Value of Plan Assets						
Less Than Benefit Obligation	(44,591)	(56,752)	(74,362)	(2,677)	(2,934)	(3,054)
Net Amount Recognized - December 31	\$ (44,591)	\$ (56,752)	\$ (74,362)	\$ (2,677)	\$ (2,934)	\$ (3,054)

The projected benefit obligation and the accumulated benefit obligation for the Retirement Plans as of December 31 of each year are as follows:

	2018	2017	2016
Projected Benefit Obligation:			
Funded Qualified Plans	\$ 316,771	\$ 335,973	\$ 315,845
SERP/ERP	42,994	44,797	42,229
Total	\$ 359,765	\$ 380,770	\$ 358,074
Accumulated Benefit Obligation:			
Funded Qualified Plans	\$ 303,938	\$ 320,407	\$ 298,741
SERP/ERP	38,351	38,462	35,639
Total	\$ 342,289	\$ 358,869	\$ 334,380

The \$315.2 million in fair value of plan assets shown in the table on page 100 relates only to the qualified retirement plans. As depicted in the preceding table, such plans had a projected benefit obligation and an accumulated benefit obligation of \$316.8 million and \$303.9 million, respectively, as of December 31, 2018.

We hold assets in trust accounts related to our SERPs and ERP. Such assets had a fair value of \$35.9 million as of December 31, 2018, which is included in other assets in the consolidated balance sheet. Unlike the assets related to the qualified plans, those funds remain Bank assets and would be subject to general creditors in a bankruptcy or liquidation. Accordingly, they are not included as part of the assets in the table on page 100. As depicted in the preceding table, our SERPs and ERP had a projected benefit obligation and an accumulated benefit obligation of \$43.0 million and \$38.4 million, respectively, as of December 31, 2018.

The following table provides the amounts recognized in the consolidated balance sheets as of December 31 of each year.

	Retirement Plans			Other Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Accrued Benefit Liabilities	\$ (44,591)	\$ (56,752)	\$ (74,362)	\$ (2,677)	\$ (2,934)	\$ (3,054)
Net Amounts Recognized	\$ (44,591)	\$ (56,752)	\$ (74,362)	\$ (2,677)	\$ (2,934)	\$ (3,054)

The following table presents the components of net periodic benefit cost for the plans.

	Retirement Plans			Other Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Service Cost	\$ 6,135	\$ 6,469	\$ 6,570	\$ 65	\$ 78	\$ 141
Interest Cost on Benefit Obligation	13,887	14,960	15,376	106	125	174
Expected Return on Plan Assets	(18,222)	(17,443)	(18,414)	-	-	-
Amortization of Prior Service Cost	1,025	1,029	992	-	-	-
Recognized Actuarial Loss	6,967	4,504	5,913	(213)	(239)	(174)
Net Periodic Benefit Cost	\$ 9,792	\$ 9,519	\$ 10,437	\$ (42)	\$ (36)	\$ 141

We anticipate that our total pension expense for the Retirement Plans will be approximately \$7.2 million in 2019, as compared to \$9.8 million in 2018.

The following table displays the amounts included in accumulated other comprehensive income (loss), a component of shareholders' equity, related to our pension and other postretirement benefit plans.

Amounts Included in Accumulated Other Comprehensive Loss (Income) Pre-Tax at December 31, 2018	Qualified Retirement Plans	Nonqualified Retirement Plans	Other Postretirement Benefits	Total
	Net Actuarial Loss (Gain)	\$ 70,790	\$ 13,510	\$ (2,866)
Prior Service Cost	5,147	503	-	5,650
Amount Recognized in Accumulated Other Comprehensive Loss (Income)⁽¹⁾	\$ 75,937	\$ 14,013	\$ (2,866)	\$ 87,084

⁽¹⁾ Amount recognized in accumulated other comprehensive (income) loss, net of tax, is a loss of \$66.2 million as of December 31, 2018. Approximately \$3.9 million, net of tax, will be amortized from accumulated other comprehensive (income) loss into net periodic benefit cost in 2019.

Assumptions

We measure plan obligations and annual expense using assumptions designed to reflect future economic conditions. As pension benefits will be paid to current and future retiree for many years, the computations of pension expenses and benefits are based on assumptions about discount rates, estimates of annual increases in compensation levels, mortality rates and expected rates of return on plan assets.

The weighted average rate assumptions used in the measurement of our benefit obligations are as follows:

	2018	2017	2016
Discount Rate	4.45 %	3.75 %	4.30 %
Rate of Compensation Increase	3.60	3.60	4.75

The weighted average rate assumptions used in the measurement of our net periodic benefit cost are as follows:

	2018	2017	2016
Discount Rate	3.75 %	4.30 %	4.55 %
Expected Rate of Return on Plan Assets (Qualified Plans Only)	6.00	6.00	6.63
Rate of Compensation Increase	3.60	4.75	4.75

The discount rates are calculated using a spot 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.

We establish the expected rate of return on plan assets based on current target asset allocations and the anticipated future long-term returns for those asset classes. The expected rate of return on plan assets assumption is also consistent with the pension plans' long-term interest rate assumption used for funding purposes.

Assumed health care cost trend rates have an effect on the amounts reported for other postretirement benefits. For measurement purposes, a 7.4 percent annual rate of increase in the per capita cost of covered health care benefits was assumed for 2018. The rate was assumed to decrease gradually to 4.5 percent through 2026 and remain at that level thereafter.

A 1-percentage-point increase in the assumed health care cost trend rate would increase total annual service and interest cost by \$17 and total other postretirement benefit obligations by \$167 as of December 31, 2018. Conversely, a 1-percentage-point decrease in the assumed health care cost trend rate would decrease total annual service and interest cost by \$15 and total other postretirement benefit obligations by \$146.

Plan Assets

The asset allocation target ranges for the pension plans follow the investment policy adopted by our Retirement Trust Committee. This policy provides for a certain level of committee flexibility in selecting target allocation percentages. The actual asset allocations at December 31, 2018, 2017 and 2016 are shown in the following table, along with the adopted range for target allocation percentages by asset class. The actual allocation percentages reflect the market values at year-end and may vary during the course of the year. Plan assets are generally rebalanced to a level within the target range each year at the direction of the Committee.

Retirement Plan Assets				
Asset Category	Target Allocation Range	Percentage of Plan Assets at December 31,		
		2018	2017	2016
Domestic Equity	32.5-42.5 %	38 %	41 %	45 %
Domestic Fixed Income	32.5-42.5	40	35	35
International Equity,				
Emerging Markets Equity				
and Fixed Income	10-30	17	19	15
Hedge Funds	0-10	5	5	5
Total	100 %	100 %	100 %	100 %

The assets of the pension plans consist primarily of investments in various domestic equity, international equity and bond funds. These funds do not contain any significant investments in a single entity, industry, country or commodity, thereby mitigating concentration risk. No CoBank stock or debt is included in these investments.

The following table presents major categories of plan assets that are measured at fair value at December 31, 2018 for each of the fair value hierarchy levels as defined in Note 12.

Fair Value Measurements					
December 31, 2018					
Asset Category	Level 1	Level 2	Level 3	NAV ⁽¹⁾	Total
Cash	\$ 667	\$ -	\$ -	\$ -	\$ 667
Domestic Equity:					
Large-cap Growth Funds ⁽²⁾	50,985	-	-	54,484	105,469
Small-cap Growth Funds ⁽²⁾	-	-	-	15,904	15,904
International Equity:					
International Funds ⁽³⁾	26,712	-	-	5,848	32,560
Domestic Fixed Income:					
Total Return Funds ⁽⁴⁾	74,974	-	-	-	74,974
Bond Funds ⁽⁵⁾	4,013	45,635	-	-	49,648
Emerging Markets:					
Equity and Fixed Income Funds ⁽⁶⁾	7,494	-	-	12,873	20,367
Hedge Funds ⁽⁷⁾	-	-	-	15,585	15,585
Total	\$164,845	\$ 45,635	\$ -	\$104,694	\$315,174

⁽¹⁾ Certain investments that are measured at fair value using the net asset value (NAV) per share as a practical expedient have not been classified in the fair value hierarchy. 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.

⁽²⁾ Funds invest primarily in diversified portfolios of common stocks of U.S. companies.

⁽³⁾ Funds invest primarily in a diversified portfolio of equities of non-U.S. companies.

⁽⁴⁾ Funds invest primarily in a diversified portfolio of investment grade debt securities and cash instruments.

⁽⁵⁾ Funds invest primarily in U.S. Treasury debt securities and corporate bonds of U.S. companies.

⁽⁶⁾ Funds invest in equities and corporate debt securities of companies located in emerging international markets.

⁽⁷⁾ Funds invest in diversified portfolios of stocks, bonds and various other financial instruments.

Level 1 plan assets are funds with quoted daily net asset values that are directly observable by market participants. The fair value of these funds is the net asset value at close of business on the reporting date. Level 2 plan assets are funds with quoted net asset values that are not directly observable by market participants. A significant portion of the underlying investments in these funds have individually observable market prices, which are utilized by the plan's trustee to determine a net asset value at close of business on the reporting date. Level 3 plan assets are funds with unobservable net asset values and supported by limited or no market activity. There were no purchases or sales of Level 3 plan assets in the current year. No transfers into or out of Level 3 assets occurred in the current year.

Investment strategy and objectives are described in the pension plans' formal investment policy document. The basic strategy and objectives are to manage portfolio assets with a

long-term time horizon appropriate for the participant demographics and cash flow requirements; to optimize long-term funding requirements by generating rates of return sufficient to fund liabilities and exceed the long-term rate of inflation; and to provide competitive investment returns as measured against appropriate benchmarks.

Expected Contributions

We expect to contribute approximately \$3.5 million to our funded, qualified defined benefit pension plans in 2019 and \$0.3 million, net of collected retiree premiums, to our other postretirement benefit plans in 2019. We also expect to contribute approximately \$2.2 million to our trust accounts related to our SERPs and ERP in 2019. Our actual 2019 contributions could differ from the estimates noted above.

Estimated Future Benefit Payments

We expect to make the following benefit payments, which reflect expected future service, as appropriate.

Year:	Estimated Benefit Payments	
	Retirement Benefits	Other Postretirement Benefits
2019	\$ 22,724	\$ 224
2020	22,292	222
2021	22,637	224
2022	23,273	228
2023	25,273	229
2024 to 2028	128,029	1,053

Incentive Compensation Plans

We have a broad-based, Board-approved short-term incentive compensation plan covering substantially all employees pursuant to which annual cash awards may be earned. Criteria used to determine amounts payable include the achievement of specified financial measures and strategic business objectives, which are approved annually by the Compensation and Human Resources Committee of the Board of Directors. Individual performance is also considered in the determination of the amounts payable.

We also have a Board-approved long-term incentive compensation plan, pursuant to which cash awards may be earned by senior officers and specified other key employees who have a significant impact on long-term financial performance. Criteria used to determine amounts payable include achievement of certain Bank financial targets and strategic business objectives over a three-year performance period. Cash awards are to be paid subsequent to completion of each three-year period, subject to approval by the Compensation and Human Resources Committee of the Board of Directors.

Under the terms of the short-term incentive compensation plan, a minimum return on active patron stock investment must be achieved in order for a payout to be approved. Likewise, a minimum return on active patron stock investment must be achieved in each year within the three-year

performance period for a full payout under the long-term incentive compensation plan. The required minimum return on active patron stock investment was 11 percent for all performance periods disclosed herein.

Note 9 – Income Taxes

The components of the provision for income taxes are as follows:

Year Ended December 31,	2018	2017	2016
Current:			
Federal	\$ 20,916	\$ 118,961	\$ 111,685
State	(8,049)	25,553	19,666
Total Current	12,867	144,514	131,351
Deferred:			
Federal	66,413	(126,622)	27,839
State	21,094	(2,828)	(905)
Total Deferred	87,507	(129,450)	26,934
Total	\$ 100,374	\$ 15,064	\$ 158,285
Comprehensive Tax Provision			
Allocable to:			
Pre-Tax Income	\$ 100,374	\$ 15,064	\$ 158,285
Shareholders' Equity -			
Amounts Allocated to:			
Investment Securities	(11,994)	(13,186)	(18,047)
Derivatives	(121)	4,156	(411)
Pension Liability	2,034	17,050	(752)
Total	\$ 90,293	\$ 23,084	\$ 139,075

The components of deferred tax assets and liabilities are shown below.

December 31,	2018	2017	2016
Allowance for Credit Losses	\$ 153,819	\$ 146,734	\$ 219,920
Employee Benefits	35,402	36,988	61,679
Unrealized Net Losses			
on Investment Securities			
and Derivatives	36,371	24,256	15,226
Loan Origination Fees	5,787	6,170	8,847
Other Deferred Tax Assets	39,786	41,052	45,553
Gross Deferred Tax Assets	271,165	255,200	351,225
Leasing	549,294	459,245	689,890
Other Deferred Tax Liabilities	21,366	18,024	31,448
Gross Deferred Tax Liabilities	570,660	477,269	721,338
Net Deferred Tax Liabilities	\$ (299,495)	\$ (222,069)	\$ (370,113)

Deferred income taxes are provided for the change in temporary differences between the basis of certain assets and liabilities for financial reporting and income tax reporting purposes except for our nontaxable entity. The expected future tax rates are based upon enacted tax laws.

We have concluded that it is more likely than not that the deferred tax assets will be realized based on our history of earnings and our ability to implement tax planning strategies.

The increase in tax expense and net deferred tax liabilities in 2018 was primarily due to the benefit of \$142.3 million in net deferred tax adjustments recorded in 2017 resulting from the enactment of federal tax legislation in late December 2017 which, among other things, lowered the federal corporate tax rate from 35 percent to 21 percent beginning in 2018. In accordance with GAAP, the change to the lower corporate tax rate led to a remeasurement of our deferred tax liabilities and deferred tax assets in the period of enactment (2017). The \$142.3 million net adjustment includes a \$253.5 million benefit from the remeasurement of deferred tax liabilities somewhat offset by a \$111.2 million expense from the remeasurement of deferred tax assets. The 2018 provision for income taxes also included a \$15.8 million tax benefit which resulted from a change in accounting estimate reflecting the full effects of the enactment of this tax legislation.

Excluding the impact of these adjustments, the effective tax rate was 9.0 percent for the year ended December 31, 2018 compared to 13.8 percent in 2017 and 14.3 percent in 2016. The effective tax rates were less than the statutory income tax rate primarily due to \$699.7 million, \$610.4 million and \$588.1 million of patronage distributions for the years ended December 31, 2018, 2017 and 2016, respectively, which are tax deductible, if made by our taxable entity, as permitted by Subchapter T of the Internal Revenue Code. The nontaxable activities conducted in the FCB subsidiary also contributed to a lower effective tax rate.

Year Ended December 31,	2018	2017	2016
Federal Tax at Statutory Rate	\$ 271,141	\$ 399,135	\$ 386,386
State Tax, Net	17,267	15,435	12,237
Patronage Distributions			
Allocated by:			
Taxable Entity	(61,066)	(104,466)	(98,905)
Nontaxable Entity	(65,526)	(110,056)	(106,765)
Special Patronage Distributions			
Allocated by:			
Taxable Entity	(11,179)	-	-
Nontaxable Entity	(9,026)	-	-
Effect of Nontaxable Entity	(21,707)	(29,651)	(26,958)
Tax-Exempt Activities	(92)	(55)	(109)
Credits Related to Renewable			
Energy Transactions	(2,654)	(12,933)	(10,399)
Remeasurement of Deferred Tax			
Liabilities / Deferred Tax Assets	(15,782)	(142,323)	-
Other	(1,002)	(22)	2,798
Provision for Income Taxes	\$ 100,374	\$ 15,064	\$ 158,285

A reconciliation of the beginning and ending amount of unrecognized tax benefits, excluding interest and penalties, is as follows:

Year Ended December 31, 2018	
Balance at Beginning of Year	\$ 4,600
Additions Based on Tax Positions Related to the Current Year	703
Additions for Tax Positions of Prior Years	267
Reductions for Tax Positions of Prior Years	(325)
Lapse of Applicable Statute of Limitations	(461)
Balance at End of Year	\$ 4,784
Year Ended December 31, 2017	
Balance at Beginning of Year	\$ 4,167
Additions Based on Tax Positions Related to the Current Year	1,203
Additions for Tax Positions of Prior Years	175
Reductions for Tax Positions of Prior Years	(39)
Lapse of Applicable Statute of Limitations	(906)
Balance at End of Year	\$ 4,600
Year Ended December 31, 2016	
Balance at Beginning of Year	\$ 4,036
Additions Based on Tax Positions Related to the Current Year	865
Additions for Tax Positions of Prior Years	270
Reductions for Tax Positions of Prior Years	(109)
Settlements	(2)
Lapse of Applicable Statute of Limitations	(893)
Balance at End of Year	\$ 4,167

The total amount of unrecognized tax benefits that, if recognized, would impact the effective tax rate is \$5.3 million. We do not currently believe that the unrecognized tax benefits will change significantly within the next 12 months.

CoBank is no longer subject to federal tax examination for periods before 2015.

CoBank files tax returns in most states each year and is under continuous examination by various state taxing authorities. With few exceptions, we are no longer subject to state and local income tax examinations by taxing authorities for periods before 2015. For all open audits, any potential adjustments have been considered in establishing our reserve for uncertain tax positions as of December 31, 2018.

We recognize accrued interest and penalties related to unrecognized tax benefits as a component of the provision for income taxes. During the year ended December 31, 2018, we recognized a decrease of approximately \$0.1 million in interest and penalties. We had approximately \$1.5 million of interest and penalties accrued at December 31, 2018 and 2017 and \$1.2 million of interest and penalties accrued at December 31, 2016.

Note 10 – Financial Instruments With Off-Balance Sheet Risk

We utilize various financial instruments with off-balance sheet risk to satisfy the financing needs of our borrowers and to manage our exposure to interest rate risk. Such financial instruments include commitments to extend credit and commercial letters of credit. Commitments to extend credit are agreements to lend to a borrower provided that certain contractual conditions are met. Commercial letters of credit are agreements to pay a beneficiary under conditions specified in the letter of credit. Commitments and letters of credit generally have fixed expiration dates or other termination clauses and may require payment of a fee. At December 31, 2018, outstanding commitments to extend credit and commercial letters of credit were \$27.3 billion and \$55.8 million, respectively.

Since many of these commitments may expire without being drawn, the total commitments do not necessarily represent future cash requirements. Our exposure to many of these commitments is mitigated by borrowing base requirements contained in loan agreements. However, these credit-related financial instruments have off-balance sheet credit risk because their amounts are not reflected on the consolidated balance sheets until funded or drawn upon. The credit risk associated with issuing commitments and commercial letters of credit is substantially the same as that involved in extending loans to borrowers. Therefore, management applies the same credit policies to these commitments. The amount of collateral obtained, if deemed necessary upon extension of credit, is based on management's credit evaluation of the borrower. As discussed in Note 1, we maintain a reserve for unfunded commitments.

For a fee, we provide financial standby letters of credit for borrowers, which are irrevocable commitments to guarantee payment of a specified financial obligation. We also provide performance standby letters of credit which are irrevocable agreements by us, as a guarantor, to make payments to the guaranteed party in the event a specified third party fails to perform under a nonfinancial contractual obligation, such as a third party failing to timely deliver certain commodities at a specified time and place. We also issue indemnification agreements that function like guarantees. These indemnification agreements contingently require us, as the indemnifying party guarantor, to make payments to an indemnified party under certain specified circumstances. Certain recourse provisions would enable us, as a guarantor, to recover from third parties any of the amounts paid under guarantees, thereby limiting our maximum potential exposure.

As of December 31, 2018, the maximum potential amount of future payments that we may be required to make under our outstanding standby letters of credit was \$1.2 billion, with a fair value of \$9.9 million, which is included in other liabilities in the consolidated balance sheet. Payment/performance risk of the standby letters of credit guarantee is assessed using the same internal customer credit ratings that we use to manage credit risk in our loan portfolio. These outstanding standby letters of credit have expiration dates ranging from January 2019 to June 2033.

Note 11 – Derivative Financial Instruments and Hedging Activities

Risk Management Objectives and Strategies

We maintain an overall interest rate risk management strategy that incorporates the use of derivative financial instruments to manage liquidity and to minimize significant unplanned fluctuations in earnings that are caused by interest rate volatility. Our goal is to manage interest rate sensitivity by modifying the repricing frequency or effective maturity of certain balance sheet assets and liabilities. We also maintain a foreign exchange risk management strategy to reduce the impact of currency fluctuations on our relatively nominal amount of foreign currency-denominated loans. As a result of interest rate and foreign exchange rate fluctuations, 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 gains and losses on the derivative instruments that are linked to these assets and liabilities. Interest rate and foreign exchange fluctuations also cause interest income and interest expense of variable-rate assets and liabilities to increase or decrease. The effect of this variability in earnings is expected to be substantially offset by gains and losses on the derivative instruments that are linked to these assets and liabilities.

Uses of Derivatives

To achieve risk management objectives and satisfy the financing needs of our borrowers, we execute various derivative transactions with other financial institutions. Derivatives (primarily interest rate swaps) are used to manage liquidity and the interest rate risk arising from maturity and repricing mismatches between assets and liabilities. Under interest rate swap arrangements, we agree with a counterparty to exchange, at specified intervals, payment streams calculated on a specified notional amount, with at least one payment stream based on a specified floating-rate index. We use a variety of interest rate swaps including the exchange of floating-rate for fixed-rate swaps and fixed-rate for floating-rate swaps with payment obligations tied to specific indices. In the course of managing risk in our investment and loan portfolios, we also periodically hedge cap and floor risk embedded within our floating-rate investments and loans by entering into derivative transactions. In addition, we execute foreign exchange spot and forward contracts to manage currency risk on loans denominated in foreign currencies. We

also enter into derivatives for our customers as a service to enable them to transfer, modify or reduce their interest rate risk and foreign exchange risk by transferring such risk to us. We substantially offset this risk transference by concurrently entering into offsetting agreements with counterparties.

The notional amounts and related activity of derivatives at December 31, 2018, 2017 and 2016 are shown in the following table.

Activity in the Notional Amounts of Derivative Financial Instruments				
(\$ in Millions)	Swaps	Caps / Spots /		Total
		Floors	Forwards	
December 31, 2017	\$ 26,355	\$ 5,123	\$ 183	\$ 31,661
Additions /Accretion	9,176	294	4,511	13,981
Maturities /Amortization	(6,507)	(457)	(4,609)	(11,573)
Terminations	(545)	(600)	-	(1,145)
December 31, 2018	\$ 28,479	\$ 4,360	\$ 85	\$ 32,924
December 31, 2016	\$ 23,931	\$ 3,100	\$ 227	\$ 27,258
Additions /Accretion	7,607	3,400	3,030	14,037
Maturities /Amortization	(4,594)	(777)	(3,074)	(8,445)
Terminations	(589)	(600)	-	(1,189)
December 31, 2017	\$ 26,355	\$ 5,123	\$ 183	\$ 31,661
December 31, 2015	\$ 20,817	\$ 2,816	\$ 267	\$ 23,900
Additions /Accretion	7,490	429	3,606	11,525
Maturities /Amortization	(3,669)	(145)	(3,646)	(7,460)
Terminations	(707)	-	-	(707)
December 31, 2016	\$ 23,931	\$ 3,100	\$ 227	\$ 27,258

Accounting for Derivative Instruments and Hedging Activities

We record derivatives as assets or liabilities at their fair value on the consolidated balance sheets. We record changes in the fair value of a derivative 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 that hedge changes in the fair value of assets or liabilities, changes in the fair value of the derivative will generally be offset in the statement of income by changes in the hedged item's fair value attributable to the risk being hedged. For cash flow hedge transactions, in which we hedge the variability of future cash flows related to a variable-rate or foreign currency denominated asset or liability, changes in the fair value of the derivative are reported in accumulated other comprehensive income (loss). The gains and losses on the derivatives that we report in accumulated other comprehensive income (loss) will be reclassified as earnings in the periods in which earnings are affected by the variability of the cash flows of the hedged item. We record the ineffective portion of all hedges in current period earnings.

For our customer transactions, which are not designated as hedging instruments, we record the related changes in fair value in current period earnings. We substantially offset this risk transference by concurrently entering into offsetting

agreements with counterparties, with the changes in fair value of these transactions also recorded in current period earnings.

Fair Value Hedges

The majority of the fair value hedging activity relates to entering into interest rate swaps primarily to convert our non-prepayable fixed-rate debt to floating-rate debt to achieve our liquidity management strategy. The amount converted depends on contractual interest rates and maturities. For the remaining fair value hedges, we enter into receive-fixed, pay-floating swaps to align our equity positioning strategy with our risk management strategy. For fair value hedges, the amount of hedge ineffectiveness is recognized as net interest income in current period earnings.

Cash Flow Hedges

Our cash flow hedges include interest rate caps and floors to hedge cap and floor risk embedded within a portion of our floating-rate investment securities and loans. The interest rate caps hedge floating-rate debt cash flows that fund the cash flows from floating-rate investment securities. If the strike rates in the purchased interest rate caps are exceeded, we receive cash flows on the derivative to hedge our floating-rate funding exposure above such strike levels. The interest rate floors hedge cash flows from floating-rate loans. If market index rates underlying our floating-rate loans decline below strike levels, we receive cash flows on the derivative. We also enter into foreign exchange spot and forward contracts to manage currency risk on loans denominated in foreign currencies. Typically, foreign currency contracts are purchased to fund the principal cash flows of the loan and simultaneously sold to lock in the principal and interest cash flows upon repricing or maturity date of the loan. For cash flow hedges, the amount of hedge ineffectiveness, the amount excluded from effectiveness assessment, and the amounts reclassified from accumulated other comprehensive income (loss) into current period earnings are all reflected in net interest income. For cash flow hedges in which the forecasted transaction is not probable of occurring, the amounts reclassified from accumulated other comprehensive income (loss) are reflected in current period earnings. At December 31, 2018, we expect that \$9.0 million of expense will be reclassified from accumulated other comprehensive income (loss) into earnings in the next 12 months, based on the anticipated cash flows of existing financial instruments. The maximum term over which we are hedging our exposure to the variability of future cash flows for all forecasted transactions is approximately 17 years.

Derivatives Not Designated As Hedges

Derivative agreements with our customers and the related offsetting derivative agreements with counterparties are not designated as hedging instruments and do not receive hedge accounting treatment. Accordingly, any changes in the fair value of these customer-related derivatives are recognized immediately as noninterest income/expense in current period earnings.

Counterparty Credit Risk

The use of derivatives for risk management introduces credit risk related to customers and counterparties. Generally, when the fair value of a derivative contract is positive, we are exposed to credit risk.

Derivative transactions with our customers are typically secured through our loan agreements. As of December 31, 2018, 2017 and 2016, the notional amount of derivatives with our customers totaled \$9.2 billion, \$8.0 billion and \$6.5 billion, respectively.

The majority of our non-customer derivatives are transacted with derivative counterparties and governed by master swap agreements, which include bilateral collateral arrangements, requiring the Bank or our counterparties to post collateral on a daily basis with thresholds set at zero for all active counterparties. The master swap agreements also include netting agreements requiring the net settlement of covered contracts with the same counterparty in the event of default by the other party. The “net” mark-to-market exposure represents the netting of the positive and negative exposures with that counterparty. Notwithstanding these protections, we are exposed to credit risk with these counterparties due to the timing of daily margining activities. As of December 31, 2018, 2017 and 2016, the notional amount of derivatives with our non-customer counterparties totaled \$11.0 billion, \$13.3 billion and \$13.7 billion, respectively, which excludes the \$12.7 billion, \$10.4 billion and \$7.1 billion, respectively, of cleared derivatives discussed below.

We record derivative exposures and related cash collateral balances at gross amounts in our consolidated balance sheets. Pursuant to our master swap agreements, as of December 31, 2018, our non-customer counterparties had posted \$99.2 million in cash as collateral with us. We estimate that the amount of losses related to derivatives we could be exposed to in the event of nonperformance by dealer counterparties to our derivative positions, net of collateral held by us, was \$0.1 million, \$0.7 million and \$1.1 million at December 31, 2018, 2017 and 2016.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act) requires certain derivative transactions to be cleared through a central clearinghouse and traded on regulated swap execution facilities. The U.S. Commodity Futures Trading Commission has exempted certain qualifying swaps entered into by end-users and financial cooperatives from these requirements. The exemptions do not cover all swaps executed by CoBank and are generally limited to swaps entered into in connection with loans and derivatives for customer-owners. CoBank has also voluntarily chosen to clear some swap transactions for economic and risk management purposes. As a result, certain of our derivative transactions are cleared through a futures commission merchant (FCM) with a clearinghouse or central counterparty (CCP). When these swaps are cleared, a 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 initial margin and variation margin or settlement payments that are required to be posted by participants. FCMs

prequalify counterparties to all cleared swaps, set exposure limits for each counterparty and collect initial margin and variation margin or settlement payments daily for changes in the value of cleared derivatives. The margin and settlement payments collected from both parties to the swap protect against credit risk in the event of a counterparty default. As of December 31, 2018, 2017 and 2016, the notional amount of our cleared derivatives was \$12.7 billion, \$10.4 billion and \$7.1 billion, respectively. Initial margin and settlement payments totaling \$46.5 million and \$61.9 million, respectively, were held by our CCP for our cleared derivatives as of December 31, 2018, and \$32.0 million and \$104.6 million, respectively, as of December 31, 2017. Initial margin and variation margin totaling \$22.4 million and \$70.4 million, respectively, were pledged for our cleared derivatives as of December 31, 2016.

Hedge Terminations

During 2018 we terminated \$600.0 million in notional value of interest rate caps which hedged debt funding certain investment securities sold earlier in 2018. These caps were previously accounted for as cash flow hedges. In 2017 and 2016, we terminated approximately \$918.2 million and \$223.3 million, respectively, in notional value of interest rate swaps and caps for asset-liability management purposes. These swaps were previously accounted for as fair value hedges.

We terminated interest rate swaps with customers and offsetting dealer counterparties totaling notional value of \$545.1 million, \$270.5 million and \$483.3 million in 2018, 2017 and 2016, respectively. Proceeds from the customer terminations were offset by payments for the offsetting dealer terminations.

A summary of the impact of derivative financial instruments on our consolidated balance sheets as of December 31, 2018, 2017 and 2016 is shown in the following tables.

Fair Value of Derivative Financial Instruments		
As of December 31, 2018	Fair Value of Derivative Assets⁽¹⁾	Fair Value of Derivative Liabilities⁽²⁾
Derivatives Designated as Hedging Instruments		
Interest Rate Contracts	\$ 77,238	\$ 86,345
Foreign Exchange Contracts	589	297
Total Derivatives Designated as Hedging Instruments	\$ 77,827	\$ 86,642
Derivatives Not Designated as Hedging Instruments		
Interest Rate Contracts	\$ 178,036	\$ 130,059
Foreign Exchange Contracts	63	63
Total Derivatives Not Designated as Hedging Instruments	\$ 178,099	\$ 130,122
Settlement Payments	\$ -	\$ (61,923)
Total Derivatives	\$ 255,926	\$ 154,841

⁽¹⁾ These assets make up the interest rate swaps and other financial instruments assets in the consolidated balance sheet as of December 31, 2018.

⁽²⁾ These liabilities make up the interest rate swaps and other financial instruments liabilities in the consolidated balance sheet as of December 31, 2018.

Fair Value of Derivative Financial Instruments		
As of December 31, 2017	Fair Value of Derivative Assets⁽¹⁾	Fair Value of Derivative Liabilities⁽²⁾
Derivatives Designated as Hedging Instruments		
Interest Rate Contracts	\$ 37,479	\$ 88,382
Foreign Exchange Contracts	113	3,109
Total Derivatives Designated as Hedging Instruments	\$ 37,592	\$ 91,491
Derivatives Not Designated as Hedging Instruments		
Interest Rate Contracts	\$ 142,801	\$ 99,378
Foreign Exchange Contracts	452	427
Total Derivatives Not Designated as Hedging Instruments	\$ 143,253	\$ 99,805
Settlement Payments	\$ -	\$ (104,564)
Total Derivatives	\$ 180,845	\$ 86,732

⁽¹⁾ These assets make up the interest rate swaps and other financial instruments assets in the consolidated balance sheet as of December 31, 2017.

⁽²⁾ These liabilities make up the interest rate swaps and other financial instruments liabilities in the consolidated balance sheet as of December 31, 2017.

Fair Value of Derivative Financial Instruments

As of December 31, 2016	Fair Value of Derivative Assets ⁽¹⁾	Fair Value of Derivative Liabilities ⁽²⁾
Derivatives Designated as Hedging Instruments		
Interest Rate Contracts	\$ 51,148	\$ 53,390
Foreign Exchange Contracts	3,710	770
Total Derivatives Designated as Hedging Instruments	\$ 54,858	\$ 54,160
Derivatives Not Designated as Hedging Instruments		
Interest Rate Contracts	\$ 151,191	\$ 105,849
Foreign Exchange Contracts	2,385	2,715
Total Derivatives Not Designated as Hedging Instruments	\$ 153,576	\$ 108,564
Total Derivatives	\$ 208,434	\$ 162,724

⁽¹⁾ These assets make up the interest rate swaps and other financial instruments assets in the consolidated balance sheet as of December 31, 2016.

⁽²⁾ These liabilities make up the interest rate swaps and other financial instruments liabilities in the consolidated balance sheet as of December 31, 2016.

A summary of the impact of derivative financial instruments on our consolidated statements of income and comprehensive income for the years ended December 31, 2018, 2017 and 2016 is shown in the following tables.

Derivative Financial Instruments in Fair Value Hedging Relationships

Year Ended December 31,	Net Amount of Gain or (Loss) Recognized in Income on Derivatives and Hedged Items ⁽¹⁾		
	2018	2017	2016
Interest Rate Contracts	\$ 564	\$ 977	\$ 1,109
Total	\$ 564	\$ 977	\$ 1,109

⁽¹⁾ Located in interest expense in the consolidated statements of income for the years ended December 31, 2018, 2017 and 2016.

Derivative Financial Instruments in Cash Flow Hedging Relationships

Year Ended December 31, 2018	Amount of Gain or (Loss) Recognized in Accumulated Other Comprehensive Income (Loss) on Derivatives ⁽¹⁾	Amount of Gain or (Loss) Reclassified from Accumulated Other Comprehensive Income (Loss) to Income on Derivatives ⁽¹⁾	Amount of Gain or (Loss) Recognized in Income on Derivatives ⁽²⁾
Interest Rate			
Contracts	\$ 4,141	\$ (21,393) ⁽³⁾	\$ 161
Foreign Exchange			
Contracts	3,288	3,388 ⁽⁴⁾⁽⁵⁾	2,159 ⁽⁴⁾
Total	\$ 7,429	\$ (18,005)	\$ 2,320

⁽¹⁾ Effective portion

⁽²⁾ Ineffective portion and amount excluded from effectiveness assessment.

⁽³⁾ \$13,073 related to termination of interest rate contracts is located in noninterest expense - other, net and the remaining \$8,320 related to continuing interest rate contracts is located in interest expense in the consolidated statement of income for the year ended December 31, 2018.

⁽⁴⁾ Located in interest income – loans in the consolidated statement of income for the year ended December 31, 2018.

⁽⁵⁾ Fully offset by a \$(3,388) loss on foreign currency denominated loans (hedged items) which is also located in interest income – loans in the consolidated statement of income for the year ended December 31, 2018.

Derivative Financial Instruments in Cash Flow Hedging Relationships

Year Ended December 31, 2017	Amount of Gain or (Loss) Recognized in Accumulated Other Comprehensive Income (Loss) on Derivatives ⁽¹⁾	Amount of Gain or (Loss) Reclassified from Accumulated Other Comprehensive Income (Loss) to Income on Derivatives ⁽¹⁾	Amount of Gain or (Loss) Recognized in Income on Derivatives ⁽²⁾
Contracts	\$ (19,504)	\$ (6,701) ⁽³⁾	\$ 11
Foreign Exchange			
Contracts	(5,936)	(6,157) ⁽⁴⁾⁽⁵⁾	843 ⁽⁴⁾
Total	\$ (25,440)	\$ (12,858)	\$ 854

⁽¹⁾ Effective portion

⁽²⁾ Ineffective portion and amount excluded from effectiveness assessment.

⁽³⁾ Located in interest expense in the consolidated statement of income for the year ended December 31, 2017.

⁽⁴⁾ Located in interest income – loans in the consolidated statement of income for the year ended December 31, 2017.

⁽⁵⁾ Fully offset by a \$6,157 gain on foreign currency denominated loans (hedged items) which is also located in interest income – loans in the consolidated statement of income for the year ended December 31, 2017.

Derivative Financial Instruments in Cash Flow Hedging Relationships

Year Ended December 31, 2016	Amount of Gain or (Loss) Recognized in Accumulated Other Comprehensive Income (Loss) on Derivatives ⁽¹⁾	Amount of Gain or (Loss) Reclassified from Accumulated Other Comprehensive Income (Loss) to Income on Derivatives ⁽¹⁾	Amount of Gain or (Loss) Recognized in Income on Derivatives ⁽²⁾
Contracts	\$ (3,009)	\$ (4,520) ⁽³⁾	\$ -
Foreign Exchange			
Contracts	1,664	1,135 ⁽⁴⁾⁽⁵⁾	1,505 ⁽⁴⁾
Total	\$ (1,345)	\$ (3,385)	\$ 1,505

⁽¹⁾ Effective portion

⁽²⁾ Ineffective portion and amount excluded from effectiveness assessment.

⁽³⁾ Located in interest expense in the consolidated statement of income for the year ended December 31, 2016.

⁽⁴⁾ Located in interest income – loans in the consolidated statement of income for the year ended December 31, 2016.

⁽⁵⁾ Fully offset by a (\$1,135) loss on foreign currency denominated loans (hedged items) which is also located in interest income – loans in the consolidated statement of income for the year ended December 31, 2016.

Derivative Financial Instruments not Designated as Hedging Relationships⁽¹⁾

Year Ended December 31,	Net Amount of Gain or (Loss) Recognized in Income On Derivatives ⁽²⁾		
	2018	2017	2016
Interest Rate Contracts	\$ 4,553	\$ (3,929)	\$ (998)
Foreign Exchange Contracts	(25)	354	(77)
Total	\$ 4,528	\$ (3,575)	\$ (1,075)

⁽¹⁾ Primarily represents our derivative agreements with customers and related offsetting derivative agreements with counterparties.

⁽²⁾ Located in other noninterest income/expense in the consolidated statements of income for the years ended December 31, 2018, 2017 and 2016.

Asset/Liability Offsetting

As noted previously, derivative transactions with swap dealers include bilateral collateral and netting agreements that require the net settlement of covered contracts. Derivative transactions with customers are collateralized through loan agreements. Notwithstanding collateral and netting provisions, our derivative assets and liabilities are not offset in the

accompanying consolidated balance sheets. The amount of collateral received or pledged is calculated on a net basis, by counterparty.

The following tables summarize derivative assets and liabilities, related accrued interest and amounts of collateral exchanged pursuant to our agreements.

Offsetting of Financial and Derivative Instruments

	Gross Amounts of Assets/Liabilities Presented in the Consolidated Balance Sheets	Amounts Not Offset In the Consolidated Balance Sheets		Net Amount
		Cash Collateral Received/ Pledged ⁽¹⁾	Investment Securities Received/Pledged as Collateral	
As of December 31, 2018				
Assets:				
Interest Rate Swaps and Other				
Financial Instruments:				
Dealer	\$ 118,503	\$ (99,220)	\$ -	\$ 19,283
Customer	81,718	-	-	81,718
Clearinghouse	55,705	-	-	55,705
Accrued Interest Receivable on Derivative Contracts	7,479	-	-	7,479
Liabilities:				
Interest Rate Swaps and Other				
Financial Instruments:				
Dealer	39,218	(2,450)	-	36,768
Customer	70,068	-	-	70,068
Clearinghouse	45,555	-	(46,528)	- ⁽²⁾
Accrued Interest Payable on Derivative Contracts	14,888	-	-	14,888

⁽¹⁾ Cash collateral received is recognized in the consolidated balance sheets.

⁽²⁾ Cash and investment securities pledged as collateral fully offset the related gross liability on the consolidated balance sheet.

Offsetting of Financial and Derivative Instruments

	Gross Amounts of Assets/Liabilities Presented in the Consolidated Balance Sheets	Amounts Not Offset In the Consolidated Balance Sheets		Net Amount
		Cash Collateral Received/ Pledged ⁽¹⁾	Investment Securities Received/Pledged as Collateral ⁽¹⁾	
As of December 31, 2017				
Assets:				
Interest Rate Swaps and Other				
Financial Instruments:				
Dealer	\$ 84,969	\$ (50,910)	\$ -	\$ 34,059
Customer	83,351	-	-	83,351
Clearinghouse	12,525	-	-	12,525
Accrued Interest Receivable on Derivative Contracts	8,616	-	-	8,616
Liabilities:				
Interest Rate Swaps and Other				
Financial Instruments:				
Dealer	37,784	(3,050)	-	34,734
Customer	41,189	-	-	41,189
Clearinghouse	7,759	-	(31,999)	- ⁽²⁾
Accrued Interest Payable on Derivative Contracts	7,415	-	-	7,415
As of December 31, 2016				
Assets:				
Interest Rate Swaps and Other				
Financial Instruments:				
Dealer	\$ 94,898	\$ (85,941)	\$ (6,918)	\$ 2,039
Customer	104,028	-	-	104,028
Clearinghouse	9,508	-	-	9,508
Accrued Interest Receivable on Derivative Contracts	40,782	-	-	40,782
Liabilities:				
Interest Rate Swaps and Other				
Financial Instruments:				
Dealer	42,219	(570)	-	41,649
Customer	34,568	-	-	34,568
Clearinghouse	85,937	(70,415)	(22,448)	- ⁽²⁾
Accrued Interest Payable on Derivative Contracts	4,500	-	-	4,500

⁽¹⁾ Cash collateral received is recognized in the consolidated balance sheets whereas investment securities received are not recognized in the consolidated balance sheets.

⁽²⁾ Cash and investment securities pledged as collateral fully offset the related gross liability on the consolidated balance sheet.

Note 12 – Disclosure About Estimated Fair Value of Financial Instruments

The fair value of financial instruments represents the estimated amount to be received to sell an asset or paid to transfer or extinguish a liability (an exit price) in active markets among willing participants at the reporting date. The FASB has established a three-level fair value hierarchy aimed at maximizing the use of observable inputs – that is, inputs that reflect the assumptions market participants would use in pricing an asset or liability. Observable inputs are based on market data obtained from sources independent of the reporting entity. Unobservable inputs are supported by limited or no market activity and require significant management judgment or estimation.

Due to the uncertainty of expected cash flows resulting from financial instruments, the use of different assumptions and valuation methodologies could significantly affect the estimated fair value amounts. Accordingly, certain estimated fair values may not be indicative of the amounts for which the financial instruments could be exchanged in a current or future market transaction.

A description of the methods, assumptions and inputs to the valuation process used to determine or estimate the fair value of each class of financial instruments within the three-level hierarchy follows.

Level 1

Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Our Level 1 assets at December 31, 2018 consist of assets held in a trust fund related to deferred compensation and our nonqualified retirement plans. The trust fund includes investments in securities that are actively traded and have quoted net asset value prices that are directly observable in the marketplace.

Level 2

Level 2 inputs include quoted prices for similar assets and liabilities in active markets; quoted prices in markets that are not active; and inputs that are observable, or can be corroborated, for substantially the full term of the asset or liability. Our Level 2 assets and liabilities at December 31, 2018 include our derivative contracts, collateral balances related to derivative contracts, certificates of deposit, federal funds sold and other overnight funds, U.S. Treasury and agency debt investment securities, Ginnie Mae MBS, non-agency MBS, corporate bonds, and the substantial majority of agency MBS and ABS.

The fair value of federal funds sold and other overnight funds is generally their face value, plus accrued interest, as these instruments are readily convertible to cash and are short-term in nature.

The fair value of our investment securities classified as Level 2 is determined by a third-party pricing service that uses valuation models to estimate current market prices. Inputs and assumptions related to these models are typically observable in the marketplace. Such models incorporate prepayment

assumptions and underlying collateral information to generate cash flows that are discounted using appropriate benchmark interest rate curves and volatilities. These third-party valuation models also incorporate information regarding non-binding broker/dealer quotes, available trade information, historical cash flows, credit ratings, and other market information. The estimated fair values of investment securities also appear in Note 4.

The fair value of our derivative financial instruments is the estimated amount to be received to sell a derivative asset or paid to transfer or extinguish a derivative liability in active markets among willing participants at the reporting date. Estimated fair value is determined through internal market valuation models. These models use an income approach and incorporate benchmark interest rate curves (primarily the Overnight Index Swap rate for collateralized derivative contracts and the USD LIBOR/swap curve for non-collateralized derivative contracts), volatilities, counterparty credit quality and other inputs that are observable directly or indirectly in the marketplace. We compare internally calculated derivative valuations to broker/dealer quotes to substantiate the results. The fair value of collateral assets and liabilities related to derivative contracts is their face value, plus accrued interest, as these instruments are cash balances; therefore, fair value approximates face value.

The following table presents information about valuation techniques and inputs to Level 2 fair value measurements.

Information About Valuation Techniques and Inputs to Level 2 Fair Value Measurements

	Valuation Technique	Inputs
Federal Funds Sold and Other Overnight Funds	Carrying Value	Par/Principal Plus Accrued Interest
Certificates of Deposit	Third-Party Pricing Service	Benchmark Yield Curve Quoted Prices
Investment Securities (excluding certificates of deposit)	Third-Party Pricing Service	Prepayment Rate Lifetime Default Rate Loss Severity Benchmark Yield Curve Quoted Prices
Interest Rate Swaps and Other Financial Instruments	Discounted Cash Flow	Benchmark Yield Curve Counterparty Credit Risk Volatility
Collateral Assets and Collateral Liabilities	Carrying Value	Par/Principal Plus Accrued Interest

Level 3

Level 3 inputs are unobservable and supported by limited or no market activity. Our Level 3 assets at December 31, 2018 include a small portion of agency MBS and ABS. Based on the lack of active trading volume and an orderly market for these securities, we classified these securities as Level 3. Fair value for Level 3 agency MBS and the substantial majority of our Level 3 ABS is estimated through a third-party pricing service that uses valuation models to estimate current market

prices. Fair value for a small portion of our Level 3 ABS is calculated internally using third-party models. Inputs into all of these valuation models include underlying collateral data and projected losses as well as information for prepayment speeds and discounting spreads. Due to the lack of marketplace information, the inputs into these valuation models primarily represent management assumptions, with some corroboration to market inputs where information is available.

Level 3 assets at December 31, 2018 also include \$111.0 million of loans originally measured at cost, which were written down to fair value as a result of impairment. The valuation of these assets is based on either the fair value of the underlying collateral, if the loan is collateral dependent, or the present value of expected future cash flows. Such valuations may include the use of independent appraisals or other market-based information to develop a management estimate of fair value. As a result, these fair value measurements fall under Level 3 in the fair value hierarchy; however, they are excluded

from the 'Assets and Liabilities Measured at Fair Value on a Recurring Basis' tables on pages 115 and 116 because they are not measured on a recurring basis.

Our Level 3 liabilities at December 31, 2018 include standby letters of credit whose market value is internally calculated based on information that is not observable either directly or indirectly in the marketplace.

No transfers into or out of Level 3 assets or liabilities occurred in 2018 and 2017. In 2016, three FHA/VA Wrapped Reperformer MBS, included in U.S. agency MBS, with a total fair value of \$102.7 million at December 31, 2016 were transferred out of Level 2 and into Level 3. These investments were downgraded by rating agencies during 2016 at which time pricing inputs were no longer observable. No other transfers into or out of Level 3 assets or liabilities occurred in 2016.

The following table presents quantitative information about Level 3 fair value measurements as of December 31, 2018.

Quantitative Information About Valuation Techniques and Unobservable Inputs to Level 3 Fair Value Measurements					
(\$ in Millions)	Fair Value	Valuation Technique	Unobservable Inputs	Range	
Assets					
Investment Securities:					
U.S. Agency MBS	\$ 113	Third-Party Pricing Service	Prepayment Rate	*	
			Lifetime Default Rate	*	
			Loss Severity	*	
Asset-Backed	6	Third-Party Pricing Service	Prepayment Rate	*	
			Lifetime Default Rate	*	
			Loss Severity	*	
Other (included in Asset-Backed)	6	Discounted Cash Flow	Prepayment Rate	0 percent	
Impaired Loans	111	Appraisal /	Income/Expense Data	**	
		Discounted Cash Flow	Comparable Sales	**	
			Replacement Cost	**	
Liabilities					
Standby Letters of Credit	\$ 10	Discounted Cash Flow	Mark-to-Market Spread	0.1-1.5 percent	

* Excludes ranges which are determined by a third-party pricing service

** Range of inputs are unique to each collateral property

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following tables present the assets and liabilities that are measured at fair value on a recurring basis at December 31, 2018, 2017 and 2016 for each of the fair value hierarchy levels.

Assets and Liabilities Measured at Fair Value on a Recurring Basis				
December 31, 2018				
(\$ in Millions)	Level 1	Level 2	Level 3	Total
Assets				
Federal Funds Sold and				
Other Overnight Funds	\$ -	\$ 1,300	\$ -	\$ 1,300
Investment Securities:				
Certificates of Deposit	-	975	-	975
U.S. Treasury Debt	-	15,268	-	15,268
U.S. Agency Debt	-	2,239	-	2,239
Residential MBS:				
Ginnie Mae	-	2,940	-	2,940
U.S. Agency	-	5,415	113	5,528
Non-Agency	-	13	-	13
Commercial MBS:				
U.S. Agency	-	2,867	-	2,867
Corporate Bonds	-	119	-	119
Asset-Backed and Other	-	1,331	12	1,343
Interest Rate Swaps and				
Other Financial Instruments	-	256	-	256
Assets Held in Trust				
(included in Other Assets)	81	-	-	81
Collateral Assets (included in Other Assets)	-	2	-	2
Total Assets	\$ 81	\$ 32,725	\$ 125	\$ 32,931
Liabilities				
Interest Rate Swaps and				
Other Financial Instruments	\$ -	\$ 155	\$ -	\$ 155
Collateral Liabilities				
(included in Bonds and Notes)	-	99	-	99
Standby Letters of Credit				
(included in Other Liabilities)	-	-	10	10
Total Liabilities	\$ -	\$ 254	\$ 10	\$ 264

Assets and Liabilities Measured at Fair Value on a Recurring Basis

December 31, 2017				
(\$ in Millions)	Level 1	Level 2	Level 3	Total
Assets				
Federal Funds Sold and				
Other Overnight Funds	\$ -	\$ 1,035	\$ -	\$ 1,035
Investment Securities:				
Certificates of Deposit	-	775	-	775
U.S. Treasury Debt	-	11,029	-	11,029
U.S. Agency Debt	-	3,356	-	3,356
Residential MBS:				
Ginnie Mae	-	1,856	-	1,856
U.S. Agency	-	6,593	125	6,718
FHA/VA Non-Wrapped				
Reperformer	-	-	257	257
Non-Agency	-	29	-	29
Commercial MBS:				
U.S. Agency	-	2,499	-	2,499
Agricultural MBS:				
Farmer Mac	-	-	78	78
Corporate Bonds	-	40	-	40
Asset-Backed and Other	-	194	39	233
Interest Rate Swaps and				
Other Financial Instruments	-	181	-	181
Assets Held in Trust				
(included in Other Assets)	81	-	-	81
Collateral Assets (included in Other Assets)	-	3	-	3
Total Assets	\$ 81	\$ 27,590	\$ 499	\$ 28,170
Liabilities				
Interest Rate Swaps and				
Other Financial Instruments	\$ -	\$ 87	\$ -	\$ 87
Collateral Liabilities				
(included in Bonds and Notes)	-	51	-	51
Standby Letters of Credit				
(included in Other Liabilities)	-	-	10	10
Total Liabilities	\$ -	\$ 138	\$ 10	\$ 148

**Assets and Liabilities Measured at
Fair Value on a Recurring Basis**

December 31, 2016

(\$ in Millions)	Level 1	Level 2	Level 3	Total
Assets				
Federal Funds Sold and				
Other Overnight Funds	\$ -	\$ 750	\$ -	\$ 750
Investment Securities:				
Certificates of Deposit	-	776	-	776
U.S. Treasury Debt	-	11,141	-	11,141
U.S. Agency Debt	-	5,144	-	5,144
Residential MBS:				
Ginnie Mae	-	541	-	541
U.S. Agency	-	6,564	147	6,711
FHA/VA Non-Wrapped				
Reperformer	-	-	275	275
Non-Agency	-	71	-	71
Commercial MBS:				
U.S. Agency	-	2,641	-	2,641
Agricultural MBS:				
Farmer Mac	-	-	97	97
Corporate Bonds	-	40	-	40
Asset-Backed and Other	-	289	39	328
Interest Rate Swaps and				
Other Financial Instruments	-	208	-	208
Assets Held in Trust				
(included in Other Assets)	69	-	-	69
Collateral Assets (included				
in Other Assets)	-	71	-	71
Total Assets	\$ 69	\$ 28,236	\$ 558	\$ 28,863
Liabilities				
Interest Rate Swaps and				
Other Financial Instruments	\$ -	\$ 163	\$ -	\$ 163
Collateral Liabilities				
(included in Bonds and Notes)	-	86	-	86
Standby Letters of Credit				
(included in Other Liabilities)	-	-	10	10
Total Liabilities	\$ -	\$ 249	\$ 10	\$ 259

The following table presents the changes in Level 3 assets and liabilities measured at fair value on a recurring basis.

Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis

	U.S.		FHA/VA		Asset-		Standby	
	Agency	Farmer Mac	Non-Wrapped	Reperformer	Backed	Securities	Letters of	Credit
(\$ in Millions)	Residential MBS	Agricultural MBS	Residential MBS	Residential MBS	and Other			
Balance at December 31, 2017	\$ 125	\$ 78	\$ 257	\$ 39	\$			10
Total Gains or Losses (Realized/Unrealized):								
Included in Other Noninterest Income	-	-	38	8				-
Included in Other Comprehensive Income	3	2	(22)	(8)				-
Sales	-	(61)	(262)	(19)				-
Issuances	-	-	-	2				8
Settlements	(17)	(19)	(13)	(11)				(8)
Accretion	2	-	2	1				-
Balance at December 31, 2018	\$ 113	\$ -	\$ -	\$ 12	\$			10
Balance at December 31, 2016	\$ 147	\$ 97	\$ 275	\$ 39	\$			10
Total Gains or Losses (Realized/Unrealized):								
Included in Other Comprehensive Income	(1)	-	15	(1)				-
Purchases	-	-	-	2				-
Issuances	-	-	-	3				7
Settlements	(23)	(19)	(41)	(7)				(7)
Accretion	2	-	8	3				-
Balance at December 31, 2017	\$ 125	\$ 78	\$ 257	\$ 39	\$			10
Balance at December 31, 2015	\$ 52	\$ 124	\$ 342	\$ 47	\$			10
Transfers In	103	-	-	-				-
Total Gains or Losses (Realized/Unrealized):								
Included in Other Comprehensive Income	(8)	-	1	(2)				-
Sales	-	-	(24)	-				-
Issuances	-	-	-	-				8
Settlements	8	(27)	(52)	(10)				(8)
Accretion	(8)	-	8	4				-
Balance at December 31, 2016	\$ 147	\$ 97	\$ 275	\$ 39	\$			10

Estimated Fair Value of Certain Other Financial Instruments

The following table presents the estimated fair value of financial instruments that are recorded in the consolidated balance sheets at cost, as well as certain off-balance sheet financial instruments, as of December 31, 2018, 2017 and 2016.

(\$ in Millions)

	December 31, 2018			December 31, 2017			December 31, 2016		
	Carrying Amount	Estimated Fair Value	Fair Value Hierarchy	Carrying Amount	Estimated Fair Value	Fair Value Hierarchy	Carrying Amount	Estimated Fair Value	Fair Value Hierarchy
Financial Assets:									
Net Loans	\$ 103,872	\$ 103,906	Level 3	\$ 98,689	\$ 99,742	Level 3	\$ 94,699	\$ 95,664	Level 3
Financial Liabilities:									
Bonds and Notes	\$ 127,632 ⁽¹⁾	\$ 127,355 ⁽¹⁾	Level 3	\$ 118,406 ⁽²⁾	\$ 118,859 ⁽²⁾	Level 3	\$ 115,086 ⁽³⁾	\$ 115,660 ⁽³⁾	Level 3
Subordinated Debt	-	-	Level 3	-	-	Level 3	499	478	Level 3
Off-Balance Sheet Financial Instruments:									
Commitments to Extend Credit	\$ -	\$ (89)	Level 3	\$ -	\$ (92)	Level 3	\$ -	\$ (102)	Level 3

⁽¹⁾ Includes \$99 million in Level 2 collateral liabilities carried at fair value as of December 31, 2018.

⁽²⁾ Includes \$51 million in Level 2 collateral liabilities carried at fair value as of December 31, 2017.

⁽³⁾ Includes \$86 million in Level 2 collateral liabilities carried at fair value as of December 31, 2016.

Commitments to Extend Credit

The fair value of commitments to extend credit is estimated using a discounted cash flow method by applying a risk-adjusted spread percentage to these obligations.

Note 13 – Related Party Transactions

In the ordinary course of business, we enter into loan transactions with customers, the officers or directors of which may also serve on our Board of Directors. Such loans are subject to special review and reporting requirements contained in the FCA regulations, are reviewed and approved only at the most senior loan committee level within the Bank and are regularly reported to the Board of Directors. Except as noted below, all related party loans are made in accordance with established policies on substantially the same terms, including interest rates and collateral requirements, as those prevailing at the time for comparable transactions with unrelated borrowers.

During 2010, we made a \$4.0 million loan to Dixie Electric Membership Corporation (DEMCO), with which Richard W. Sitman, a former member of our Board of Directors, is affiliated. The loan was made to refinance a portion of DEMCO's existing long-term indebtedness. CoBank's pricing policy was unintentionally misapplied to this loan and the loan was closed with an interest rate of 3.25 percent, which is lower than rates on similar loans to unrelated borrowers. As of December 31, 2018, there was \$1.3 million outstanding on this loan, which is 5 percent of the Bank's total exposure to DEMCO.

Total loans outstanding to customers whose officers or directors serve on our Board of Directors amounted to \$10.4 billion at December 31, 2018. During 2018, \$31.2 billion of advances on loans were made and repayments totaled \$30.7 billion. None of these loans outstanding at December 31, 2018 were delinquent, in nonaccrual or accruing restructured status or, in the opinion of management, involved more than a normal risk of collectability.

Note 14 – Segment Financial Information

We conduct our lending operations through three operating segments: Agribusiness, Farm Credit Banking and Rural Infrastructure.

The accompanying table presents condensed disaggregated information for the segments. Allocations of resources and corporate items, as well as measurement of financial performance, are made at these operating segment levels. All customer activity, including loans and leases and related income, is specifically assigned to the business units that make up the operating segments. Investment securities and federal funds sold and other overnight funds, which are primarily held as a liquidity reserve to support our banking operations, are not specifically assigned to operating segments; however, the income from investment securities and federal funds sold and other overnight funds is attributed to the operating segments. Information to reconcile the total reportable segments to the total CoBank financial statements is shown as "Corporate/Other." Intersegment transactions are insignificant.

We do not hold significant assets in any foreign country. Substantially all of our agricultural export finance loans are U.S. dollar-denominated and 18 percent of these loans are guaranteed by the U.S. government. For the three years ended December 31, 2018, 2017 and 2016, no customer made up 10 percent or more of our gross or net interest income.

Segment Financial Information

	Agribusiness	Farm Credit Banking	Rural Infrastructure	Subtotal	Corporate/ Other	Total CoBank
2018 Results of Operations (\$ in Thousands):						
Net Interest Income	\$ 735,345	\$ 278,255	\$ 429,802	\$ 1,443,402	\$ (12,106)	\$ 1,431,296
Provision for Loan Losses	54,000	-	12,000	66,000	-	66,000
Noninterest Income	158,821	31,080	96,245	286,146	3,514	289,660
Operating Expenses	214,329	45,181	108,601	368,111	(4,304)	363,807
Provision for Income Taxes	42,824	-	56,515	99,339	1,035	100,374
Net Income	\$ 583,013	\$ 264,154	\$ 348,931	\$ 1,196,098	\$ (5,323)	\$ 1,190,775

Selected Financial Information at December 31, 2018 (\$ in Millions):

Loans	\$ 32,432	\$ 50,695	\$ 21,367	\$ 104,494	\$ -	\$ 104,494
Less: Allowance for Loan Losses	(439)	-	(183)	(622)	-	(622)
Net Loans	\$ 31,993	\$ 50,695	\$ 21,184	\$ 103,872	\$ -	\$ 103,872
Total Assets	\$ 32,277	\$ 50,882	\$ 21,392	\$ 104,551	\$ 34,465⁽¹⁾	\$ 139,016

⁽¹⁾ Other assets are composed of:

Federal Funds Sold and Other Overnight Funds	\$ 1,300
Investment Securities	31,292
Other Assets	1,873

2017 Results of Operations (\$ in Thousands):

Net Interest Income	\$ 679,651	\$ 295,674	\$ 429,003	\$ 1,404,328	\$ (11,503)	\$ 1,392,825
Provision for Loan Losses (Loan Loss Reversal)	43,650	-	(1,650)	42,000	-	42,000
Noninterest Income (Expense)	106,890	8,361	60,561	175,812	(579)	175,233
Operating Expenses	226,892	42,307	121,596	390,795	(5,122)	385,673
(Income Tax Benefit) Provision for Income Taxes	(113,727) ⁽²⁾	-	128,713 ⁽²⁾	14,986	78	15,064
Net Income	\$ 629,726	\$ 261,728	\$ 240,905	\$ 1,132,359	\$ (7,038)	\$ 1,125,321

Selected Financial Information at December 31, 2017 (\$ in Millions):

Loans	\$ 30,304	\$ 47,948	\$ 21,014	\$ 99,266	\$ -	\$ 99,266
Less: Allowance for Loan Losses	(411)	-	(166)	(577)	-	(577)
Net Loans	\$ 29,893	\$ 47,948	\$ 20,848	\$ 98,689	\$ -	\$ 98,689
Total Assets	\$ 30,193	\$ 48,121	\$ 21,054	\$ 99,368	\$ 29,843⁽¹⁾	\$ 129,211

⁽¹⁾ Other assets are composed of:

Federal Funds Sold and Other Overnight Funds	\$ 1,035
Investment Securities	26,870
Other Assets	1,938

⁽²⁾ The 2017 (income tax benefit) provision for income taxes included the impact resulting from the enactment of federal tax legislation in late 2017, as more fully explained in Note 9.

2016 Results of Operations (\$ in Thousands):

Net Interest Income	\$ 655,473	\$ 285,129	\$ 431,848	\$ 1,372,450	\$ (10,672)	\$ 1,361,778
Provision for Loan Losses (Loan Loss Reversal)	71,000	-	(8,000)	63,000	-	63,000
Noninterest Income (Expense)	119,048	936	69,300	189,284	(4,399)	184,885
Operating Expenses	219,490	41,279	123,200	383,969	(4,267)	379,702
Provision for Income Taxes	80,868	-	77,968	158,836	(551)	158,285
Net Income	\$ 403,163	\$ 244,786	\$ 307,980	\$ 955,929	\$ (10,253)	\$ 945,676

Selected Financial Information at December 31, 2016 (\$ in Millions):

Loans	\$ 28,660	\$ 45,994	\$ 20,604	\$ 95,258	\$ -	\$ 95,258
Less: Allowance for Loan Losses	(393)	-	(166)	(559)	-	(559)
Net Loans	\$ 28,267	\$ 45,994	\$ 20,438	\$ 94,699	\$ -	\$ 94,699
Total Assets	\$ 28,673	\$ 46,134	\$ 20,535	\$ 95,342	\$ 30,789⁽¹⁾	\$ 126,131

⁽¹⁾ Other assets are composed of:

Federal Funds Sold and Other Overnight Funds	\$ 750
Investment Securities	27,765
Other Assets	2,274

Note 15 – Commitments and Contingent Liabilities

Under the Farm Credit Act, we are primarily liable for the portion of outstanding Systemwide Debt Securities issued by CoBank. We are also contingently liable, as defined in statutory joint and several liability provisions, for the outstanding Systemwide Debt Securities issued by the other System banks. Total Systemwide Debt Securities of the System were \$281.5 billion at December 31, 2018.

There are several mechanisms in place affecting exposure to statutory joint and several liabilities. System banks are statutorily required to maintain eligible, unencumbered assets at a level at least equal in value to the total amount of debt for which such System bank is primarily liable. In addition, in the event of a default by a System bank, the Insurance Fund would be required to make timely payment of principal and interest on Systemwide Debt Securities, to the extent that net assets are available in the Insurance Fund, before the joint and several liability of the System banks would be triggered. At December 31, 2018, the aggregated assets of the Insurance Fund totaled \$5.0 billion. Finally, System banks must maintain certain financial criteria in order to participate in Systemwide debt issuances. If these criteria are not met, a troubled System bank's access to and participation in Systemwide debt issuances could be limited or denied.

On at least a quarterly basis, we assess our liabilities and contingencies in connection with outstanding legal proceedings utilizing the latest information available. For those matters where it is probable that we will incur a loss, and the amount of the loss can be reasonably estimated, we record a liability in our consolidated financial statements. For other matters, where a loss is not probable or the amount of the loss is not estimable, we will not accrue legal reserves.

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 percent 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.

While the outcome of legal proceedings is inherently uncertain, based on information currently available, advice of legal counsel and available insurance coverage, we believe that the liabilities, if any, arising from our legal proceedings will not have a material adverse effect on our consolidated financial position, results of operations or cash flows. However, in the event of unexpected future developments, it is possible that the ultimate resolution of these matters, if unfavorable, may be material to the Bank's consolidated financial position, results of operations or cash flows.

We have various other commitments outstanding and contingent liabilities as discussed elsewhere in these notes to consolidated financial statements, including commitments to extend credit as discussed in Note 10.

Note 16 – Quarterly Financial Information

Unaudited quarterly results of operations for the years ended December 31, 2018, 2017 and 2016, are shown in the table below.

Quarterly Financial Information (Unaudited)					
2018	First	Second	Third	Fourth	Total
Net Interest Income	\$ 371,041	\$ 372,550	\$ 341,092	\$ 346,613	\$ 1,431,296
Provision for Loan Losses (Loan Loss Reversal)	50,000	(10,000)	3,000	23,000	66,000
Noninterest Income and Expenses, Net	3,206	(6,031)	30,279	46,693	74,147
Provision for Income Taxes	33,423	27,165	16,511	23,275	100,374
Net Income	\$ 284,412	\$ 361,416	\$ 291,302	\$ 253,645	\$ 1,190,775
2017	First	Second	Third	Fourth	Total
Net Interest Income	\$ 356,114	\$ 347,218	\$ 338,494	\$ 350,999	\$ 1,392,825
Provision for Loan Losses	15,000	-	23,000	4,000	42,000
Noninterest Income and Expenses, Net	37,685	44,656	74,876	53,223	210,440
Provision for Income Taxes (Income Tax Benefit)	40,621	42,805	28,983	(97,345) ⁽¹⁾	15,064
Net Income	\$ 262,808	\$ 259,757	\$ 211,635	\$ 391,121	\$ 1,125,321
2016	First	Second	Third	Fourth	Total
Net Interest Income	\$ 336,877	\$ 345,941	\$ 334,011	\$ 344,949	\$ 1,361,778
Provision for Loan Losses	8,000	20,000	20,000	15,000	63,000
Noninterest Income and Expenses, Net	43,305	43,535	44,822	63,155	194,817
Provision for Income Taxes	42,260	39,103	37,475	39,447	158,285
Net Income	\$ 243,312	\$ 243,303	\$ 231,714	\$ 227,347	\$ 945,676

⁽¹⁾ The income tax benefit in the fourth quarter of 2017 resulted from the enactment of federal tax legislation in late 2017, as more fully explained in Note 9.

Note 17 – Subsequent Event

We have evaluated subsequent events through March 1, 2019, which is the date the financial statements were issued.

In February 2019, CoBank entered into a master loan participation agreement with Farmer Mac under which each party may purchase from the other participation interests in eligible loans. In connection with the agreement, we sold \$546.2 million of non-patronage, electric distribution loans to Farmer Mac. We will remain the servicer of these loans.

Note 18 – Affiliated Associations

CoBank is chartered by the FCA to serve the Associations that provide credit and related financial services to or for the benefit of eligible borrowers/shareholders for qualified purposes in specific geographic areas in the United States. The Associations are not authorized by the Farm Credit Act to participate directly in the issuance of Systemwide Debt Securities. Therefore, we are the primary funding source for our affiliated Associations. As of December 31, 2018, we have 22 affiliated Associations serving 23 states across the Northwest, West, Southwest, Rocky Mountains, Mid-Plains, and Northeast regions of the United States.

The Associations originate and service long-term real estate mortgage loans as well as short- and intermediate-term loans for agricultural and other purposes to full and part-time

farmers. Associations may also make loans to, among others, processing and marketing entities, farm-related businesses, and rural residents for home purchase and improvements. The Associations may also purchase eligible loan participations from System entities and other lending institutions. Additionally, the Associations may serve as an intermediary in offering multi-peril crop insurance and credit life insurance, and providing additional financial services to borrowers.

The Farm Credit Act and FCA regulations require us to monitor and approve certain activities of our affiliated Associations. CoBank and our affiliated Associations operate under a creditor/debtor relationship evidenced by a General Financing Agreement (GFA) entered into separately with each Association. The GFA sets forth the creditor/debtor relationship between us and each Association and also references certain requirements contained in the Farm Credit Act and FCA regulations. The Associations' respective boards of directors are expected to establish and monitor the necessary policies and procedures to comply with all FCA regulations. In all other respects, the lending relationship with the Associations is substantially similar to that with our other borrowers.

We make loans to the Associations, which, in turn, make loans to their eligible borrowers. We have senior secured interests in substantially all of the Associations' assets, which extend to the underlying collateral of the Associations' loans to their customers. The total wholesale loans outstanding to our affiliated Associations were \$45.8 billion at December 31, 2018. During 2018, \$120.2 billion of advances on wholesale

loans were made to our affiliated Associations and repayments totaled \$117.6 billion.

Our bylaws permit our Board of Directors to set the required level of Association investment in the Bank within a range of 4 to 6 percent of the one-year historical average of Association borrowings. In 2018, the required investment level was 4 percent. There are no capital sharing agreements between us and our affiliated Associations.

Our affiliated Associations are considered customers and thus operate independently and maintain an arms-length relationship with us, except to the extent that the Farm Credit Act requires us, as the funding bank, to monitor and approve certain activities of these Associations. Accordingly, the financial information of affiliated Associations is not included in our consolidated financial statements. We separately publish certain unaudited combined financial information of the District, including a condensed statement of condition and statement of income, which can be found on our website at www.cobank.com. Such information is not incorporated by reference into, and should not be viewed as part of, this Annual Report to Shareholders.

Effective January 1, 2016, two of our affiliated Associations, Farm Credit Services of East Central Oklahoma, ACA, and Chisholm Trail Farm Credit, ACA, merged to form Oklahoma AgCredit, ACA.

Effective January 1, 2017, two of our affiliated Associations, Farm Credit of Southwest Kansas, ACA, and American AgCredit, ACA, merged and are doing business as American AgCredit, ACA. During 2016, these two entities operated under a joint management agreement pursuant to which the President and CEO of American AgCredit, ACA, served as the CEO of both Associations.

Effective October 1, 2017, one of our affiliated Associations, Farm Credit of Ness City, FLCA (Ness City), merged into another of our affiliated Associations, High Plains Farm Credit, ACA (High Plains). During 2017, the two entities operated under a joint management agreement pursuant to which the CEO, Chief Financial Officer and Chief Credit Officer of High Plains jointly served in these positions for Ness City.

Report of Management

CoBank, ACB

March 1, 2019

To our Shareholders:

The consolidated financial statements of CoBank, ACB (CoBank) are prepared by management, which is responsible for their integrity and objectivity, including amounts that must necessarily be based on judgments and estimates. The consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America as appropriate in the circumstances. The consolidated financial statements, in the opinion of management, fairly present, in all material respects, the consolidated financial position of CoBank. Other consolidated financial information included in the Annual Report to Shareholders is consistent with that in the financial statements.

To meet its responsibility for reliable consolidated financial information, management depends on accounting and internal control systems which have been designed to provide reasonable, but not absolute, assurance that assets are safeguarded and transactions are properly authorized and recorded. The systems have been designed to recognize that the cost must be related to the benefits derived. To monitor compliance, CoBank's internal audit staff performs audits of the accounting records, reviews accounting systems and internal controls, and recommends improvements as deemed appropriate. CoBank's 2018, 2017 and 2016 consolidated financial statements have been audited by PricewaterhouseCoopers LLP, independent auditors. In addition, our independent auditors have audited our internal control over financial reporting as of December 31, 2018, 2017 and 2016. CoBank is also examined by the Farm Credit Administration (FCA).

The president and chief executive officer, as delegated by the Board of Directors, has overall responsibility for CoBank's system of internal controls and financial reporting, subject to the review of the audit committee of the Board of Directors. The president and chief executive officer reports periodically on those matters to the audit committee. The audit committee consults regularly with management and meets periodically with the independent auditors and internal auditors to review the scope and results of their work. The audit committee reports regularly to the Board of Directors. Both the independent auditors and the internal auditors have direct access to the audit committee, which is composed solely of directors who are not officers or employees of CoBank.

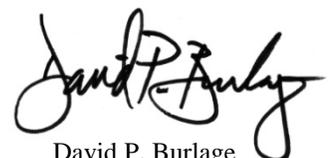
The undersigned certify that this CoBank Annual Report to Shareholders has been reviewed by the undersigned and has been prepared in accordance with all applicable statutory or regulatory requirements and that the information contained herein is true, accurate and complete to the best of their knowledge. The FCA has authorized CoBank to replace the regulatory required inclusion of condensed, unaudited district-wide statements of condition and statements of income in the footnotes to the consolidated financial statements with a separate document containing the same district-wide financial information.



Kevin G. Riel
Chair of the Board



Thomas E. Halverson
President and Chief Executive Officer



David P. Burlage
Chief Financial Officer

Management's Report on Internal Control Over Financial Reporting

CoBank, ACB

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. CoBank's internal control over financial reporting is a process designed under the supervision of our president and chief executive officer and our chief financial officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Bank's financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles. As of the end of the Bank's 2018 fiscal year, management conducted an assessment of the effectiveness of the Bank's internal control over financial reporting based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, our management concluded that the Bank's internal control over financial reporting is effective as of December 31, 2018.

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

The effectiveness of the Bank's internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, independent auditors, as stated in their report appearing on pages 70 and 71, which expresses an unqualified opinion on the effectiveness of the Bank's internal control over financial reporting as of December 31, 2018. There have been no changes in the Bank's internal control over financial reporting that occurred during our most recent fiscal quarter (i.e., the fourth quarter of 2018) that have materially affected, or are reasonably likely to materially affect, the Bank's internal control over financial reporting.

Controls and Procedures

CoBank, ACB

We maintain a system of disclosure controls and procedures. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information disclosed by us in our quarterly and annual reports is accumulated and communicated to our management, including our president and chief executive officer and our chief financial officer, as appropriate, to allow timely decisions to be made regarding disclosure. The president and chief executive officer and the chief financial officer have evaluated our disclosure controls and procedures as of the end of the period covered by this annual report and have concluded that our disclosure controls and procedures are effective as of that date.

We also maintain a system of internal controls. The term “internal controls,” as defined by the American Institute of Certified Public Accountants’ Codification of Statement on Auditing Standards, AU-C Section 315, means a process effected by those charged with governance, management and other personnel that is designed to provide reasonable assurance about the achievement of the entity’s objectives with regard to the reliability of financial reporting, effectiveness and efficiency of operations, and compliance with applicable laws and regulations. We continually assess the adequacy of our internal controls over financial reporting and enhance our controls in response to internal control assessments and internal and external audit and regulatory recommendations. There have been no significant changes in our internal controls or in other factors that could significantly affect such controls subsequent to the date we carried out our evaluations. In accordance with our internal control procedures, these financial statements were prepared under the oversight of the audit committee of our Board of Directors.

Annual Report to Shareholders Disclosure Information Required by Farm Credit Administration Regulations

CoBank, ACB (Unaudited)

In accordance with Farm Credit Administration (FCA) regulations, CoBank has prepared this Annual Report to Shareholders for the year ended December 31, 2018, in accordance with all applicable statutory or regulatory requirements.

Description of Business	Section	Location
Territory served, eligible borrowers, types of lending activities engaged in, financial services offered, and related Farm Credit organizations.	Notes to Financial Statements.....	Note 1 Note 18
Significant developments within the last 5 years that had or could have a material impact on earnings or interest rates to borrowers, acquisitions or dispositions of material assets, material changes in the manner of conducting business, seasonal characteristics, concentration of assets, and dependence, if any, upon a single customer or a few customers.	Management's Discussion and Analysis Notes to Financial Statements.....	Pages 31 to 69 Pages 78 to 123
Description of Property		
Location of Property CoBank leases its national office building which is located in Greenwood Village, Colorado. CoBank also leases various facilities which are described on the inside back cover of this Annual Report to Shareholders. CoBank leases banking center offices in Ames, IA; Atlanta, GA; Austin, TX; Enfield, CT; Fargo, ND; Louisville, KY; Lubbock, TX; Minneapolis, MN; Omaha, NE; Rocklin, CA; Spokane, WA; Sterling, CO; St. Louis, MO; and Wichita, KS. CoBank leases office space in Washington D.C. and Singapore. Farm Credit Leasing Services Corporation leases its headquarters office in Minneapolis, MN, as well as outside sales offices in Atlanta, GA; Celina, OH; Enfield, CT; Louisville, KY; Lubbock, TX; New Smyrna Beach, FL; Omaha, NE; Rocklin, CA; St. Louis, MO and Wichita, KS, some of which are located in CoBank banking centers.	Office Locations	Inside Back Cover
CoBank has a national charter and, as a result, serves customers across rural America. Travel to customer locations may be difficult due to the rural nature of many of our customers' operations. In order to provide the appropriate level of customer contact and to optimize the efficiency of management travel, CoBank utilizes a variety of transportation to serve its customers, including aircraft (both commercial and fractional interest).		
Legal Proceedings and Enforcement Actions	Notes to Financial Statements.....	Note 15
Description of Capital Structure	Notes to Financial Statements.....	Note 7
Description of Liabilities		
Debt Outstanding	Notes to Financial Statements.....	Notes 5 and 6
Contingent Liabilities	Notes to Financial Statements.....	Note 15
Selected Financial Data for the Five Years Ended December 31, 2018	Five-Year Summary of Selected Consolidated Financial Data.....	Page 33
Management's Discussion and Analysis of Financial Condition and Results of Operations	Management's Discussion and Analysis.....	Pages 31 to 69
Directors and Senior Officers		
Directors' Information	Board of Directors Disclosure.....	Pages 139 to 152
Senior Officers' Information	Senior Officers.....	Pages 153 to 167
Transactions with Directors and Senior Officers	Notes to Financial Statements.....	Note 13

Annual Report to Shareholders Disclosure Information Required by Farm Credit Administration Regulations

CoBank, ACB

(Unaudited)

	Section	Location
Involvement in Certain Legal Proceedings		
There were no matters that came to the attention of the Board of Directors or management regarding the involvement of current directors or senior officers in specified legal proceedings which are required to be disclosed.		
Relationship with Independent Auditors		
There has been no change in independent auditors or no disagreements on any matters of accounting principle or financial statement disclosure during the period.		
Financial Statements		
Financial Statements and Footnotes	Financial Information.....	Pages 72 to 123
Report of Management		
	Report of Management	Page 124
Report of Independent Auditors		
	Report of Independent Auditors.....	Pages 70 to 71
Aggregate Fees Incurred for Services Rendered by Independent Auditors		
	Board of Directors Disclosure.....	Page 141
Credit and Services to Young, Beginning, and Small Farmers and Ranchers and Producers or Harvesters of Aquatic Products		
	Young, Beginning, and Small Farmers	Page 170
Unincorporated Business Entities		
	Unincorporated Business Entities	Page 171
Regulatory Capital Disclosures		
	Regulatory Capital Disclosures.....	Pages 129 to 138
FCL Titling Trust Assets		
	FCL Titling Trust Assets	Page 172

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

Overview

As described in “New Capital Regulations” beginning on page 62 of this annual report, the Farm Credit Administration (FCA) adopted final rules (the New Capital Regulations) relating to regulatory capital requirements for the Farm Credit System (System) in 2016, which took effect January 1, 2017. The New Capital Regulations include public disclosure requirements set forth in Title 12 of the Code of Federal Regulations parts 628.61 through 628.63.

The following table summarizes the annual disclosure requirements and indicates where each matter is disclosed in this annual report.

Disclosure Requirement	Description	2018 Annual Report Reference
Scope of Application	Corporate entity and consolidated subsidiaries	Page 129
	Description of entity consolidation	Page 129
	Restrictions on transfers of funds or capital	Page 129
Capital Structure	Terms and conditions of capital instruments	Note 7 - Pages 95 to 97; Page 130
	Regulatory capital components	Page 130
Capital Adequacy	Capital adequacy assessment	Pages 63 to 64
	Risk-weighted assets	Page 131
	Regulatory capital ratios	Page 63; Note 7 - Page 97
Capital Buffers	Quantitative disclosures	Pages 62 to 63, 131
Credit Risk	Credit risk management and policies	Pages 43 to 45
	Summary of exposures	Page 132
	Geographic distribution	Pages 133 to 134
	Industry distribution	Page 134
	Contractual maturity	Page 135
	Impaired loans and allowance for credit losses	Note 1 - Pages 79 to 80; Note 3 - Pages 84 to 89
Counterparty Credit Risk-Related Exposures	General description	Pages 48 to 49, 135
	Counterparty exposures	Note 11 - Pages 106 to 112; Page 135
Credit Risk Mitigation	General description	Pages 131, 136
	Exposures with reduced capital requirements	Note 11 - Pages 106 to 112; Pages 40, 46, 47 to 49, 131, 136
Securitization	General description	Pages 47, 137 to 138
	Securitization exposures	Pages 60 to 61, Note 4 - Pages 90 to 93; Note 12 - Pages 113 to 117; Pages 137 to 138
Equities	General description	Pages 131, 138
Interest Rate Risk for Non-Trading Activities	General description	Pages 49 to 52, 138
	Interest rate sensitivity	Page 52

Scope of Application

The disclosures contained herein relate to CoBank, ACB and its wholly-owned subsidiaries, CoBank, FCB and Farm Credit Leasing Services Corporation (FCL), collectively hereinafter referred to as CoBank or the Bank. These entities are also consolidated in our financial statements prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). There are no consolidated entities for which any capital requirement is deducted from the Bank’s total regulatory capital nor are there restrictions on transfers of funds or total capital with the entities described above. FCL is required to comply with the capital regulations on a standalone basis, but it is not required to make the disclosures contained herein for CoBank as a whole. FCL’s capital ratios exceeded the minimum regulatory requirements at December 31, 2018.

In conjunction with other System entities, the Bank jointly owns the following service organizations: the Federal Farm Credit Banks Funding Corporation (Funding Corporation), the FCS Building Association (FCSBA) and the Farm Credit System Association Captive Company (Captive). The investments in the Funding Corporation and the FCSBA are deducted from capital because only the institution that issued the equities may count the amount as capital. The Bank’s investment in the Captive and certain investments in unincorporated business entities are included in risk-weighted assets and are not deducted from any capital component, in accordance with FCA regulations.

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

Capital Structure

Common equity tier 1 capital, which includes common stock and retained earnings, is the largest component of the Bank's capital structure. Preferred stock is included in total tier 1 regulatory capital, subject to certain limitations. Refer to Note 7 to the consolidated financial statements in this annual report for information on the terms and conditions of the main features of our common stock and preferred stock. Our allowance for credit losses is included in tier 2 regulatory capital, subject to certain limitations. See Note 1 to the consolidated financial statements in this annual report for a description of our allowance for credit losses. The following table provides a summary of the Bank's regulatory capital components.

Regulatory Capital Components		Average Balance
Three Months Ended December 31, 2018		
Common Equity Tier 1 Capital (CET1)		
Common Cooperative Equities:		
Statutory Minimum Purchased Borrower Stock	\$	2,484
Other Required Member Purchased Stock		719,933
Allocated Equities:		
Qualified Allocated Equities Subject to Retirement		2,529,751
Nonqualified Allocated Equities Subject to Retirement		-
Nonqualified Allocated Equities Not Subject to Retirement		2,712,709
Unallocated Retained Earnings		2,582,725
Paid-In Capital		-
Regulatory Adjustments and Deductions Made to CET1		(66,705)
Total CET1	\$	8,480,897
Tier 1 Capital		
Non-Cumulative Perpetual Preferred Stock	\$	1,500,000
Regulatory Adjustments and Deductions Made to Tier 1 Capital		-
Total Additional Tier 1 Capital		1,500,000
Total Tier 1 Capital	\$	9,980,897
Tier 2 Capital		
Common Cooperative Equities Not Included in CET1	\$	-
Tier 2 Capital Elements:		
Allowance for Credit Losses		691,805
Regulatory Adjustments and Deductions Made to Tier 2 Capital		-
Total Tier 2 Capital	\$	691,805
Total Capital	\$	10,672,702

A reconciliation of total shareholders' equity in our consolidated balance sheet to total regulatory capital is presented below.

Reconciliation to the December 31, 2018 Consolidated Balance Sheet	
Total Shareholders' Equity	\$ 9,534,933
Adjustments to Regulatory Capital:	
Accumulated Other Comprehensive Loss	363,104
Regulatory Adjustments and Deductions Made to CET 1	(66,705)
Tier 2 Allowance and Reserve	703,240
Total Capital	\$ 10,534,572 ⁽¹⁾

⁽¹⁾ The amount of total capital presented in the Regulatory Capital Components table above is the three-month average daily balance used in calculating capital ratios, as required by FCA regulations, whereas this amount is the amount outstanding as of December 31, 2018.

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

Capital Adequacy and Capital Buffers

The Bank's approach to assessing the adequacy of its capital to support current and future activities is described in "Capital Adequacy and Business Planning" beginning on page 63.

Our risk-adjusted regulatory capital ratios are calculated by dividing the relevant total capital elements (e.g. Total CET1) by risk-weighted assets. The following table presents information on the components of risk-weighted assets included in the calculation of regulatory capital ratios.

Risk-Weighted Assets		Average
Three Months Ended December 31, 2018		Balance
On-Balance Sheet Assets:		
Exposures to Sovereign Entities	\$	-
Exposures to Supranational Entities and Multilateral Development Banks		160,537
Exposures to Government-Sponsored Enterprises		11,862,797 ⁽¹⁾
Exposures to Depository Institutions, Foreign Banks, and Credit Unions		3,565,626 ⁽²⁾
Exposures to Public Sector Entities		57,649
Corporate Exposures, including Borrower Loans and Leases		40,671,450
Residential Mortgage Exposures		-
Past Due and Nonaccrual Exposures		543,803
Securitization Exposures		1,601,788
Equity Investment Exposures		24,777
Other Assets		591,353
Off-Balance Sheet:		
Commitments		8,236,415
Over-the-Counter Derivatives		118,631
Cleared Derivative Transactions		502
Letters of Credit		1,063,156
Unsettled Transactions		-
Total Risk-Weighted Assets Before Additions (Deductions)	\$	68,498,484
Additions:		
Intra-System Equity Investments	\$	66,705
Deductions:		
Regulatory Adjustments and Deductions Made to CET1		(66,705)
Regulatory Adjustments and Deductions Made to Additional Tier 1 Capital		-
Regulatory Adjustments and Deductions Made to Tier 2 Capital		-
Total Risk-Weighted Assets	\$	68,498,484 ⁽³⁾

⁽¹⁾ Includes exposures to Farm Credit System entities.

⁽²⁾ Also includes exposures to other financial institutions that are risk-weighted as exposures to U.S. depository institutions and credit unions.

⁽³⁾ For purposes of calculating the permanent capital ratio, average risk-weighted assets for the three months ended December 31, 2018 was \$67.9 billion.

As shown on page 63 of this annual report, the Bank exceeded all capital requirements as of December 31, 2018 to which it was subject, including applicable capital buffers. Because capital exceeded the buffer requirements, the Bank currently has no limitations on its distributions and discretionary bonus payments. The aggregate amount of eligible retained income was \$579.4 million as of December 31, 2018.

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

Credit Risk

For discussion related to CoBank's credit risk management and policies see "Credit Risk Management" beginning on page 43 of this annual report. Refer to "Impaired Loans" in Note 1 to the consolidated financial statements in this annual report for qualitative disclosures including the definition of impaired loans and related policies. Refer to "Allowance for Loan Losses and Reserve for Unfunded Commitments" in Note 1 to the consolidated financial statements in this annual report for a description of the methodology used to estimate our allowance for loan losses and our policy for charging-off uncollectible amounts.

The following table summarizes credit exposures related to loans, unfunded loan commitments, investment securities and letters of credit. The contractual amount of a commitment to extend credit represents our maximum exposure to credit loss in the event of default by the borrower, if the borrower were to fully draw against the commitment.

Major Credit Exposures - Lending and Investments

Three Months Ended and As of December 31, 2018	Average Balance	End of Period
Loans Outstanding	\$ 101,712,691	\$ 104,493,855
Unfunded Loan Commitments	31,237,573	27,331,922
Investment Securities	29,100,809	31,291,720
Letters of Credit	1,298,535	1,220,469

The table below shows derivatives by underlying exposure type, segregated between contracts traded in over-the-counter markets and those cleared through a central clearinghouse. Gross positive fair value represents the credit exposure attributed to derivatives before the mitigating effects of counterparty collateral.

Major Credit Exposures - Derivatives

Three Months Ended and As of December 31, 2018	Average Balance		End of Period	
	Notional Amount	Gross Positive Fair Value	Notional Amount	Gross Positive Fair Value
Over-the-Counter Derivatives:				
Interest Rate Contracts	\$ 19,366,944	\$ 236,504	\$ 20,173,594	\$ 199,569
Foreign Exchange Contracts	113,530	536	84,800	652
Total Over-the-Counter Derivatives	\$ 19,480,474	\$ 237,040	\$ 20,258,394	\$ 200,221
Cleared Derivatives:				
Interest Rate Contracts	12,519,191	41,987	12,665,810	55,705
Total Derivatives	\$ 31,999,665	\$ 279,027	\$ 32,924,204	\$ 255,926

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

The following table illustrates the geographic distribution of our total loan commitments as of December 31, 2018.

Total Lending Portfolio - Geographic Distribution		
As of December 31, 2018	Wholesale Loans⁽¹⁾	Commercial Loans
California	41 %	7 %
Washington	18	1
Texas	6 ⁽²⁾	6
Connecticut	11	1
Kansas	6	5
Illinois	-	6
Minnesota	-	5
Iowa	-	5
Oklahoma	4	2
Colorado	3	3
Asia	-	4
Ohio	-	3
Nebraska	-	3
Florida	-	3
Missouri	-	3
Latin America	-	3
Pennsylvania	3 ⁽²⁾	1
Georgia	-	3
Wisconsin	-	3
North Dakota	-	2
Indiana	-	3
New York	-	2
New Mexico	2	-
North Carolina	-	2
Mississippi	1 ⁽²⁾	2
Arkansas	-	2
South Dakota	-	2
Virginia	-	2
Utah	2	-
Tennessee	-	1
Europe, Middle East and Africa	-	1
New Jersey	-	1
Massachusetts	-	1
Michigan	-	1
Arizona	-	1
Other	3 ⁽²⁾	10
Total	100 %	100 %

⁽¹⁾ The distribution of wholesale loan commitments to Associations is based on the state in which the Association is headquartered and may not be representative of their underlying loan portfolio.

⁽²⁾ Includes participation interests in loan commitments to nonaffiliated Associations.

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

The following table illustrates the geographic distribution of our impaired loans as of December 31, 2018.

Impaired Loans - Geographic Distribution	
As of December 31, 2018	Share⁽¹⁾
Oregon	26 %
Colorado	24
Arkansas	10
Michigan	7
Oklahoma	6
Wyoming	5
Wisconsin	4
Washington	3
Missouri	3
New Jersey	2
Arizona	2
North Carolina	1
California	1
Other	6
Total	100 %

⁽¹⁾ The distribution of impaired loans is based on the state in which the borrower is headquartered and may not be representative of their operations and business activities.

The following table illustrates the primary business/commodity distribution of our outstanding loans as of December 31, 2018.

Total Lending Portfolio - Distribution by Primary Business/Commodity	
As of December 31, 2018	Share
Affiliated Associations	44 %
Farm Supply and Grain Marketing	10
Electric Distribution	8
Agricultural Export Finance	6
Nonaffiliated Entities	5
Generation and Transmission	3
Lease Financing (through FCL)	3
Fruits, Nuts and Vegetables	3
Forest Products	2
Fish, Livestock and Poultry	2
Independent Power Producers	2
Dairy	2
Regulated Utility	2
Water and Wastewater	2
Local Exchange Carriers	1
Wireless	1
Competitive Local Telephone Exchange Carriers	1
Cable	1
Sugar and Related Products	1
Other	1
Total	100 %

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

The following table presents a summary of the remaining contractual maturity of our loans, unfunded commitments, investment securities, letters of credit and derivatives at December 31, 2018.

(\$ in Millions)

Contractual Maturity				
As of December 31, 2018	In One Year or Less	One to Five Years	After Five Years	Total
Loans Outstanding	\$ 64,460	\$ 16,356	\$ 23,678	\$ 104,494
Unfunded Loan Commitments	14,081	6,955	6,296	27,332
Investment Securities	3,997	13,797	13,498	31,292
Letters of Credit	188	525	507	1,220
Derivatives (Notional Amounts)	4,205	19,076	9,643	32,924

Refer to Note 3 to the consolidated financial statements in this annual report for amounts of impaired loans (with or without related allowance for credit losses), loans in nonaccrual status and greater than 90 days past due, loans past due greater than 90 days and still accruing interest, the allowance for credit losses, charge-offs, and changes in components of our allowance for credit losses.

Counterparty Credit Risk

The use of derivative instruments exposes us to counterparty credit risk. Generally, when the fair value of a derivative contract is positive, we are exposed to credit risk. Our counterparty credit risk arising from derivative transactions is managed within credit methodologies and limits approved by the CoBank Loan Committee (CLC). Credit risk limits are established based on potential future exposure. Customer derivative transactions are typically secured through our loan agreements. For non-customer derivatives not cleared through a central clearinghouse, we minimize this risk by diversifying our derivative positions among various financial institution counterparties, using master netting agreements, and requiring collateral with zero thresholds and daily posting to support credit exposures with active counterparties. We evaluate the creditworthiness of each counterparty, establishing individual credit exposure limits, and deal exclusively with derivative counterparties that have an investment grade credit rating from a major credit rating agency. Credit exposure limits are determined using a risk rating methodology established by the CLC. Credit ratings are developed and exposure limits are established no less than annually and reflect our assessment of the creditworthiness of each counterparty. The Bank uses an internal model to determine the potential future exposure of over-the-counter derivatives which is used to measure compliance with established exposure limits. In addition, we monitor counterparty credit default swap spreads and other market-related information which may indicate reduced creditworthiness of a counterparty. Credit default swap spreads are taken into account in establishing counterparty limits.

Our over-the-counter derivative contracts require the Bank or its counterparties to post cash or securities as collateral when the fair values of the derivatives change based on changes in interest rates. The collateral exchanged between parties occurs daily with zero posting thresholds for all counterparties. Likewise, the Bank is required to pledge initial margin and make daily settlement payments related to our cleared derivative transactions. As a result of these derivative contracts, we are exposed to liquidity risk when changes in interest rates require us to post collateral to our counterparties, or make settlement payments for changes in the fair value of cleared derivatives. A downgrade in our creditworthiness would not result in additional collateral requirements for the Bank.

The fair value of collateral assets and liabilities related to derivative contracts is their face value, plus accrued interest, as these instruments are cash balances; therefore, fair value approximates face value.

Refer to Note 11 to the consolidated financial statements in this annual report for information related to derivative financial instruments utilized by CoBank including a summary of the fair value of derivative assets and liabilities, collateral held and net unsecured exposure.

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

Credit Risk Mitigation

CoBank uses various strategies to mitigate credit risk in its lending, leasing, investing and derivatives activities. The disclosures in this section relate solely to credit risk mitigation instruments and activities that reduce regulatory capital requirements, which include certain guarantees in our lending and investment portfolios, and collateral or settlement payments in our derivatives portfolio.

Loans

Our Agricultural Export Finance Division (AEFD) utilizes the U.S. government-sponsored export loan guarantee General Sales Manager (GSM) program for a portion of its export financing. Refer to the Operating Segment Financial Review section on page 40 of this annual report for additional discussion related to our AEFD.

As discussed on pages 46 and 47 of this annual report, our loans to affiliated Associations are collateralized by substantially all of the Association assets. In addition, the earnings, capital and loan loss reserves of the Associations provide additional layers of protection against losses in their respective retail loan portfolios. Lower regulatory capital requirements are commensurate with the lower risk profile associated with our loans to affiliated Associations.

Investments

As described in “Credit Risk Related to Investments and Derivatives” beginning on page 47 of this annual report, credit risk in our investment portfolio is mitigated by investing primarily in securities issued or guaranteed by the U.S. government or a government-sponsored enterprise (U.S. Agency). Credit risk in our investment portfolio primarily exists in investment securities that are not guaranteed by the U.S. government or a U.S. Agency, which include our certificates of deposit, non-agency mortgage-backed securities (MBS), corporate bonds and asset-backed securities (ABS). Excluding the \$975.0 million of certificates of deposit with counterparties that carry the highest short-term credit rating, these securities collectively total 5 percent of our total investment portfolio as of December 31, 2018. With the exception of corporate bonds, which are risk-weighted based on the corporate counterparty, these exposures are captured in the Securitization section below.

The following table summarizes the loan and investment exposures whose capital requirements are reduced as a result of credit risk mitigants.

Loan and Investment Exposures		
	Average Exposure Amount	Risk Weighted Exposures
Three Months Ended December 31, 2018		
Guaranteed Loans under the GSM program	\$ 1,062,136	\$ -
Loans to Farm Credit System entities	49,649,799	9,929,960
Investment Securities Issued or Guaranteed by U.S. Government	18,873,738	-
Investment Securities Issued or Guaranteed by a U.S. Agency	9,664,188	1,932,837
Total	\$ 79,249,861	\$ 11,862,797

Derivatives

As described in Note 11 to the consolidated financial statements in this annual report, transactions with dealers in our over-the-counter derivative portfolio as well as those cleared through a clearinghouse are collateralized or otherwise secured through settlement payments. As a result, at December 31, 2018, we held financial collateral totaling \$99.2 million that offset derivative exposure for purposes of calculating risk-weighted assets. Total risk-weighted assets for our over-the-counter derivatives and cleared derivative transactions amounted to \$118.6 million and \$0.5 million, respectively, for the three-month period ended December 31, 2018.

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

Securitization

The Bank participates in securitizations as investors through the purchase of MBS and ABS, which are included in our investment portfolio. As of December 31, 2018, CoBank did not retain any resecuritization exposures. The following disclosures relate only to MBS and ABS not guaranteed by the U.S. government or a U.S. Agency. The average balance of these unguaranteed securities was \$1,130 million for the three-month period ended December 31, 2018.

We are subject to liquidity risk with respect to these securitization exposures. In volatile market conditions, it could be difficult to sell such investments, if the need arises, and the discounts from face value would likely be significant. 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 our investments may differ significantly from the values that would have been used had a ready market existed for the investments.

We monitor the credit and market risk of these exposures under policies established by our Asset and Liability Committee. Such policies, which apply to our total investment portfolio as described above, include regularly assessing, among other factors, changes in interest rates and credit ratings to evaluate potential negative impacts to cash flows expected to be collected from these investment securities.

For our non-agency MBS and ABS, CoBank has elected to utilize the Gross Up risk-based capital approach. Therefore, certain of our non-agency MBS and ABS are risk-weighted on an individual security level utilizing the Gross Up approach as outlined in FCA regulations.

Below is a summary of our securitization exposures held during the three months ended December 31, 2018 by exposure type and categorized by risk-weight band.

Securitization Exposures			
	Average Exposure Amount		Risk Weighted Asset (Under Gross Up Approach)
Three Months Ended December 31, 2018			
Non-Agency Residential MBS	\$ 12,974	\$	25,836
Asset-Backed Securities	1,117,430		1,575,952
Total	\$ 1,130,404	\$	1,601,788

Securitization Risk-Weight Bands			
	Average Exposure Amount		Risk Weighted Asset
Three Months Ended December 31, 2018			
Gross-Up Risk-Weight Bands:			
100% - 125%	\$ 505,172	\$	533,301
>125% and <1,250%	624,119		1,054,574
1,250%	1,113		13,913
Total	\$ 1,130,404	\$	1,601,788

For the three-month period ended December 31, 2018, we did not hold any off-balance sheet securitization exposures nor were any securitization exposures deducted from capital.

Regulatory Capital Disclosures

CoBank, ACB

(Unaudited) (\$ in Thousands, Except as Noted)

Refer to “Liquidity and Capital Resources” beginning on page 60 for additional information related to purchases and sales of securitization exposures. Refer to Note 4 to the consolidated financial statements in this annual report for the amortized cost, unrealized gains (losses) and fair value of MBS and ABS held in our investment portfolio. In addition, Note 12 to the consolidated financial statements in this annual report describes the methods and assumptions, including any changes as applicable, applied in valuing our MBS and ABS.

Equities

The Bank does not have significant exposure to equity investments. We are a limited partner in certain Rural Business Investment Companies (RBICs). These RBICs focus on small and middle market companies that create jobs and prosperity in rural America. CoBank also holds investments in various unincorporated business entities (UBEs), as defined by FCA regulation. We hold these investments to acquire and manage unusual or complex collateral associated with loan workouts as well as to make mission-related investments. Our investments in RBICs and UBEs are not publicly traded and are accounted for under the equity method. There have been no sales or liquidations of these investments during the three months ended December 31, 2018.

Interest Rate Risk

Interest rate risk, also referred to as market risk, is the risk that changes in interest rates may adversely affect operating results and financial condition. Refer to “Market Risk Management” beginning on page 49 of this annual report for a description of our primary interest rate risks and strategies used to mitigate those risks. The impact of interest rate changes on net interest income and the market value of equity are summarized in the tables found on page 52 of this annual report.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Directors

At year-end 2018, CoBank was governed by a 24-member Board of Directors including 21 directors elected by customers from six different geographic regions. There were two vacant seats on the Board due to the resignation of elected directors Scott H. Whittington in September 2018 and Richard W. Sitman in December 2018. The Board has selected two outside directors (independent of any customer or Farm Credit System affiliation) and one appointed director (customer affiliation permitted) to complement the expertise of the customer-elected Board members.

Director terms run for four years. Employees of Farm Credit System institutions, including CoBank, cannot serve on CoBank's Board of Directors within one year of employment.

In 2015, shareholders approved bylaw amendments implementing a plan to reduce the size of the Board of Directors. Pursuant to the plan, which began to take effect in 2016, a total of 10 Board seats will be eliminated by 2020, reducing the number of elected directors on the Board from 24 to 14. The Board will also have up to four appointed directors and will continue to have two outside directors with no customer or Farm Credit System affiliations.

Director Independence

The Board must be composed at all times of at least 75 percent of directors who are deemed to be independent. The Board has adopted standards to assist it in making the annual affirmative determination of each director's independence status. A director will be considered "independent" if he or she meets the 14 criteria for independence set forth by the Board, which were established based upon leading industry practice and, in part, the listing standards of the New York Stock Exchange. For example, the loans from CoBank to an affiliated Association or Title III customer, as defined by the Farm Credit Act, where a CoBank director is also a director must not comprise more than 15 percent of the total loans of CoBank. In addition, the Board has made a determination as to each independent director that no relationship exists which, in the opinion of the Board, would interfere with the exercise of independent judgment in carrying out the director's responsibilities. In making these determinations, the Board reviewed and discussed information provided by the directors and by CoBank with regard to each director's business and personal activities as they may relate to CoBank and CoBank's management. As of December 31, 2018, all directors were considered to be independent.

Information About Committees of the Board of Directors

The standing Board committees consist of the following: an Audit Committee, a Compensation and Human Resources Committee, an Executive Committee, a Governance Committee and a Risk Committee. The Board has adopted written charters for each of these committees. The full text of each charter is available on our website at www.cobank.com.

All standing Board committees report on their meetings at the regular meeting of the full Board. Minutes of each committee meeting are signed by the committee chair and recording secretary, or another individual acting in their place at the meeting.

In 2018, the Board of Directors held a total of seven meetings and standing committees of the Board of Directors held a total of 35 meetings. The primary responsibilities of each committee are described on the following pages.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Standing Committees

Audit Committee

The Audit Committee members are appointed by the Board chair in consultation with the Board officers and committee chairs. The Audit Committee is governed by a formal charter and chaired by one of the Board's outside directors. All members of the Audit Committee are independent of management of the Bank and any other System entity. During 2018, the Audit Committee met a total of six times, including regular meetings in executive session with the head of the Internal Audit Division, the head of the Asset Review Division, and the Bank's independent auditors. The Audit Committee reviews and approves the quarterly and annual financial statements.

During 2018, William M. Farrow, III served as Chair of the Audit Committee. The Board of Directors determined that Mr. Farrow had the qualifications and experience necessary to serve as the "Audit Committee financial expert," as defined by the rules of the Securities and Exchange Commission and the FCA, and he was so designated. The Board also designated Michael S. Brown as an "Audit Committee financial expert" during 2018.

The primary purpose of the Audit Committee is to assist the Board in fulfilling its oversight responsibilities by carrying out the following responsibilities:

- (1) Overseeing management's conduct of the Bank's financial reporting process and systems of internal accounting and financial controls;
- (2) Monitoring the independence and performance of the Bank's internal audit and asset review functions, the risk assessment process, and the independent auditors;
- (3) Ensuring the Bank's compliance with legal and regulatory requirements;
- (4) Providing an avenue of communication among the independent auditors, management and the Board; and
- (5) Performing those functions on behalf of, and serving as the Audit Committee for, the Bank's wholly-owned subsidiary, Farm Credit Leasing Services Corporation ("FCL").

Management has the primary responsibility for the consolidated financial statements and the financial reporting process, including the system of internal controls. The Audit Committee oversees the Bank's independent auditors, systems of internal accounting and financial controls, and financial reporting process on behalf of the Board of Directors. In this regard, the Audit Committee helps to ensure independence of the Bank's independent auditors, the integrity of management and the adequacy of disclosure to shareholders. The Audit Committee has unrestricted access to representatives of the Internal Audit Division, independent auditors and financial management.

The Audit Committee preapproves all audit and audit-related services and permitted non-audit services (including the fees and terms thereof) to be performed for the Bank by its independent auditors, as negotiated by management.

The Audit Committee reviewed the audited consolidated financial statements in the Annual Report for the year ended December 31, 2018 with management and the Bank's independent auditors. The independent auditors are responsible for expressing an opinion on the conformity of the Bank's audited consolidated financial statements with accounting principles generally accepted in the United States of America, including a discussion of the quality of the Bank's accounting principles, the reasonableness of significant judgments, the clarity of disclosures in the consolidated financial statements and the adequacy of internal controls. The Audit Committee discussed with the independent auditors the results of the 2018 audit and all other matters required to be discussed by Statements on Auditing Standards. In addition, the Audit Committee received, reviewed and discussed the written disclosures from the independent auditors regarding their independence. Based on the review and discussions described above, the Audit Committee recommended to the Board of Directors that the audited consolidated financial statements be included in the Bank's Annual Report for the year ended December 31, 2018 and for filing with the FCA.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Aggregate fees incurred by the Bank for services rendered by its independent auditors, PricewaterhouseCoopers LLP, for the years ended December 31, 2018 and 2017 were as follows:

Year Ended December 31,	2018	2017
Audit	\$ 1,563,500	\$ 1,298,350
Audit-related	240,000	20,000
All Other	2,700	2,700
Total	\$ 1,806,200	\$ 1,321,050

Audit fees were for the annual audit of the consolidated financial statements for 2018 and 2017.

Audit-related fees for 2018 were for attestation services in connection with internal control reviews. Both 2018 and 2017 included fees for assurance and related services associated with certain compliance procedures.

All other fees for 2018 and 2017 represent our annual subscription to accounting research tools as well as costs related to continuing education.

Compensation and Human Resources Committee

The Compensation and Human Resources Committee members are appointed by the Board chair in consultation with the Board officers and committee chairs. All members of the Compensation and Human Resources Committee are independent of management. The committee is primarily responsible for representing the Board in matters related to human capital, and total reward programs for the Bank, including salary, incentive and benefits programs, and in facilitating the terms of employment, compensation and evaluation of and succession planning for the Chief Executive Officer (CEO). The Compensation and Human Resources Committee has responsibility for monitoring succession planning for other senior leaders. The Compensation and Human Resources Committee also reviews the results of the Bank's affirmative action program and human equity initiatives.

Executive Committee

The Executive Committee members are appointed by the Board chair in consultation with the Board officers and committee chairs. The committee is primarily responsible for developing for Board consideration recommendations surrounding the design and implementation of the Bank's strategic plan. It acts on behalf of the Board between Board meetings when necessary. The Executive Committee is responsible for reviewing the Bank's budget and reports of operations, and for reviewing the capital adequacy plan and portfolio strategy. The committee reviews the Bank's annual business and financial plan and recommends such plan for approval by the Board. The committee also provides advice and counsel to the Board and management on policy matters related to capital and finance, and recommends to the Governance Committee capital bylaws and amendments for approval by the Board.

Governance Committee

The Governance Committee members are appointed by the Board chair in consultation with the Board officers and committee chairs. The committee is primarily responsible for monitoring and recommending for Board consideration corporate governance processes and structures that are consistent with leading practices for boards and board committees. The committee coordinates the annual Board self-evaluation and a periodic director peer evaluation. The committee also oversees the Bank's director nomination process, which is conducted by an independent Nominating Committee (see page 142), and director election process. In addition, the committee annually assesses the needs of the Board – taking into account the experience and background of current directors – and also recommends the appointment and reappointment of outside and appointed directors to the full Board.

Risk Committee

The Risk Committee members are appointed by the Board chair in consultation with the Board officers and committee chairs. The committee is primarily responsible for overseeing the enterprise risk management practices of the Bank, including management's ability to assess and manage the Bank's credit, market, interest rate, liquidity, operational, technological, strategic and reputation, and legal, regulatory and compliance risks. The committee also provides an open avenue of communication between management and the Board in order to effectively manage risks.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Other Committees

Nominating Committee

The Nominating Committee for 2018 consisted of 19 customer-owner representatives and two retired CoBank directors, all of whom were elected by the Bank's stockholders. No member of the Board or management served on the Nominating Committee. The Bank uses an independent Nominating Committee which is charged with the responsibility to identify qualified candidates for Board membership and to review director nominations, helping to ensure that the Bank continues to attract a highly qualified and diverse Board. The Nominating Committee seeks candidates who are recognized leaders and who fulfill specific needs for skill set, industry knowledge, and geographic and other forms of diversity on the Board. Customers are encouraged to submit resumes of candidates for elected positions. The Nominating Committee makes a best effort to recommend at least two candidates for each position up for election. Shareholders and interested candidates may gather signatures for petitions to run for the Board following the conclusion of the Nominating Committee's work. A nominee must not have reached age 70 on or prior to the date the term of office is to begin and must meet other eligibility requirements established by Bank bylaws and federal regulations.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

The following represents certain information regarding the directors as of December 31, 2018, including business experience during the past five years. The terms of directors are scheduled to expire as of December 31 of the years indicated.

1 – Audit Committee	4 – Governance Committee	8 – Executive Committee Chair
2 – Compensation and Human Resources Committee	5 – Risk Committee	9 – Governance Committee Chair
3 – Executive Committee	6 – Audit Committee Chair	10 – Risk Committee Chair
	7 – Compensation and Human Resources Committee Chair	

Name	Term Expires	Principal Occupation and Other Business Affiliations
Robert M. Behr ⁴	2020	<p>Principal Occupation:</p> <p>Chief Executive Officer: Citrus World, Inc., processing and marketing Florida’s Natural brand citrus juices, Lake Wales, FL (since September 2015);</p> <p>Chief Executive Officer: Citrus World Services, Inc., citrus marketing, Lake Wales, FL;</p> <p>Chief Executive Officer: Florida’s Natural Food Service, Inc., citrus marketing, Lake Wales, FL;</p> <p>Chief Executive Officer: Florida’s Natural Growers, Inc., citrus marketing, Lake Wales, FL;</p> <p>Chief Executive Officer: Hickory Branch Corporation, a citrus producer, Lake Wales, FL;</p> <p>Chief Executive Officer: World Citrus West, Inc., citrus packaging, Lake Wales, FL;</p> <p>Former Chief Operating Officer: Citrus World, Inc. (December 2009 through August 2015).</p> <p>Other Business Affiliations:</p> <p>Owner: Behr-Nolte, a citrus grove, Lakeland, FL;</p> <p>Owner: Behr Citrus Management Inc., a citrus grove, Lakeland, FL;</p> <p>Owner: CPI 3034 LLC, a citrus grove, Winter Haven, FL;</p> <p>Director/Vice President: CUPS Coop, Inc., a citrus producer, Bartow, FL;</p> <p>Chair: Florida’s Natural Growers Foundation, Inc., a nonprofit organization, Lake Wales, FL;</p> <p>Director: Fresh N Natural Foods (PTE LTD), a distributor of Florida’s Natural juice products, Republic of Singapore;</p> <p>Director: Graduate Institute of Cooperative Leadership, a non-profit organization providing executive education to cooperative leaders, Columbia, MO;</p> <p>Owner: MBN Property, a citrus grove, LaBelle, FL;</p> <p>Owner: Resurrection Grove LLC, a citrus grove, Winter Haven, FL;</p> <p>Owner: Summer Breeze Fruit Co., a citrus grove, Gainesville, FL;</p> <p>Director: Winter Haven Citrus Growers Association, citrus processing and marketing, Tampa, FL.</p>
Michael S. Brown ¹	2020	<p>Principal Occupation:</p> <p>Former Managing Director, Global Head of Multinational Coverage: J.P. Morgan Chase, a commercial bank, London, England (retired in June 2013).</p> <p>Other Business Affiliations:</p> <p>Owner/Manager: Bayswater LLC, a property management company, San Diego, CA.</p>

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Name	Term Expires	Principal Occupation and Other Business Affiliations
Russell G. Brown ⁵ Age: 60 Year Service Began: 2017	2020	Principal Occupation: Market Executive (Northern Neck Region): Union Bank & Trust, a commercial bank, Warsaw, VA. Other Business Affiliations: Owner: Cobham Hall Farm, grain and timber farm, Warsaw, VA; Director: Northern Neck Electric Cooperative, a rural electric distribution cooperative, Warsaw, VA; Officer: Richmond County Industrial Development Authority (IDA), an economic development organization, Warsaw, VA; Director: VA-MD-DE Association of Electric Cooperatives, a trade association, Richmond, VA; Officer: VA-MD-DE Association of Electric Cooperatives Educational Scholarship Foundation, a nonprofit organization, Richmond, VA.
M. Dan Childs ¹ Age: 68 Year Service Began: 2015	2018	Principal Occupation: Owner/Operator: a wheat and stocker cattle farming operation, Johnston County, OK; Senior Agricultural Consultant: Noble Research Institute, LLC, a nonprofit institution supporting agriculture, Ardmore, OK. Other Business Affiliations: Director: The Farm Credit Council, a national trade association, Washington, D.C.; Chair: Farm Credit Council Services, a service provider, Greenwood Village, CO; Director: Oklahoma AgCredit, ACA, an agricultural credit association, Broken Arrow, OK; Vice President/Director: Foundation for Livestock and Grain Marketing, a nonprofit organization, Lakewood, CO; Director: Johnston County Industrial Authority, an economic development association, Tishomingo, OK.
Everett M. Dobrinski ³ Age: 72 Year Service Began: 1999	2019	Principal Occupation: Owner/Former Operator: Dobrinski Farm, a cereal grain and oilseed farming operation, Makoti, ND (retired as operator in December 2018). Other Business Affiliations: Director: The Farm Credit Council, a national trade association, Washington, D.C.; Director: North Dakota Coordinating Council for Cooperatives, a trade association, Jamestown, ND.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Name	Term Expires	Principal Occupation and Other Business Affiliations
<p>William M. Farrow, III^{1,6}</p> <p>Age: 63</p> <p>Year Service Began: 2007</p>	2022	<p>Principal Occupation:</p> <p>Former Director, President and Chief Executive Officer: Urban Partnership Bank, a commercial bank, Chicago, IL (retired in December 2017);</p> <p>Owner: Winston and Wolfe LLC, a technology development and advisory company, Chicago, IL.</p> <p>Other Business Affiliations:</p> <p>Advisor: Cedar Street Asset Management LLC, an asset management firm, Chicago, IL;</p> <p>Director: Chicago Board Options Exchange, an options and volatility trading resource, Chicago, IL;</p> <p>Director: Echo Global Logistics, a provider of technology-enabled transportation and supply chain management services, Chicago, IL;</p> <p>Director: Federal Reserve Bank of Chicago, a federal depository bank, Chicago, IL;</p> <p>Director: NorthShore University Health System, a hospital system, Evanston, IL;</p> <p>Director: WEC Energy Group, an electric and natural gas distribution company, Milwaukee, WI.</p>
<p>Benjamin J. Freund³</p> <p>Age: 63</p> <p>Year Service Began: 2014</p>	2021	<p>Principal Occupation:</p> <p>Owner/Officer: Freund's Farm, Inc., a dairy farming operation, East Canaan, CT;</p> <p>Owner/Managing Member: CowPots, LLC, a manufacturer of biodegradable plantable pots, East Canaan, CT.</p> <p>Other Business Affiliations:</p> <p>Officer: Canaan Valley Agricultural Cooperative, Inc., a manure management cooperative, East Canaan, CT;</p> <p>Advisory Board Member: Connecticut Farmland Preservation Advisory Board, adviser to Connecticut Commissioner of Agriculture, Hartford, CT;</p> <p>Director: Federal Farm Credit Banks Funding Corporation, the issuer of Systemwide debt, Jersey City, NJ.</p>
<p>Andrew J. Gilbert⁵</p> <p>Age: 60</p> <p>Year Service Began: 2016</p>	2019	<p>Principal Occupation:</p> <p>Former Owner/Operator: Adon Farms Operations, LLC, a dairy farm and grain operation, Potsdam, NY (retired in January 2016);</p> <p>Former Owner/Operator: Adon Farms Real Estate Holdings, LLC, a real estate LLC, Potsdam, NY (retired in January 2016).</p> <p>Other Business Affiliations:</p> <p>Advisory Board Member: St. Lawrence County Development Study Advisory Board, a promoter of economic development, Massena, NY.</p>

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Name	Term Expires	Principal Occupation and Other Business Affiliations
Daniel T. Kelley ^{2,7} Age: 70 Year Service Began: 2004	2021	Principal Occupation: Owner/Operator: Kelley Farms, a corn and soybean farming operation, Normal, IL. Other Business Affiliations: Director: Global Farmer Network, a nonprofit organization, Des Moines, IA; Director: Illinois 4-H Foundation, a nonprofit organization, Urbana, IL; Chair: Illinois Agricultural Leadership Foundation, a nonprofit organization supporting agricultural leadership development, Bloomington, IL; Director: Midwest Grain, LLC, a grain merchandising company, Bloomington, IL; Director: Nationwide Bank, a federal savings bank, Columbus, OH; Director: Nationwide Mutual Insurance Company, an insurance company, Columbus, OH.
David J. Kragnes ^{4,9} Age: 66 Year Service Began: 2009	2020	Principal Occupation: Owner/Operator: David Kragnes Farm, a corn and bean row crop farming operation, Felton, MN; Former Owner: Kragnes Family Farm, an organic vegetable farming operation, Felton, MN. Other Business Affiliations: Director: The Farm Credit Council, a national trade association, Washington, D.C.; Advisory Board Member: Quentin Burdick Center for Cooperatives, a cooperative education center, Fargo, ND.
James R. Magnuson ¹ Age: 65 Year Service Began: 2013	2018	Principal Occupation: Former General Manager and Chief Executive Officer: Key Cooperative, an agricultural grain marketing and farm supply cooperative, Roland, IA (retired in March 2017). Other Business Affiliations: Director: ACDI-VOCA, an international development agency, Washington, D.C.
Jon E. Marthedal ³ First Vice Chair Age: 62 Year Service Began: 2013	2021	Principal Occupation: Owner/Operator: Marthedal Farms, a grape, raisin and blueberry farming operation, Fresno, CA; Owner/Operator: Keystone Blue Farms, LLC, a blueberry farming operation, Fresno, CA; Owner/Officer: Marthedal Enterprises Inc., a provider of farm management and custom agriculture services, Fresno, CA. Other Business Affiliations: Director: The Farm Credit Council, a national trade association, Washington, D.C.; President: California Blueberry Association, a state trade organization, Fresno, CA; Director: California Blueberry Commission, a state commission, Fresno, CA; Vice Chair: California Raisin Marketing Board, a state marketing board, Fresno, CA; Vice Chair: Raisin Administrative Committee, a federal marketing order, Fresno, CA; Director: Sun-Maid Growers of California, a raisin processing and marketing cooperative, Kingsburg, CA.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Name	Term Expires	Principal Occupation and Other Business Affiliations
<p>Catherine Moyer ²</p> <p>Age: 43</p> <p>Year Service Began: 2010</p>	2022	<p>Principal Occupation:</p> <p>Chief Executive Officer and General Manager: The Pioneer Telephone Association, Inc. (d/b/a Pioneer Communications), a telecommunications provider, Ulysses, KS;</p> <p>Chief Executive Officer: High Plains Telecommunications, Inc., a telecommunications provider, Ulysses, KS.</p> <p>Other Business Affiliations:</p> <p>Chair: Kansas Lottery Commission, providing oversight of Kansas lottery and games, Topeka, KS;</p> <p>Director: Rural Trust Insurance Company, a provider of property and casualty insurance to small telecommunications providers, Greenbelt, MD;</p> <p>Chair: Telcom Insurance Group, a provider of property and casualty coverage to small telecommunications providers, Greenbelt, MD;</p> <p>Advisory Council Member: Washburn University School of Law Alumni Association Board of Governors, a law school alumni association, Topeka, KS.</p>
<p>Alarik Myrin ⁴</p> <p>Age: 72</p> <p>Year Service Began: 2012</p>	2018	<p>Principal Occupation:</p> <p>President: Myrin Ranch, Inc., a ranching and farming operation, Altamont, UT;</p> <p>Managing Member: Myrin Livestock Co., LLC, a family cattle ranching operation, Altamont, UT;</p> <p>Managing Member: Myrin Investment Co., LLC., real estate rental management company, Altamont, UT;</p> <p>Managing Member: Canyon Meadows Ranch, LLC, retail and wholesale seller of grass fed beef, Altamont, UT.</p> <p>Other Business Affiliations:</p> <p>Director: Lake Fork Irrigation Co., a water irrigation company, Altamont, UT;</p> <p>Chair: Uintah Basin Medical Center, a hospital, clinic, rehabilitation center and nursing home facility, Roosevelt, UT;</p> <p>Director: Utah Hospital Association, an association providing services to hospitals and healthcare providers, Salt Lake City, UT;</p> <p>Director: Western Agrihaul, LLC, a trucking operation, Altamont, UT.</p>
<p>Ronald J. Rahjes ⁴</p> <p>Age: 67</p> <p>Year Service Began: 2012</p>	2019	<p>Principal Occupation:</p> <p>Officer: Wesley J. Rahjes and Sons, Inc., a diversified family farming corporation producing wheat, corn, soybeans and grain sorghum, Kensington, KS;</p> <p>Owner: R&C Tax Service, a tax preparation services firm, Kensington, KS;</p> <p>Owner: R&D Farms, a farming partnership producing wheat, corn, soybeans and grain sorghum, Kensington, KS.</p> <p>Other Business Affiliations:</p> <p>Director: Rural Telephone/Nextech, Inc., a telecommunications company, Lenora, KS.</p>

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Name	Term Expires	Principal Occupation and Other Business Affiliations
<p>David L. Reinders²</p> <p>Age: 62</p> <p>Year Service Began: 2011</p>	2018	<p>Principal Occupation:</p> <p>Former Chief Executive Officer: Ag Producers Co-op, a grain and farm supply cooperative, Sunray, TX (retired in August 2016);</p> <p>Former Consultant: Ag Producers Co-op, a grain and farm supply cooperative, Sunray, TX (retired in December 2016).</p>
<p>Kevin G. Riel^{3,8}</p> <p>Chair</p> <p>Age: 53</p> <p>Year Service Began: 2014</p>	2021	<p>Principal Occupation:</p> <p>President and Chief Executive Officer: Double 'R' Hop Ranches, Inc., a diversified farming operation primarily growing hops, together with apples, grapes and row crops, Harrah, WA;</p> <p>President and Chief Executive Officer: Tri-Gen Enterprises, Inc., an agricultural marketing company, Harrah, WA;</p> <p>Managing Partner: WLJ Investments, LLC, a land holding and management company, Harrah, WA.</p> <p>Other Business Affiliations:</p> <p>Director: Hop Growers of America, a trade association, Moxee, WA;</p> <p>Advisory Board Member: Nationwide Insurance Board Advisory Committee, an insurance company, Columbus, OH.</p>
<p>Clint E. Roush⁵</p> <p>Age: 71</p> <p>Year Service Began: 2012</p>	2018	<p>Principal Occupation:</p> <p>President: Clint Roush Farms, Inc., a wheat, alfalfa and stocker/feeder cattle farming operation, Arapaho, OK.</p> <p>Other Business Affiliations:</p> <p>Advisory Board Member: Bill Fitzwater Endowed Cooperative Chair, Oklahoma State University, promoting cooperative education, Stillwater, OK;</p> <p>Director: Custer County Cattlemen's Association, a trade association, Arapaho, OK;</p> <p>Director: Custer County Rural Water District, a water distribution organization, Custer City, OK;</p> <p>Chair: Farmers Cooperative Association of Clinton, OK, an agricultural marketing and supply cooperative, Clinton, OK.</p>
<p>Karen L. Schott⁴</p> <p>Age: 51</p> <p>Year Service Began: 2016</p>	2019	<p>Principal Occupation:</p> <p>Owner/Secretary/Treasurer: Bar Four F Ranch, Inc., a dryland, small grains and lease pasture farming operation, Broadview, MT.</p> <p>Other Business Affiliations:</p> <p>Director: Northwest Farm Credit Services, ACA, an agricultural credit association, Spokane, WA.</p>

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Name	Term Expires	Principal Occupation and Other Business Affiliations
Kevin A. Still ³ Second Vice Chair Age: 61 Year Service Began: 2002	2022	Principal Occupation: President and Chief Executive Officer: Co-Alliance, LLP, a partnership of five cooperatives supplying energy, agronomy and animal nutrition, and producing swine and marketing grain, Avon, IN; Chief Executive Officer and Treasurer: Midland Co-op, Inc., IMPACT Co-op, Inc., LaPorte County Farm Bureau Cooperative Association, Frontier Co-op, Inc., and Excel Co-op, Inc., agricultural retail cooperatives, Avon, IN; President: Michiana Agra, LLC, an agricultural retail cooperative, Constantine, MI. Other Business Affiliations: Officer: Agronomy Services, LLP, an agricultural retail organization, Fairmont, IN; Chair: Local Harvest Food, a food broker, Avon, IN; President: Northwind Pork, LLC, a pork producing operation, Kewanna, IN; Owner/President: Still Farms, LLC, a grain farm, Galesburg, IL; Director: Wholstone Farms II, LLC, a food company, Pipestone, MN.
Edgar A. Terry ^{5, 10} Age: 59 Year Service Began: 2016	2019	Principal Occupation: Owner/President: Terry Farms, Inc., a vegetable and strawberry farming operation, Ventura, CA; Owner/Officer: Amigos Fuerza, Inc., a provider of farm labor contracting, Ventura, CA; Owner/Vice President: Rancho Adobe, Inc., farmland real estate, Ventura, CA; Owner/Partner: Central AP, LLP, farmland real estate, Ventura, CA; Owner/Partner: JJE, LLC, farmland real estate, Ventura, CA; Owner/Officer: Moonridge Management, Inc., a provider of back office and HR consulting, Ventura, CA; Owner/President: Willal, Inc., a sales and marketing company, Ventura, CA; Senior Adjunct Professor: California Lutheran University, an educational institution, Thousand Oaks, CA. Other Business Affiliations: Advisory Board Chair: Center for Economic Research and Forecasting, an economic forecasting and fundraising advisory board, Thousand Oaks, CA; Director: Farm Credit System Audit Committee, providing financial audit oversight, Jersey City, NJ; Director: Limoneira Company, a publicly held agribusiness and real estate development Company, Santa Paula, CA; Vice Chair: Ventura County Fairgrounds Foundation, a nonprofit organization, Ventura, CA.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Name	Term Expires	Principal Occupation and Other Business Affiliations
Brandon J. Wittman ¹	2022	Principal Occupation: CEO and General Manager: Yellowstone Valley Electric Cooperative, Inc., an electric distribution cooperative, Huntley, MT. Other Business Affiliations: Customer Advisory Committee Member: Border States Electric, a utility material supply service provider, Bismark, ND; Manager's Advisory Committee Member: Central Montana Electric Power Cooperative, a wholesale power supplier, Great Falls, MT; Manager's Group Chair: Montana Electric Cooperatives Association, an electric cooperatives statewide association, Great Falls, MT.

Age: 48

Year Service Began: 2018

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

Compensation of Directors

For 2018, directors were compensated in cash at an annual rate of \$59,353, paid in quarterly installments, which was the maximum amount permitted by the FCA for CoBank directors. Directors may elect to defer payment of all or part of their director compensation in accordance with agreements and applicable law. Compensation is for attendance at Board meetings, certain other meetings preapproved by the Board, and special duties as assigned. Directors' compensation is reduced by \$2,500 for an unexcused absence at any regular Board meeting. FCA regulations also allow additional compensation to be paid to a director in exceptional circumstances where extraordinary time and effort are involved. In 2018, the Board approved additional compensation in excess of \$59,353 to the Board chair and the Audit Committee chair, and to certain other directors in recognition of greater than normal involvement in connection with special assignments and attendance at special Board and committee meetings. In addition, the Board also approved stipends to the Compensation and Human Resources, Governance and Risk Committee chairs for their service as committee chairs in 2018. Additional information for each director who served during 2018 is provided in the following table. Current CoBank policy regarding reimbursements for travel, subsistence and other related expenses states that for meetings designated by the Board and approved special assignments, Board members shall be reimbursed for reasonable travel and related expenses that are necessary and that support CoBank's business interests. As may be appropriate, CoBank may share in the reimbursement of expenses with other organizations. A copy of CoBank's policy is available to shareholders upon request to the Bank's Office of General Counsel. The aggregate amount of reimbursement for travel, subsistence and other related expenses for all directors as a group was \$474,427, \$658,727 and \$538,903 for the years ended December 31, 2018, 2017, and 2016, respectively.

Board of Directors Disclosure as of December 31, 2018

CoBank, ACB

The following table presents the number of days served at Board meetings and other official CoBank activities, and compensation paid to each director for the year ended December 31, 2018.

Name of Director	Number of Days Served at Board Meetings	Number of Days Served in Other Official CoBank Activities	Total Compensation Paid During 2018
Robert M. Behr	19	15	\$ 64,853
Michael S. Brown	19	25	60,353
Russell G. Brown	19	31	59,853
M. Dan Childs ⁽¹⁾	19	21	60,353
Everett M. Dobrinski ⁽¹⁾	19	15	59,853
William M. Farrow III ⁽³⁾	18	10	77,159
Benjamin J. Freund ⁽¹⁾	19	20	59,853
Andrew J. Gilbert	19	35	59,853
Daniel T. Kelley ⁽⁴⁾	16	22	63,353
David J. Kragnes ⁽¹⁾⁽⁵⁾	19	30	69,853
James R. Magnuson ⁽¹⁾	18	13	60,353
Jon E. Marthedal ⁽¹⁾	19	29	60,353
Catherine Moyer	19	26	60,853
Alarik Myrin	19	21	64,853
Ronald J. Rahjes	18	37	64,353
David L. Reinders	19	12	60,853
Kevin G. Riel ⁽²⁾	19	53	77,159
Clint E. Roush	19	32	59,853
Karen L. Schott	19	24	64,853
Richard W. Sitman ⁽⁸⁾	19	24	59,853
Kevin A. Still	19	17	60,353
Edgar A. Terry ⁽⁶⁾	19	11	62,353
Scott H. Whittington ⁽¹⁾⁽⁷⁾	15	19	44,515
Brandon J. Wittman	19	22	60,353
Total	446	564	\$ 1,496,246

⁽¹⁾ In 2018, these directors represented CoBank's interests by serving on the boards of various trade groups and other organizations important to the Bank. Days of service related to these activities and compensation received (if any) are not included in this report.

⁽²⁾ Mr. Riel received an additional 30% in compensation (\$17,806), the statutory maximum, for service as the Chair of the Board.

⁽³⁾ Mr. Farrow received an additional 30% in compensation (\$17,806), the statutory maximum, for service as the Chair of the Audit Committee.

⁽⁴⁾ Mr. Kelley received \$2,500 in additional compensation for service as the Chair of the Compensation and Human Resources Committee.

⁽⁵⁾ Mr. Kragnes received \$2,500 in additional compensation for service as the Chair of the Governance Committee.

⁽⁶⁾ Mr. Terry received \$2,500 in additional compensation for service as the Chair of the Risk Committee.

⁽⁷⁾ Mr. Whittington served on the Board for a portion of the year. He resigned from the Board in September 2018.

⁽⁸⁾ Mr. Sitman served on the Board for a portion of the year. He resigned from the Board in December 2018.

Senior Officers

CoBank, ACB

Thomas E. Halverson, President and Chief Executive Officer

Mr. Halverson, 54, was appointed president effective March 6, 2017 and has served as chief executive officer since January 1, 2017. Mr. Halverson is responsible for implementing the Bank's strategic and business direction as set by the Board of Directors. He serves as chairman on the Board of Directors of Farm Credit Leasing Services Corporation (FCL). Prior to his current position, Mr. Halverson was CoBank's chief banking officer. Before joining CoBank in July 2013, Mr. Halverson spent more than 15 years with Goldman Sachs, most recently as managing director and chief of staff for Goldman Sachs Bank USA. Prior to that he served in a variety of executive positions at the firm, including head of credit risk management for Goldman Sachs in Asia ex-Japan. Before joining Goldman Sachs, Mr. Halverson served as principal credit officer for country risk at the European Bank for Reconstruction and Development. Mr. Halverson serves on the Board of Directors of the Federal Farm Credit Banks Funding Corporation and is Vice Chairman of the National Council of Farmer Cooperatives.

Timothy M. Curran, Chief Risk Officer

Mr. Curran, 53, was appointed chief risk officer effective June 1, 2017. Mr. Curran is responsible for the Bank's risk management framework, including significant policies and practices, and leadership on overall risk governance and mitigation in areas including credit, operational, asset/liability, market, liquidity, and reputational risk. Prior to joining CoBank, Mr. Curran was the head of risk management for the Treasury and Trade Solutions business at Citigroup (Citi). Previously, Mr. Curran served in additional senior roles at Citi which included chief risk officer for Citi Holdings as well as senior global market and credit risk manager for Commodities Trading and the Power, Energy, Chemicals, Mining and Metals industry credit risk. Prior to joining Citigroup in 2003, he worked in risk management and other leadership roles for FleetBoston Financial Corp., BankBoston (both now Bank of America) and Cargill. Mr. Curran has more than 30 years of experience in the financial services and commodity markets. Mr. Curran received a commission as an officer in the U.S. Army achieving the rank of Captain. Mr. Curran is a Chartered Financial Analyst.

David P. Burlage, Chief Financial Officer

Mr. Burlage, 55, was appointed chief financial officer effective November 16, 2009. Mr. Burlage is responsible for directing the Bank's financial affairs and developing its overall financial position. He oversees the treasury, financial planning and analysis, capital planning, accounting, tax and reporting functions of the Bank. Prior to his current position, Mr. Burlage served as senior vice president of the Finance Division. Mr. Burlage began his career as an auditor with Arthur Andersen & Co. Mr. Burlage has over 33 years of financial experience. He serves as chairman of the Board of Governors of the Farm Credit System Association Captive Insurance Company, chairman of the Young Americans Center for Financial Education as well as on the Board of Advisors of University of Colorado Denver Business School. He is a licensed CPA in the State of Ohio and a member of the American Institute of Certified Public Accountants.

F. William Davis, Executive Vice President, Farm Credit Banking Group

Mr. Davis, 60, was appointed executive vice president of the Farm Credit Banking Group effective August 1, 2018. In this role, Mr. Davis is responsible for CoBank's relationships with our 22 affiliated Associations and other Farm Credit institutions and the Bank's Digital Business Solutions. Prior to his current position, Mr. Davis was CoBank's chief credit officer. Before joining CoBank in March 2017, Mr. Davis was chief credit officer for Farm Credit Services of America (FCSAmerica) and Frontier Farm Credit, a CoBank affiliated Association that operates under a strategic alliance with FCSAmerica. Previously, Mr. Davis was FCSAmerica's senior vice president of credit and before that director of credit underwriting. Prior to joining FCSAmerica, he held senior credit positions with Farm Credit Services of Western Missouri and the Farm Credit Bank of St. Louis. He began his career as an assistant vice president and branch manager with the Federal Land Bank Association in Missouri. He serves on the Board of Directors of AgVantis, Inc., a service provider to System Associations and the Board of Directors of FCL.

Senior Officers

CoBank, ACB

**Eric Itambo,
Chief Banking Officer**

Mr. Itambo, 48, was appointed chief banking officer effective July 1, 2018. He is responsible for all lending business segments, capital markets and banking services. Prior to joining CoBank, Mr. Itambo spent over 20 years with Citigroup, most recently as Managing Director and U.S. Head – Commercial Lending Management for Citigroup’s Global Commercial Banking Group. During this time, Mr. Itambo built extensive experience in corporate and investment banking, commercial banking and commercial real estate finance businesses, including risk and portfolio management.

**M. Mashenka Lundberg,
Chief Legal Officer and General Counsel**

Ms. Lundberg, 51, was appointed chief legal officer effective January 1, 2017 and has served as general counsel since February 18, 2014. She is responsible for all aspects of CoBank’s legal function, including providing legal counsel to all areas of CoBank’s business operations. Ms. Lundberg also oversees the Bank’s board relations function and the Legal and Loan Processing Division. Prior to joining CoBank, Ms. Lundberg was a partner with the law firm of Bryan Cave from 2012 to 2014. Prior to that time, Ms. Lundberg was a partner with the law firm of Holme Roberts & Owen and served as the firm’s General Counsel and also on the firm’s Executive Committee. She has extensive experience in the field of corporate law and represented a wide range of corporate clients in a variety of transactions during her career in private practice.

**Andrew D. Jacob,
Chief Regulatory, Legislative and Compliance Officer**

Mr. Jacob, 58, was appointed chief regulatory, legislative and compliance officer (CRLCO) effective February 1, 2015. As CRLCO, he is responsible for regulatory matters, government relations, compliance and corporate communications, as well as the Bank’s security program. Mr. Jacob also serves as CoBank’s ethics, compliance, and standards of conduct officer and is responsible for directing the administration of the director and associate standards of conduct programs under the oversight of the Board of Directors. Before joining CoBank in January 2011 as the executive vice president responsible for the Bank’s regulatory, legislative and compliance functions, Mr. Jacob spent nearly 25 years with the Farm Credit Administration, where he served in a variety of examination and policy leadership roles. He serves as Chairman for the Board of Directors of the National Cooperative Business Association CLUSA International. Mr. Jacob is a Chartered Financial Analyst.

**Robert L. O’Toole,
Chief of Staff and Chief Human Resources Officer**

Mr. O’Toole, 56, was appointed chief of staff effective January 1, 2017 and has served as chief human resources officer since February 1, 2015. He is responsible for day-to-day operations of the executive office and provides support to the president and chief executive officer regarding the identification and execution of key strategic priorities across the Bank. He also provides leadership and direction to the Bank’s human resources, organizational development, administrative services, and diversity, inclusion, and engagement programs and initiatives. Prior to serving as the chief human resources officer, he was the senior vice president of human resources from 2010 to 2015. Mr. O’Toole has more than 32 years of experience in business and human resources. Mr. O’Toole holds SPHR and SHRM-SCP human resource designations. Mr. O’Toole serves on the Board of Directors of the Mile High Chapter of The American Red Cross (Colorado and Wyoming region).

Senior Officers

CoBank, ACB

Michael L. Short, Chief Credit Officer

Mr. Short, 57, was appointed chief credit officer effective January 1, 2019. Mr. Short served as interim chief credit officer since August 2018. As chief credit officer, he is responsible for all of CoBank's credit approval and credit related administrative functions including loan approval, credit support and analysis, credit guidelines, credit training, loan compliance and monitoring, collateral audit and special assets. Prior to serving as the interim chief credit officer, he was the senior vice president of credit approvals from June 2017 to August 2018 and has held leadership positions in Capital Markets and Special Assets since joining CoBank in 2013. He began his financial services career with Bank of America, and went on to John Hancock, where he held several senior positions during his eleven years there, including five years managing the special assets teams. Mr. Short has more than 25 years of financial services experience.

Robert F. West, Executive Vice President Infrastructure Banking

Mr. West, 60, was appointed head of the Infrastructure Banking Group effective January 1, 2017. He is responsible for delivering credit and other financial services to the Bank's rural electric, water, communications and community facilities customers. Previously, Mr. West was the head of CoBank's Communications Banking Division. Before joining CoBank in 1996, Mr. West spent six years with Shawnut National Bank where he served as director/team leader for lending to the communications and media industries. Mr. West has more than 34 years of experience in commercial banking and lending covering a broad range of communications, infrastructure and media businesses.

Ann E. Trakimas, Chief Operating Officer

Ms. Trakimas, 62, was appointed chief operating officer effective January 3, 2011. Ms. Trakimas is responsible for oversight of the Bank's Operations and Information Technology divisions. She also oversees the Business Transformation Services group which includes the disciplines of data strategy, process excellence, business analysis, project execution and change management. Before joining CoBank, Ms. Trakimas served as a director on the board of the Federal Farm Credit Banks Funding Corporation for six years. There she chaired the Audit Committee and was a member of the System Audit Committee. Prior to that, Ms. Trakimas worked for Goldman Sachs where she held numerous executive positions including heading the firm's Financial Institutions Credit Risk Management and Advisory team. Ms. Trakimas has more than 40 years of experience in the financial services industry. She serves on the Board of Directors and finance committees of the Denver Metro Chamber of Commerce and We Don't Waste, a Denver based non-profit organization focused on food recovery.

Amy H. Gales,

Ms. Gales, 60, served as head of the Regional Agribusiness Banking Group through December 31, 2018.

John Svisco,

Mr. Svisco, 60, served as chief business services officer through December 31, 2018.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Overview

This section describes the compensation programs for CoBank's President and Chief Executive Officer (CEO) and other senior officers, as defined by FCA regulations (collectively, senior officers), as well as those programs for any highly compensated employees as defined by FCA regulations. This section also presents the compensation earned by our CEO, as well as aggregate compensation earned by our other senior officers and any highly compensated employees, for the years ended December 31, 2018, 2017 and 2016. For the 2018 period, information is included for two former senior officers who left the Bank in 2018, and for the 2017 period, our former CEO, who met the definition of a "highly compensated employee" due to contractual agreements between the former CEO and CoBank.

The Board of Directors, through its Compensation and Human Resources Committee (Committee), has adopted a total compensation philosophy for the Bank. Our total compensation philosophy is intended to align the interests of our senior officers with those of our shareholders and is more fully described below. We accomplish this by providing incentive compensation that rewards performance in relation to the business and financial plan established by our Board of Directors.

Our compensation programs contain a number of elements that are aligned with "best practices" for executive compensation, including:

- The majority of total compensation for senior officers is delivered through performance-based, variable incentive programs – for 2018 the CEO's target total direct compensation mix was approximately 30 percent base salary and 70 percent performance-based, variable incentives;
- We have an incentive compensation recovery ("clawback") provision for all members of the Bank's Management Executive Committee, including the CEO;
- Award levels for the short-term and long-term incentive plans are "capped";
- The formulaic maximum payout for the annual short-term incentive plan is 225 percent of target, and the maximum payout is 150 percent of target for the long-term incentive plans;
- The short-term and long-term incentive plans have a minimum return on active patron stock investment that must be achieved before any incentives can be earned;
- As of December 31, 2018, no employees were employed subject to the terms of an employment agreement; and
- The Committee engages an independent executive compensation consultant to conduct an annual assessment of compensation related risks.

We believe these elements balance our risk profile with total compensation while aligning our compensation program with our shareholders' long-term interests and best practices in governance of executive compensation.

As described in the "Financial Condition and Results of Operations" section of Management's Discussion and Analysis on page 32 of this Annual Report, in 2018 CoBank reported record financial performance while fulfilling its mission in a safe and sound manner. As a result of our performance, our short-term incentive plan for 2018 was funded between the target and maximum award levels. In addition, based on strong performance in the 2016 through 2018 period, our long-term incentive plan was also funded between the target and maximum award levels. These and other elements of our senior officers' compensation are explained below.

Compensation Philosophy and Objectives

The Bank's total compensation philosophy is designed to maintain a compensation program that will:

- Attract, retain and reward employees with the skills required to accomplish the Bank's strategic business objectives;
- Provide accountability and incentives for achievement of those objectives;
- Link compensation to Bank performance and increased shareholder value;
- Properly balance the risk profile of the Bank with both short- and long-term incentives;
- Operate within a consistent philosophy and framework;
- Create a culture of adherence to core values and strong ethical behavior;
- Be integrated with the Bank's business processes, including business planning, performance management and succession planning; and
- Enhance management of risk and accountability.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

The total compensation philosophy seeks to achieve the appropriate balance among market-based salaries, benefits and variable incentive compensation designed to incent and reward both the current and long-term achievement of our strategic business objectives, business and financial plans and mission fulfillment. It also seeks to incent prudent risk taking within Board-established parameters with the proper balance and accountabilities between short- and long-term business performances. For senior officers, CoBank strives to deliver a significant portion of total target compensation through performance-based pay, with the actual proportion of total compensation provided through both short- and long-term incentives varying with actual financial performance, the achievement of Board-approved strategic business objectives and each senior officer's individual performance. We believe this philosophy fosters a performance-oriented, results-based culture wherein compensation varies from one year to the next on the basis of actual results achieved. We also find that this variable performance-based compensation approach is properly aligned with an acceptable risk profile and shareholder returns.

Process for Compensation Decisions

The Board of Directors has established the Committee to oversee the design, implementation and administration of compensation and benefits programs for CoBank. The Committee meets regularly to execute the responsibilities of its charter. The Committee reviews the performance of the Bank's CEO semi-annually, and the Board of Directors approves the compensation level of the CEO, comprised of salary, benefits and supplemental compensation, including short- and long-term incentive compensation. The CEO is responsible for setting the compensation levels of the Bank's Management Executive Committee, who, in turn, are responsible for the compensation of all other employees. In addition, the Committee reviews the compensation of the members of the Management Executive Committee.

The Committee generally makes a final decision regarding the CEO's incentive compensation in its February meeting to fully take into consideration the prior year's corporate and individual performance. Decisions about salary and performance also occur at other meetings in the year, as considered appropriate. The Committee utilizes an independent advisor to annually compare the CEO's compensation level to a select peer group of financial institutions. This evaluation helps ensure that such compensation is appropriate for the CEO's experience and competencies and is competitive with positions of similar scope and complexity at relevant financial institutions. The comparative peer group is composed of companies with significant corporate and commercial lending activities, and which have other similar characteristics such as asset size, net income or significant customer relationships.

For 2016, 2017 and 2018, the Committee engaged Pay Governance LLC (Consultant) directly to serve as its independent advisor. Periodically, the Committee conducts a review process related to the selection of the Committee's independent advisor, and on an annual basis, the Committee assures the qualifications of the Consultant as an independent and objective advisor. In 2016, 2017 and 2018, Pay Governance did not provide any other services to CoBank that were not approved in advance by the Committee.

Components of CoBank Total Compensation Program

Given the cooperative ownership structure of CoBank, no equity or stock-based plans are used to compensate any employee, including senior officers. Senior officers' compensation primarily consists of four components – salary, short-term incentive plan, long-term incentive plan and retirement benefits – as described below. All employees participate in salary, the short-term incentive plan and retirement benefits, while senior officers and specified other key employees are also eligible to participate in the long-term incentive plan. All senior officers can elect to defer certain incentive payments through a nonqualified deferred compensation plan. In addition, senior officers are eligible for supplemental retirement benefits, as discussed on page 163.

Overview of Senior Officers' Compensation

Component	CoBank Philosophy	Design Characteristics
Salary	<ul style="list-style-type: none"> Market-based compensation Provides a foundation for other components Competitive relative to positions of similar scope and complexity at a select peer group of financial institutions Reflects individual performance, competencies and responsibilities 	<ul style="list-style-type: none"> Traditional salary structure with salary ranges for each position Structure reviewed annually Salaries based on market and individual performance Merit budgets benchmarked to market

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Overview of Senior Officers' Compensation (continued)		
Component	CoBank Philosophy	Design Characteristics
Short-Term Incentive Plan	<ul style="list-style-type: none"> • Links rewards to achievement of annual goals • Recognizes corporate and individual performance • Aligns the interests of shareholders and senior officers through bankwide financial and strategic business objectives • Balances short-term results with the risk profile of the Bank • Links pay to performance outcomes • Establishes competitive incentive opportunities relative to peers 	<ul style="list-style-type: none"> • Multiple corporate financial and non-financial goals • Limited discretionary component to reflect exceptional events • Awards are capped • Minimum performance for each goal required • Minimum return on active patron stock investment of 11 percent must be achieved in plan year in order for any payout to be made • Individual and corporate performance weighted equally, and a minimum level of individual performance must be achieved • Clawback provision for the Bank's Management Executive Committee, including the CEO
Long-Term Incentive Plan	<ul style="list-style-type: none"> • Provides opportunities for compensation tied to CoBank's sustained performance • Provides balance through emphasis on long-term results, relative to short-term orientation of annual short-term incentive plan • Encourages longer-term retention of plan participants • Promotes the creation of profitable growth in shareholder and customer value, and enhances the sustainability of CoBank to serve its customers while providing proper balance to the risk profile of the Bank • Aligns the interests of shareholders and senior officers through bankwide financial and strategic business objectives • Links pay to performance outcomes • Establishes competitive incentive opportunities relative to peers 	<ul style="list-style-type: none"> • Multiple corporate financial and non-financial goals • Awards are capped • Three-year performance periods • New plan starts each year (plans overlap) • Minimum performance for each goal required • Minimum return on active patron stock investment of 11 percent must be achieved in each year of the plan for a full payout • No individual performance factor although a minimum level of individual performance is considered; corporate performance determines level of payout • Clawback provision for the Bank's Management Executive Committee, including the CEO
Retirement Benefits	<ul style="list-style-type: none"> • Provides for a source of income subsequent to retirement • Encourages longer-term retention of employees • Provides for competitive total compensation opportunities over the employee's career 	<ul style="list-style-type: none"> • Benefits vary based on date of hire • Senior officers hired prior to January 1, 2007 participate in a defined benefit plan and supplemental retirement plan • Senior officers hired on or after January 1, 2007 do not participate in a defined benefit plan but receive additional, non-elective employer contributions to the 401(k) retirement savings plan • Other retirement benefits include a 401(k) retirement savings plan and access to health care benefits. Substantially all participants pay the full premiums associated with postretirement health care benefits • Clawback provision for the Bank's Management Executive Committee, including the CEO

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Salary

Overview

Salary Considerations

- Individual performance, competencies and experience
- Maintenance or expansion of responsibilities and scope of position
- Peer group data and internal equity
- Overall CoBank merit increase budget

Salaries represent a foundational component of CoBank's total compensation program, as the value of other components is determined in relation to base salary. Senior officer salaries are market-based and established taking into consideration individual performance, the specific competencies and experience the senior officer brings to CoBank, the responsibilities and scope of the position, peer group data and internal equity. Salaries for senior officers are reviewed annually, and adjusted if necessary.

Short-Term Incentives

Overview

Short-Term Incentive Plan (STIP)

- Corporate and individual performance weighted equally
- Corporate financial performance measures are balanced: profitability, loan quality and operating efficiency
- For eight Business Units, a portion of the STIP corporate performance measures are determined based on metrics specific to the unit's performance
- Board of Directors also provides subjective evaluation related to achievement of the Bank's strategic business objectives
- All employees are eligible to participate
- For 2018, CoBank performed at or above maximum award levels on three corporate performance goals, and between the target and the maximum award level on two corporate performance goals
- For the eight Business Units, the corporate factor includes additional unit performance measures for loan quality, loan volume, and profitability. Business Units' performance varied within six percentage points of the overall corporate performance.
- The Board of Directors retains the discretion to apply a ten percent subjective upward or downward modification to the corporate performance factor.

Annual short-term incentive payments are based on a combination of annual corporate and individual performance. The short-term incentive plan aligns the interests of shareholders and employees through the establishment of a balanced scorecard of bankwide and, in certain cases, Business Unit financial results and strategic business objectives. Under the terms of the plan, a minimum return on active patron stock investment must be achieved for the plan year in order for a payout to be approved, ensuring that shareholders are rewarded first. The return minimum was 11 percent for the years ended December 31, 2016, 2017 and 2018.

The actual short-term incentive award is determined as follows:

Salary × Individual Annual Short-Term Incentive Target × Corporate Performance Factor × Individual Performance Factor

Based on the formulaic outcomes of the corporate and individual performance factors, participants can earn from zero to 225 percent of their individual annual short-term incentive target. Payments are typically made during March, but always following the end of the year to which the award is applicable. Participants are not eligible to receive a short-term payout if they are no longer employed by CoBank at the time of the scheduled payout, unless otherwise provided for as a part of a normal retirement or in an agreement. The key elements of the actual payout are described below.

- *Individual Annual Short-Term Incentive Target* — Annual short-term incentive targets are set for all employees at the beginning of the year. For the 2018 performance period, the target short-term incentive level for the CEO was 80 percent of salary. For the other senior officers, the targets ranged from 50 to 70 percent.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

- *Corporate Performance Factor* — The corporate performance factor is determined at the end of the year based on annual actual business results relative to a balanced scorecard of financial measures and strategic business objectives, as established at the beginning of each year by the Board of Directors. The Board of Directors retains discretion to apply a ten percent upward or downward adjustment to the corporate performance factor, where appropriate, in addition to providing a subjective performance result for the achievement of strategic business objectives.

CoBank utilizes a balanced scorecard for measuring short-term performance to emphasize overall success in executing our strategy and managing risks. The short-term corporate scorecard establishes certain key performance indicators, of which 80 percent focus on the achievement of specified financial measures related to profitability, lending activities, loan quality and operating efficiency, and 20 percent focus on the achievement of the strategic business objectives that are established at the beginning of each year by the Board of Directors. The final performance result is determined by comparing the actual performance of each measure to the targets established at the beginning of the year and taking into consideration any discretionary adjustments made by the Board of Directors. Each scorecard performance measure is weighted separately, and the factor is set such that if performance of each measure meets the established target, the result is a performance factor of 100 percent. Beginning with the 2017 plan, performance within a range of 98 to 102 percent of target for the financial measures is recognized at a performance factor of 100 percent. For the 2016 plan, the range of performance for financial measures resulting in a performance factor at 100 percent was within a range of 97 to 103 percent of target. The formulaic results of the performance factor can vary from zero to 150 percent, depending on performance against the targets and without any application of the ten percent discretionary element available to the Board of Directors. The Committee approves the overall performance factors and funding of the STIP for actual performance relative to target. The 2018 Short-Term Corporate Scorecard is as follows:

2018 Short-Term Corporate Scorecard

Performance Measure	Weight	
	Business Unit	All Other
Net Income	15 %	20 %
Return on Common Equity	15	15
Strategic Business Objectives	20	20
Loan Quality (Adverse Loans to Total Regulatory Capital)	10	20
Operating Expense Ratio	15	25
Unit Specific Measures	25	N/A

For eight Business Units, 25 percent of the corporate performance factor is represented by unit specific performance measures for loan quality, loan volume and profitability.

- *Individual Performance Factor* — At the beginning of each year, all CoBank employees, including the CEO and other senior officers, establish individual goals they seek to achieve that year in support of the business. These individual goals are anchored to the Bank's business and financial plan, as well as the Bank's strategic business objectives and also include key behavioral competencies appropriate for that employee. The CEO is responsible for administering the short-term incentive plan and approves the individual performance factors of the other senior officers. The Board of Directors approves the goals and individual performance factor of the CEO. The assessment of an individual's actual performance with respect to his or her annual goals is reflected as an individual performance factor and ranges from zero to 150 percent.

The actual short-term incentive awards for 2018, 2017 and 2016 for the CEO, other senior officers and any highly compensated employees are presented in the Summary Compensation Table on page 166.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Long-Term Incentives

Overview

Long-Term Incentive Plan (LTIP)

- Awards based upon corporate performance for overlapping three-year periods
- Corporate financial performance measures are balanced: profitability, loan quality and capital adequacy
- Board of Directors also provides subjective evaluation related to the achievement of corporate strategic business objectives
- For the 2016 through 2018 performance period, CoBank performed at or above maximum award level on three corporate performance goals and between the target and maximum award levels on two corporate performance goals

CoBank utilizes a long-term incentive compensation plan that provides senior officers and specified other key employees with the opportunity for compensation tied to CoBank's sustained success. The long-term incentive plan provides the accountability and balance for the annual outcomes embodied in the short-term plan. Participants in the long-term plan directly influence the longer-term outcomes of actions and risks taken during each performance period, which provides the proper balance between short-term results and long-term value creation. Eligibility for participation is limited to those individuals who clearly have the ability to drive the success of strategies and projects critical to long-term value creation for shareholders. The purpose of this plan is to encourage longer-term retention of plan participants, to promote the creation of profitable growth in shareholder and customer value, and to enhance the sustainability of CoBank to serve its customers while providing proper balance to the risk profile of the Bank. The long-term incentive plan aligns the interests of shareholders with those of senior officers and key employees through the establishment of bankwide financial targets and strategic business objectives, and reinforces a long-term focus on financial performance, strategic positioning and risk management.

Long-term incentive plan payouts are based on corporate performance in the achievement of key financial metrics and strategic business objectives over a three-year performance period, as defined by CoBank's long-term corporate scorecard. These three-year performance metrics and objectives are established at the beginning of each three-year performance period by the Board of Directors in connection with the annual business and financial plan. A minimum return on active patron stock investment must be achieved in each year of the three-year performance period for a full payout to be approved, ensuring that shareholders are rewarded first. The return minimum is 11 percent for each of the three-year performance periods.

The actual long-term incentive award is determined as follows:

$$\text{Salary} \times \text{Individual Long-Term Incentive Target} \times \text{Corporate Performance Factor}$$

Based on the corporate performance factor, participants can earn from zero to 150 percent of their individual long-term incentive target. Payments are typically made during March of each year following the end of the three-year performance period to which the award is applicable. Participants are eligible to receive a prorated award at the time of the scheduled payout if they are no longer employed at CoBank at the time of payment and their termination meets plan eligibility requirements for reasons related to retirement, death or disability, or if otherwise provided for in an agreement. Participants are not eligible to receive any payment at the time of the scheduled payout if they are no longer employed by CoBank and do not otherwise meet the eligibility requirements for payment. The key elements of the actual payout are described below.

- *Individual Long-Term Incentive Target* — For the 2016 through 2018 performance period, the long-term incentive target for the CEO was prorated based on targets ranging from 75 percent to 130 percent awarded for various positions he held during the plan period. For the remaining senior officers, the targets ranged from 20 to 80 percent during the period.
- *Corporate Performance Factor* — Corporate performance is determined at the end of a designated three-year period based on actual business results relative to a balanced scorecard of bank-wide financial measures established at the beginning of the three-year performance period, and strategic business objectives, as established at the beginning of each year of the three-year performance period by the Board of Directors. The Board of Directors retains the right to make adjustments to the corporate performance factor, where appropriate, in addition to providing a subjective performance result for the achievement of strategic business objectives.

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CoBank utilizes a balanced scorecard for measuring long-term corporate performance to emphasize overall success in executing our strategy and managing risks. The long-term corporate scorecard establishes certain key performance indicators, of which 80 percent focus on the achievement of specified financial measures established at the beginning of the three-year performance period related to profitability, loan quality and capital adequacy, and 20 percent focus on the achievement of the strategic business objectives that are established at the beginning of each year of the three-year performance period by the Board of Directors. The final performance result, or corporate performance factor, is determined by comparing the actual performance of each measure to the financial targets established at the beginning of each three-year performance period and an average of strategic business objective results during each year in the three-year performance period. Each scorecard performance measure is weighted separately, and for the 2014-2016 performance period, the factor was set such that if performance of each measure exactly met the established target, the result was a performance factor of 100 percent. For the 2015-2017 and 2016-2018 plans, performance within a range of 97 to 103 percent of target for the financial measures was recognized at a performance factor of 100 percent, and beginning with the 2017-2019 plan, performance within a range of 98 to 102 percent of target for the financial measures is recognized at a performance factor of 100 percent. The corporate performance factor can vary from zero to a maximum of 150 percent depending on performance against the targets. The Committee approves the corporate performance factor based on actual performance in comparison to target. The Long-Term Corporate Scorecards for the three-year performance periods 2016 through 2018, 2017 through 2019, and 2018 through 2020 are as follows:

Long-Term Corporate Scorecards:	
2016 – 2018, 2017 – 2019 and 2018 – 2020 Periods	
Performance Measure	Weight
Net Income	20 %
Total Capital Ratio	20 %
Return on Common Equity	20 %
Strategic Business Objectives	20 %
Loan Quality (Adverse Loans to Total Regulatory Capital)	20 %

The actual long-term incentive awards for 2018, 2017 and 2016 for the CEO and other senior officers are presented in the Summary Compensation Table on page 166.

Employment Agreement

As of December 31, 2018, no employees were employed subject to the terms of an employment agreement.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Retirement Benefits

Overview

We have employer-funded qualified defined benefit pension plans, which are noncontributory and cover employees hired prior to January 1, 2007. Depending on the date of hire, benefits are determined either by a formula based on years of service and final average pay, or by the accumulation of a cash balance with interest credits and contribution credits based on years of service and eligible compensation. We also have noncontributory, unfunded, nonqualified supplemental executive retirement plans (SERPs) covering four senior officers employed through December 31, 2018 and our former CEO as a highly compensated employee through June 30, 2017, as well as specified other senior managers. For 2018, there were no additional executive retirement plans in place. All employees are also eligible to participate in a 401(k) retirement savings plan, which includes employer matching contributions. Employees hired on or after January 1, 2007, receive additional, non-elective employer contributions to the 401(k) retirement savings plan. All retirement-eligible employees, including senior officers, are also currently eligible for other postretirement benefits, which primarily include access to health care benefits. Substantially all participants pay the full premiums associated with the postretirement health care benefits.

Defined Benefit Pension Plans

Senior officers hired prior to January 1, 2007 are participants in the defined benefit pension plans. Pursuant to these plans, the benefits are determined based on years of service and final average pay. Eligible compensation for senior officers, as defined under the final average pay formula, is the highest 60 consecutive-month average, which includes salary and incentive compensation measured over a period of one year or less, and excludes long-term incentive awards, expense reimbursements, taxable fringe benefits, relocation allowance, short- and long-term disability payments, nonqualified deferred compensation distributions, lump sum vacation payouts and all severance payments. Retirement benefits for senior officers are calculated assuming payment in the form of a single life annuity with five years certain and retirement at age 65. However, the actual form and timing of retirement benefit payments are based on participant elections. The plans require five years of service to become vested. All senior officers participating in the defined benefit pension plans have been employed for more than five years and, as such, are fully vested in the plans. The benefit formula is the sum of 1.5 percent of eligible compensation up to Social Security covered compensation plus 1.75 percent of eligible compensation in excess of Social Security covered compensation, multiplied by the years of eligible benefit service. Social Security covered compensation is the 35 year average of the Social Security taxable wage bases up to the participant's Social Security retirement age.

Federal laws limit the amount of compensation we may consider when determining benefits payable under the qualified defined benefit pension plans. We maintain SERPs that pay the excess pension benefits that would have been payable under our qualified defined benefit pension plans.

Nonqualified Deferred Compensation Plan

We have a nonqualified deferred compensation plan that allows senior officers and other eligible key employees to defer all or a portion of their incentive compensation. Additionally, the Bank makes contributions to this plan on behalf of participants whose benefits under the 401(k) retirement savings plan are limited due to federal tax laws. Contributions are made at the same percentages as available under the 401(k) retirement savings plan. The compensation that is deferred is invested in any number of investment options selected by the participants. These investment options are either identical or substantially similar to those available to all participants in the Bank's 401(k) retirement savings plan. The participant is subject to all risks and returns of amounts invested. The election to defer is irrevocable and the deferred amounts cannot be paid except in accordance with specified elections as permitted by law. At that time, the participant will receive payment of the amounts credited to his or her account under the plan in a manner that has been specified by the participant. If a participant dies before the entire amount has been distributed, the undistributed portion will be paid to the participant's beneficiary.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Compensation Risk Management

The Committee considers potential risks when reviewing and approving compensation programs. The Board of Directors approves the total compensation philosophy and programs to ensure there is a proper balance and alignment between the overall acceptable risk profile of the Bank and the manner in which prudent risk taking is reflected in the design of the underlying program. We have designed our compensation programs, including our incentive compensation plans, with specific features to address potential risks while rewarding employees for achieving short-term and long-term financial and strategic objectives through prudent business judgment and appropriate risk taking. The objective is to motivate employees to take prudent risk within Board-approved parameters while ensuring employees are also accountable for the long-term outcomes of their actions. The following elements have been incorporated in our compensation programs available for our senior officers:

- *A Balanced Mix of Compensation Components* – The target compensation mix for our senior officers is composed of salary, short-term incentive, long-term incentive and retirement benefits, representing a mix that is weighted toward long-term performance and service with CoBank.
- *No Production Based Incentive Plans* – The STIP and LTIP are the only incentive plans within CoBank and are funded based upon the Bank’s financial and business results. There are no additional “production” or “sales” based incentives tied to number of customers, number of loans, number of products, loan volume or any other metric that solely measures top-line results.
- *Multiple Performance Factors* – Our incentive compensation plans include balanced scorecards of organization-wide financial performance and integration with individual performance assessments through our performance management system.
 - Incentive plans include a Board-determined subjective evaluation of our achievement of strategic business objectives
 - The short-term incentive is dependent on multiple performance metrics, including a subjective measure of performance against strategic business objectives and an assessment of individual performance
 - The long-term incentives are cash-based, with three-year performance metrics to complement our annual short-term incentives
 - Board of Directors retains discretion to adjust performance factors
 - Targets and ranges of performance for each metric are approved by the Board of Directors prior to the beginning of the performance period
- *Multiple Year Performance Measurement* – Our long-term incentives include a three-year performance measurement period that requires sustained corporate performance complemented by a required minimum level of shareholder return in order for the plan to be fully funded.
- *Caps on Incentive Payments* – Our incentive compensation plan payments are subject to caps that limit the maximum award that may be paid.
- *Threshold Performance Requirements for Each Metric* – Our incentive compensation plan payments are contingent upon achieving minimum performance levels for each financial performance goal.
- *Threshold Individual Performance Requirements* – Our incentive compensation plans require a minimum individual performance level before a payment may be made for any given performance year.
- *Compensation and Human Resources Committee Discretion* – The Committee subjectively evaluates the Bank’s achievement of strategic business objectives and approves all incentive plan funding following a review of the Bank’s performance against plan performance criteria established and approved prior to the beginning of each year of an incentive plan performance period.
- *Shareholder Return* – A minimum return on active patron stock investment must be achieved for incentive compensation payments to be approved.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Effective January 1, 2013, the Board of Directors approved an incentive compensation recovery (“clawback”) policy to encourage the highest ethical standards, to further ensure incentive plans do not encourage excessive risk-taking and to ensure the alignment of compensation with accurate financial data. The policy provides that in the event of a restatement of the financial statements, the Bank may seek recovery from members of the Bank’s Management Executive Committee of incentive compensation and nonqualified retirement benefits that would not otherwise have been paid if the correct financial information had been used to determine the amount payable. The Board of Directors may only seek recovery or reduction of compensation under this policy within the three-year period following the date the Bank filed the incorrect report.

Furthermore, in December of 2017, the Board of Directors approved an expansion of circumstances under which the “clawback” policy could be enforced to include ethical misconduct, theft, misappropriation, violation of Company policy, or materially imprudent judgment that caused financial or reputational harm to the Company, including where the covered executive knowingly failed to take corrective action with regard to other employees under his or her direct control who engaged in such behavior.

Additionally, the Compensation and Human Resources Committee annually considers an assessment of compensation-related risks for all of our employees. The assessment includes a review of multiple facets of our compensation program including governance practices, program documentation, incentive plan design, processes, employment practices, benefits program, and cultural considerations. Reviews of various aspects of our programs are also conducted by independent auditors, whose reports are provided to our Board of Directors. Based on this assessment, the Committee concluded that our compensation plans do not create risks that are reasonably likely to have a material adverse effect on CoBank. In making this conclusion, the Committee reviewed the key design elements of our compensation programs in relation to industry “best practices” as presented by the Consultant, as well as the design features and administrative processes that mitigate any potential risks, such as through our internal controls and oversight by management and the Board of Directors.

Senior Officers Compensation Discussion and Analysis

CoBank, ACB

Summary Compensation Table

The following table summarizes compensation earned by our CEO and aggregate compensation of other senior officers for the year ended December 31, 2018, and our CEO, other senior officers and a highly compensated employee for the years ended December 31, 2017 and 2016. Our current Board policy regarding reimbursements for travel, subsistence and other related expenses states that all employees, including senior officers, shall be reimbursed for actual reasonable travel and related expenses that are necessary and that support our business interests. A copy of our policy is available to shareholders of CoBank and of our affiliated Farm Credit Associations upon request.

Summary Compensation Table⁽¹⁾ (\$ in Thousands)

Name of Individual or Number in Group ⁽²⁾	Year	Annual			Change in Pension Value ⁽⁴⁾	Deferred/Perquisites ⁽⁵⁾	Other ⁽⁶⁾	Total
		Salary	Short-Term Incentive Compensation ⁽³⁾	Long-Term Incentive Compensation ⁽³⁾				
CEO:								
Thomas E. Halverson	2018	\$ 800	\$ 1,373	\$ 1,078	\$ -	\$ 213	\$ 1	\$ 3,465
Thomas E. Halverson	2017	725	1,096	759	-	180	100	2,860
Robert B. Engel	2016	925	1,405	1,901	604	215	500	5,550
Aggregate Number of Senior Officers and the Highly Compensated Employee (excluding the CEO):								
12	2018	\$ 4,151	\$ 4,097	\$ 2,660	\$ 1,183	\$ 968	\$ 1,952	\$ 15,011
12	2017	4,051	3,940	3,684	5,649	1,039	4,687	23,050
10	2016	3,879	4,297	3,077	4,589	794	4,460	21,096

⁽¹⁾ Disclosure of the total compensation paid during 2018 to any designated senior officer is available to shareholders of CoBank and of our affiliated Farm Credit Associations upon request. Compensation amounts do not include earnings or losses on nonqualified deferred compensation, as such earnings or losses are not considered above-market or preferential.

⁽²⁾ The senior officers are those officers defined by FCA regulation §619.9310.

⁽³⁾ Incentive compensation amounts represent amounts earned in the reported fiscal year, which are paid in March of the subsequent year to persons who continue to be employed by CoBank or unless otherwise provided for as part of normal retirement or in an employment agreement. The short-term incentive compensation amounts are calculated based on relevant performance factors for the reported fiscal year, while the long-term incentive compensation amounts are calculated based on the relevant performance factors for the three-year performance period ended in the reported fiscal year.

⁽⁴⁾ The Change in Pension Value decreased in 2018 primarily due to the former CEO and a senior officer who are participants in the plan and left the Bank in 2017. The Change in Pension Value increased in 2017 primarily due to a change in the discount rate and the form of pension benefit payment elected by the former CEO who left the Bank during the year.

⁽⁵⁾ Represents 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, relocation, certain travel-related costs, wellness benefits, life insurance benefits, long-term disability benefits and associated income tax impact.

⁽⁶⁾ For 2018, \$18 represents amounts paid to Senior Officers as part of a board approved initiative to share tax reform savings with customers and associates. Also for 2018, \$1,952 includes \$500 for an amount paid to an executive who joined the Bank in 2018; \$213 for the balance of sign-on payments due to two executives who joined the Bank in 2017; and \$1,221 for amounts paid to two executives who left the Bank in 2018 for separation pay and certain other benefits pursuant to the terms of an agreement. For 2017, \$100 represents amount paid to the CEO for a Board-approved recognition bonus. Also for 2017, \$4,687 includes \$4,225 for amounts payable to the former CEO (who left the Bank on June 30, 2017) in exchange for valuable consideration to the Bank, pursuant to the terms of an agreement (which replaced a consulting agreement that was previously in place); \$312 for amounts payable to two senior officers who joined the Bank in 2017; and \$150 for a Board-approved project bonus to one senior officer. For 2016, \$500 represents amount paid to the then CEO for retention pursuant to a contractual agreement between the then CEO and CoBank. Also for 2016, \$4,460 includes \$2,811 for amounts payable to a senior officer (who left the Bank in 2016) for separation pay, incentive compensation and certain other benefits pursuant to the terms of an employment agreement, which included a release and provisions for non-solicitation and non-competition; \$1,549 for amounts payable to a senior officer (who left the Bank in 2016) for separation pay, incentive compensation and certain other benefits pursuant to a separation agreement which included a release and provisions for non-solicitation and non-competition; \$25 for the balance due on a sign-on payment to a senior officer who joined the Bank in 2014; and \$75 for a Board-approved project bonus to a senior officer.

Senior Officers Compensation Discussion and Analysis

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Pension Benefits

The following table presents certain pension benefit information by plan for the senior officer group as of December 31, 2018. The CEO does not participate in the defined benefit pension plan.

Pension Benefits Table (\$ in Thousands)

Number in Group ⁽¹⁾	Plan Name	Number of Years of Credited Service ⁽²⁾	Actuarial Present Value of Accumulated Benefits	Payments During Last Fiscal Year
Aggregate Number of Senior Officers				
4	CoBank, ACB Retirement Plan	18.11	\$ 3,060	\$ -
4	Supplemental Executive Retirement Plan	18.11	4,488	-
Total			\$ 7,548	\$ -

⁽¹⁾ The senior officers included in the pension benefits disclosure are those defined by FCA regulations §619.9310 and §620.6.

⁽²⁾ Represents an average for the aggregate senior officer group.

Report on Compensation

CoBank, ACB

Members of the Compensation and Human Resources Committee of the Board of Directors are appointed by the Board chair in consultation with the Board officers and committee chairs. All members of the Compensation and Human Resources Committee (Committee) qualify as independent directors as defined by Board policy.

The Committee approves the overall compensation philosophy at the Bank utilizing an independent, Committee-appointed, executive compensation consultant, which includes establishing the compensation philosophy which guides program design including pay mix comprised of base pay, short- and long-term incentive compensation plans and employee benefits. In so doing, the Committee has developed and implemented compensation policies and programs that support the Bank's core values and links compensation to overall Bank and individual performance, ensuring a proper balance with the risk profile of the Bank, thereby contributing to the value of the shareholders' investment in the Bank.

The Committee is responsible for establishing the performance standards for the President and Chief Executive Officer and the compensation structure for other Bank employees. The Committee reviews the Board's performance evaluation of the President and Chief Executive Officer, approves an overall performance rating, and recommends for full Board approval all aspects of compensation (base salary, performance-based compensation including all incentives, benefits, and perquisites) for the President and Chief Executive Officer, consistent with the business and financial objectives of the Bank, the results achieved by the executive, Board directed performance objectives, and competitive compensation practices. The Committee carefully evaluates incentive-based compensation programs and payments thereunder to ensure they are reasonable and appropriate to the services performed by senior officers. The Committee monitors the terms and provisions of the incentive-based compensation programs for senior officers and assesses the balance of financial rewards to senior officers against the risks to the institution. The Committee carefully evaluates whether senior officer compensation, incentive, and benefit programs are designed to support the Bank's long-term business strategy and mission as well as promote safe and sound business practices. The Committee reviews the institution's projected long-term obligations for compensation and retirement benefits. The Committee operates under a written charter, adopted by the Committee and the Board of Directors, which more fully describes the Committee's responsibilities.

The Committee has reviewed and discussed the Senior Officers Compensation Discussion and Analysis with management. Based on this review and discussion, the Committee recommended to the Board of Directors, and the Board approved, that the Senior Officers Compensation Discussion and Analysis be included in the Annual Report for the year ended December 31, 2018.

Members of the 2019 Compensation and Human Resources Committee:

Daniel T. Kelley, Chair
Catherine Moyer
David S. Phippen
Brandon J. Wittman

March 1, 2019

Code of Ethics

CoBank, ACB

CoBank sets high standards for honesty, ethics, integrity, impartiality and conduct. Each year, every associate certifies compliance with the letter, intent and spirit of our Associate Responsibilities and Conduct Policy, which establishes the ethical standards of our organization, and each senior officer is required to disclose additional information. Additionally, our president and chief executive officer, chief banking officer, chief operating officer, chief risk officer, chief credit officer, general counsel, chief financial officer and other senior financial professionals certify compliance with the letter, intent and spirit of our Code of Ethics. Our Code of Ethics supplements our Associate Responsibilities and Conduct Policy and establishes additional responsibilities specifically related to the preparation and distribution of our financial statements and related disclosures. Details about our Code of Ethics are available at www.cobank.com. At your request, we will provide you with a copy of our Code of Ethics, free of charge. Please contact:

Corporate Communications Division
P. O. Box 5110
Denver, CO 80217
(303) 740-4061

The Bank also maintains a whistleblower hotline and a special website through which complaints about business ethics or standards of conduct, financial reporting irregularities, internal controls or violations of law can be reported anonymously by directors, officers, employees, customer-owners and external parties. The whistleblower hotline can be reached by calling 1-888-525-5391 and the online reporting site is found at www.reportlineweb.com/cobank.

Young, Beginning, and Small Farmers

CoBank, ACB

Under the Farm Credit Act, CoBank does not have authority to lend directly to young, beginning, and small farmers. Rather, we recognize that Associations serve young, beginning, and small farmers, which we support through wholesale funding, partnering on Association programs as they deem appropriate, and completing reporting required by regulations. We believe the future of agriculture and rural America is well served when loan programs are developed by Associations to aid ambitious and capable young, beginning, and small farmers. Therefore, we have adopted a written policy that encourages the board of directors at each of our affiliated Associations to establish a program to provide sound and constructive credit and other services to young, beginning, and small farmers and ranchers and producers or harvesters of aquatic products (YBS farmers and ranchers). Each affiliated Association provides us annually with a report measuring achievement with respect to these programs for YBS farmers and ranchers. A summary of the combined reports for our affiliated Associations and certain participations CoBank purchased from Associations follows.

YBS Farmers and Ranchers (\$ in Thousands)				
	Loan Numbers		Loan Volume	
	Number	Percent of Portfolio	Dollars	Percent of Portfolio
Loans and Commitments Outstanding at December 31, 2018:				
Young	20,361	16.85 %	\$ 7,012,847	8.76 %
Beginning	28,504	23.59	9,443,009	11.79
Small	43,207	35.75	6,709,344	8.38
Gross New Loans and Commitments Made During 2018:				
Young	4,837	17.89 %	\$ 1,972,490	8.95 %
Beginning	6,278	23.21	2,498,756	11.34
Small	8,901	32.91	1,359,558	6.17

Small Farmers and Ranchers

Number / Volume of Loans Outstanding by Loan Size at December 31, 2018

Number / Volume	\$0 – \$50,000	\$50,001 – \$100,000	\$100,001 – \$250,000	\$250,001 and greater
Total Number of Loans to Small Farmers and Ranchers	14,224	9,830	12,343	6,810
Total Loan Volume to Small Farmers and Ranchers (\$ in Thousands)	\$ 364,704	\$ 731,899	\$ 1,988,788	\$ 3,623,953

Key definitions are as follows:

Young Farmer or Rancher – 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 Farmer or Rancher – A farmer, rancher or producer or harvester of aquatic products who had 10 years or less of experience at farming, ranching or producing or harvesting aquatic products as of the date the loan was originally made.

Small Farmer or Rancher – A farmer, rancher or producer or harvester of aquatic products who normally generated less than \$250,000 in annual gross sales of agricultural or aquatic products at the date the loan was originally made.

The Young, Beginning, and Small farmer and rancher categories are not mutually exclusive, therefore, certain farmers and ranchers may be classified in more than one category in the tables above.

Beyond providing appropriate wholesale lending for Association YBS farmers and ranchers programs and submitting reports to our regulator, CoBank has partnered with Associations on successful financing programs designed to attract quality farm operations, meeting the intended purpose of providing vital capital to start-up farming operations and promoting the flow of capital into rural areas. CoBank also has its own programs to serve the credit needs of agribusiness cooperatives and rural infrastructure providers of all sizes as well as rural communities using our mission-related investments authorities. CoBank has also reached out to non-traditional forms of agricultural production, such as local foods, community supported agriculture, and urban agriculture, to better understand their financing needs and provide support within the legal constraints of CoBank lending authorities.

Unincorporated Business Entities

CoBank, ACB

CoBank holds investments in various unincorporated business entities (UBEs), as defined by FCA regulation. We hold these investments for two primary purposes: to acquire and manage unusual or complex collateral associated with loan workouts and to make mission-related investments.

Our UBEs are displayed in the table below.

Unincorporated Business Entities			
Name	Entity Type	Level of Ownership	Scope of Activities
CoBank - Farm Credit Holdings, LLC	Limited Liability Company	100 %	Holds acquired property
Farm Credit FCB Holdings, LLC	Limited Liability Company	100	Holds acquired property
FarmStart, LLP	Limited Liability Partnership	45	Provides needed funding to operations with farm resources, farm-related expertise and good business plans, but limited access to capital in the Northeast.
Midwest Growth Partners, LLLP	Limited Liability Partnership	49	Invests in entities with operations located in rural areas in the upper Midwest that are seeking to either launch a new business, grow an existing business or recapitalize an existing business.
Ponderosa Holdings, LLC	Limited Liability Company	12	Holds acquired property
Growing Rural America Investments, LLLP	Limited Liability Partnership	100	Holds allowable FCS investments. Currently holds the Bank's investment in FarmStart, LLP.

FCL Titling Trust Assets

CoBank, ACB

CoBank's wholly-owned leasing subsidiary, Farm Credit Leasing Services Corporation (FCL), has purchased beneficial interests in leases and assets through a motor vehicle titling trust. Participation in these trusts is obtained through the purchase of beneficial interests in a designated series of titling trusts backed by eligible motor vehicle leases, as approved by the FCA and subject to certain conditions.

The following table presents the asset amount by trust/subtrust as of December 31, 2018.

FCL Titling Trust Assets (\$ in Thousands)	
Titling Trust	Amount
Altec Titling Trust	\$ 10,972

CERTIFICATION

I, Thomas E. Halverson, President and Chief Executive Officer of CoBank, ACB (CoBank or the Bank), a federally chartered instrumentality under the Farm Credit Act of 1971, as amended, certify that:

- (1) I have reviewed this annual report of CoBank;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of CoBank as of, and for, the periods presented in this report;
- (4) CoBank's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures and internal control over financial reporting for CoBank 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 Bank, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the Bank's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the Bank's internal control over financial reporting that occurred during the Bank's most recent fiscal quarter (the Bank's fourth fiscal quarter in the case of this annual report) that has materially affected, or is reasonably likely to materially affect, the Bank's internal control over financial reporting; and
- (5) CoBank's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Bank's auditors and the audit committee of the Bank's Board of Directors (or persons performing the equivalent functions):
 - 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 Bank'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 Bank's internal control over financial reporting.



Thomas E. Halverson
President and Chief Executive Officer

Dated: March 1, 2019

CERTIFICATION

I, David P. Burlage, Chief Financial Officer of CoBank, ACB (CoBank or the Bank), a federally chartered instrumentality under the Farm Credit Act of 1971, as amended, certify that:

- (1) I have reviewed this annual report of CoBank;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of CoBank as of, and for, the periods presented in this report;
- (4) CoBank's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures and internal control over financial reporting for CoBank 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 Bank, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the Bank's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the Bank's internal control over financial reporting that occurred during the Bank's most recent fiscal quarter (the Bank's fourth fiscal quarter in the case of this annual report) that has materially affected, or is reasonably likely to materially affect, the Bank's internal control over financial reporting; and
- (5) CoBank's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Bank's auditors and the audit committee of the Bank's Board of Directors (or persons performing the equivalent functions):
 - 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 Bank'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 Bank's internal control over financial reporting.



David P. Burlage
Chief Financial Officer

Dated: March 1, 2019

Customer Privacy

Your financial privacy and the security of your other non-public information are important to us. We, therefore, hold your financial and other non-public information in strictest confidence. Federal regulations allow disclosure of such information by us only in certain situations. Examples of these situations include law enforcement or legal proceedings or when such information is requested by a Farm Credit System institution with which you do business. In addition, as required by Federal laws targeting terrorism funding and money laundering activities, we collect information and take actions necessary to verify your identity.

CoBank's 2019 Quarterly and Annual Reports to Shareholders are available free of charge on request by calling or visiting one of our banking center locations and through our website at www.cobank.com on approximately May 10, 2019, August 9, 2019, November 8, 2019, and March 2, 2020 (Annual Report).

OFFICE LOCATIONS

COBANK NATIONAL OFFICE

6340 South Fiddlers Green Circle
Greenwood Village, CO 80111
303-740-4000
800-542-8072

FARM CREDIT LEASING SERVICES CORPORATION

1665 Utica Avenue South, Suite 400
Minneapolis, MN 55416
952-417-7800
800-444-2929

WASHINGTON, D.C., OFFICE

50 F Street, N.W., Suite 900
Washington, DC 20001
202-650-5860

U.S. REGIONAL OFFICES

AMES BANKING CENTER

2515 University Boulevard
Suite 104
Ames, IA 50010
515-292-8828

ATLANTA BANKING CENTER*

2300 Windy Ridge Parkway
Suite 370S
Atlanta, GA 30339
770-618-3200
800-255-7429
FCL: 770-618-3226

AUSTIN BANKING CENTER

4801 Plaza on the Lake Drive
Austin, TX 78746
855-738-6606

ENFIELD BANKING CENTER*

240B South Road
Enfield, CT 06082-4451
860-814-4043
800-876-3227
FCL: 860-814-4049

FARGO BANKING CENTER

4143 26th Avenue South
Suite 101
Fargo, ND 58104
701-277-5007
866-280-2892

FLORIDA FARM CREDIT LEASING OFFICE**

3594 Maribella Drive
New Smyrna Beach, FL 32168
678-592-5394

LOUISVILLE BANKING CENTER*

2000 High Wickham Place
Suite 101
Louisville, KY 40245
502-423-5650
800-262-6599
FCL: 800-942-3309

LUBBOCK BANKING CENTER*

5715 West 50th
Lubbock, TX 79414
806-788-3700
FCL: 806-788-3705

MINNEAPOLIS BANKING CENTER*

1665 Utica Avenue South
Suite 400
Minneapolis, MN 55416
952-417-7900
800-282-4150
FCL: 800-444-2929

OHIO FARM CREDIT LEASING OFFICE**

1225 Irmscher Boulevard
Celina, OH 45822
855-838-9961 ext. 23969

OMAHA BANKING CENTER*

13810 FNB Parkway
Suite 301
Omaha, NE 68154
402-492-2000
800-346-5717

SACRAMENTO BANKING CENTER*

3755 Atherton Road
Rocklin, CA 95765
916-380-3524
800-457-0942
FCL: 800-289-7080

SPOKANE BANKING CENTER

2001 South Flint Road
Suite 102
Spokane, WA 99224
509-363-8700
800-378-5577

STERLING BANKING CENTER

229 South 3rd Street
Sterling, CO 80751
970-521-2774

ST. LOUIS BANKING CENTER*

635 Maryville Centre Drive
Suite 130
St. Louis, MO 63141
314-835-4200
800-806-4144
FCL: 800-853-5480

WICHITA BANKING CENTER*

245 North Waco
Suite 130
Wichita, KS 67202
316-290-2000
800-322-3654
FCL: 800-322-6558

* Farm Credit Leasing office within this CoBank location

** Farm Credit Leasing office only

INTERNATIONAL REPRESENTATIVE OFFICE

10 Hoe Chiang Road
#05-01 Keppel Towers
Singapore 089315
65-6534-5261



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800.542.8072