



## Agricultural Lending Increases, As Do Interest Expenses for Farmers

by: Cortney Cowley and John McCoy

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Lending at agricultural banks increased sharply in the fourth quarter, after appearing to stabilize in previous quarters.

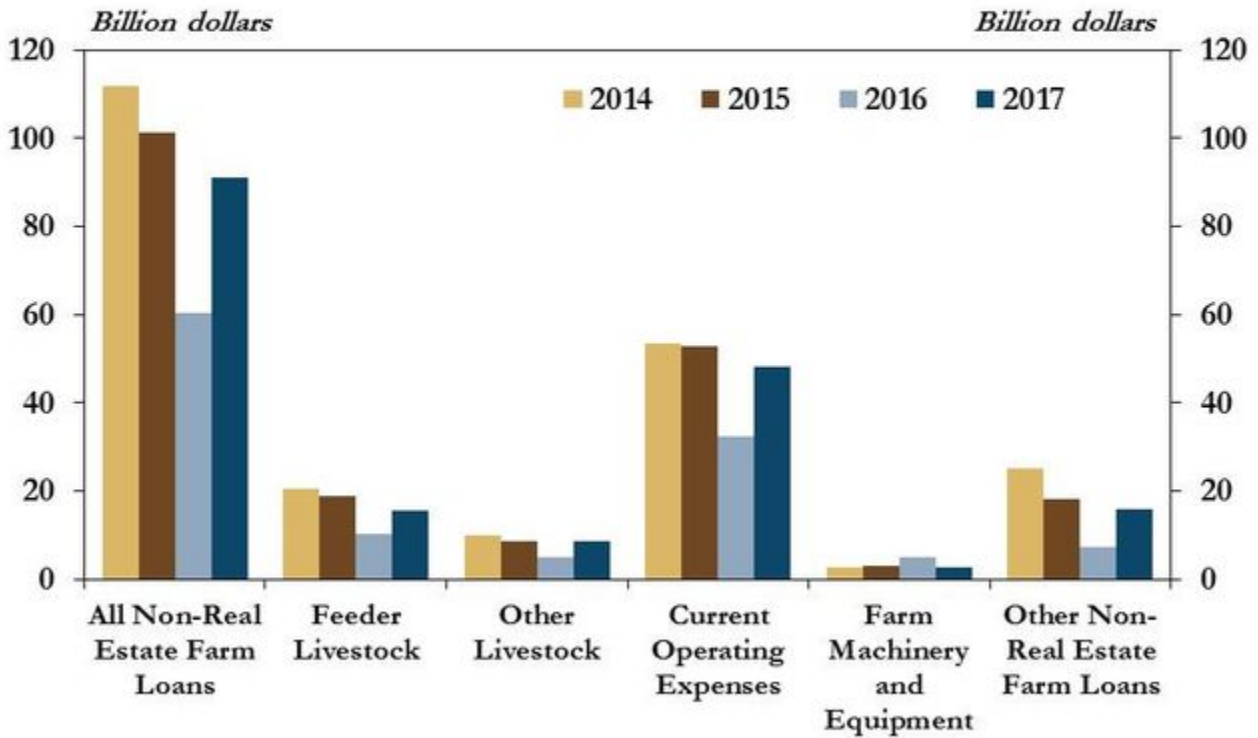
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*Lending at agricultural banks increased sharply in the fourth quarter, after appearing to stabilize in previous quarters. Large loans drove the increase in farm lending, which may heighten concerns about cash flow in 2018 as interest rates have continued to rise steadily. At the same time, farm income has stabilized somewhat, but at a low level. And while the farm economy has remained relatively steady, further increases in loan obligations could stretch borrowers' repayment capacity in the coming year.*

### Section A: Fourth-Quarter Survey of Terms of Lending to Farmers

Farm lending at commercial banks increased in the fourth quarter. Demand for all types of loans except farm machinery and equipment increased significantly from a year ago (Chart 1). Current operating expenses continued to comprise the majority of loan originations, and loans for livestock made up 27 percent of all new non-real estate farm loans. The total value of operating loans and livestock loans increased almost 50 percent from the fourth quarter of 2016, but was still below 2014 and 2015 levels.

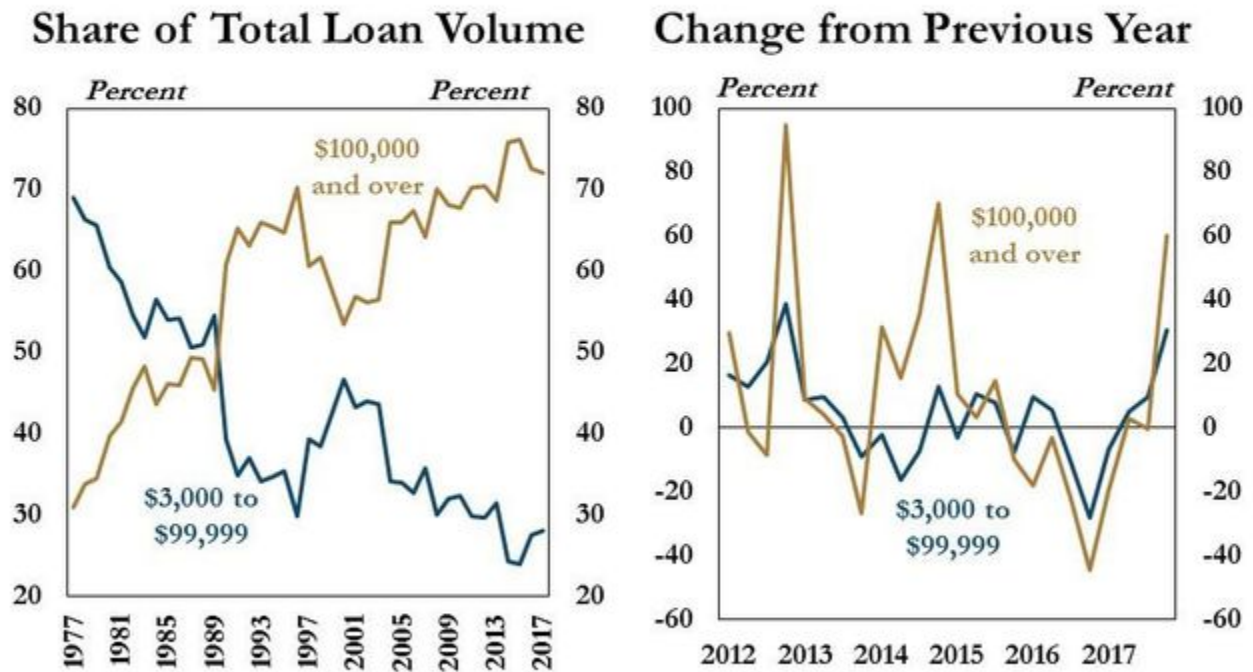
# Chart 1: Non-Real Estate Farm Loan Volumes by Purpose, Fourth Quarter



Source: Agricultural Finance Databook, Table A.3

Large loans continued to account for the majority of farm loan volumes at commercial banks. With production costs remaining relatively high, loans of \$100,000 or more accounted for more than 70 percent of total loan volumes (Chart 2, left panel). Although the share of the largest loans was down slightly from 2014 and 2015, it remained high compared to previous decades. In addition, similar to 2014-15, large loans were the primary driver of new loans in the fourth quarter (Chart 2, right panel).

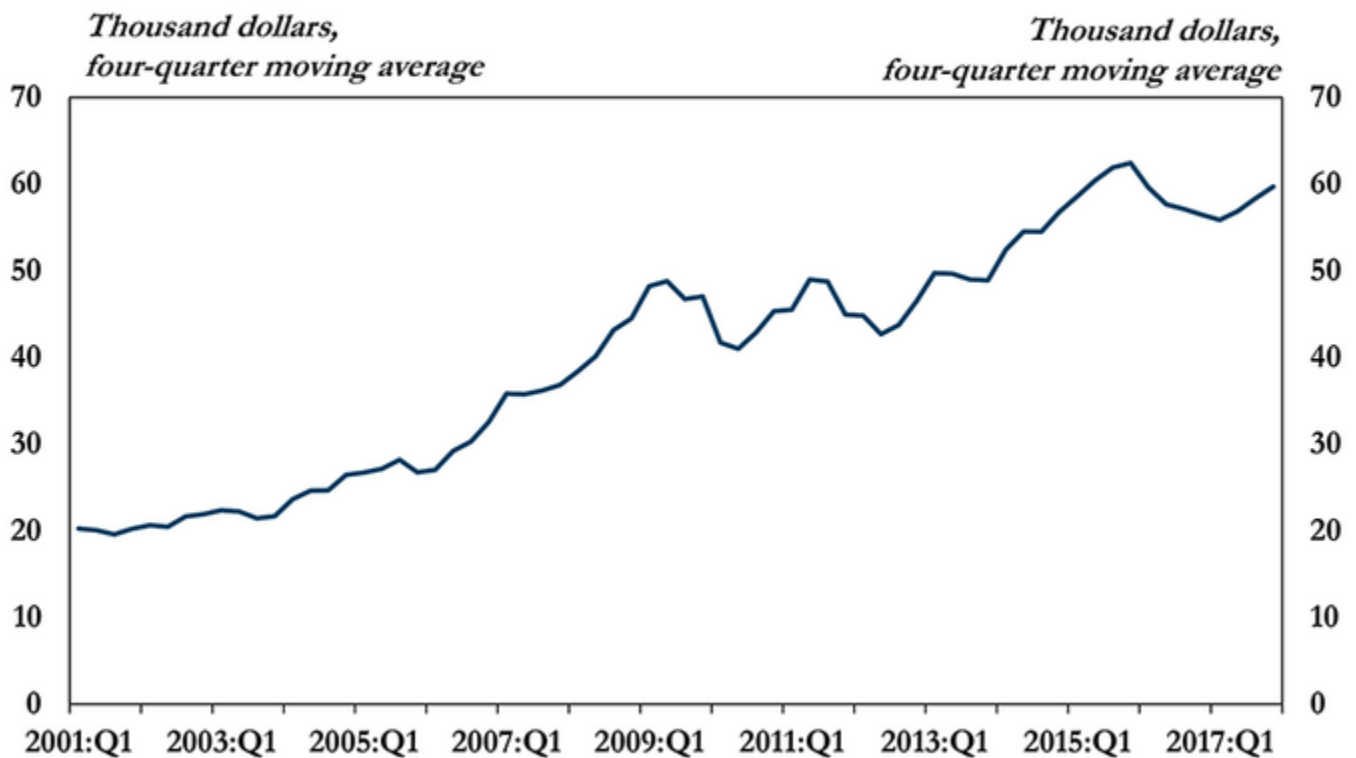
## Chart 2: Non-real Estate Farm Loans by Size of Loan



Source: Agricultural Finance Databook, Table A.3

Alongside an increase in the share of large loans, the average size of farm operating loans continued to grow. After declining in 2016, the average size of farm operating loans grew in every quarter of 2017 (Chart 3). In the fourth quarter of 2017, the average size of farm operating loans nearly matched the previous peak in the fourth quarter of 2015.

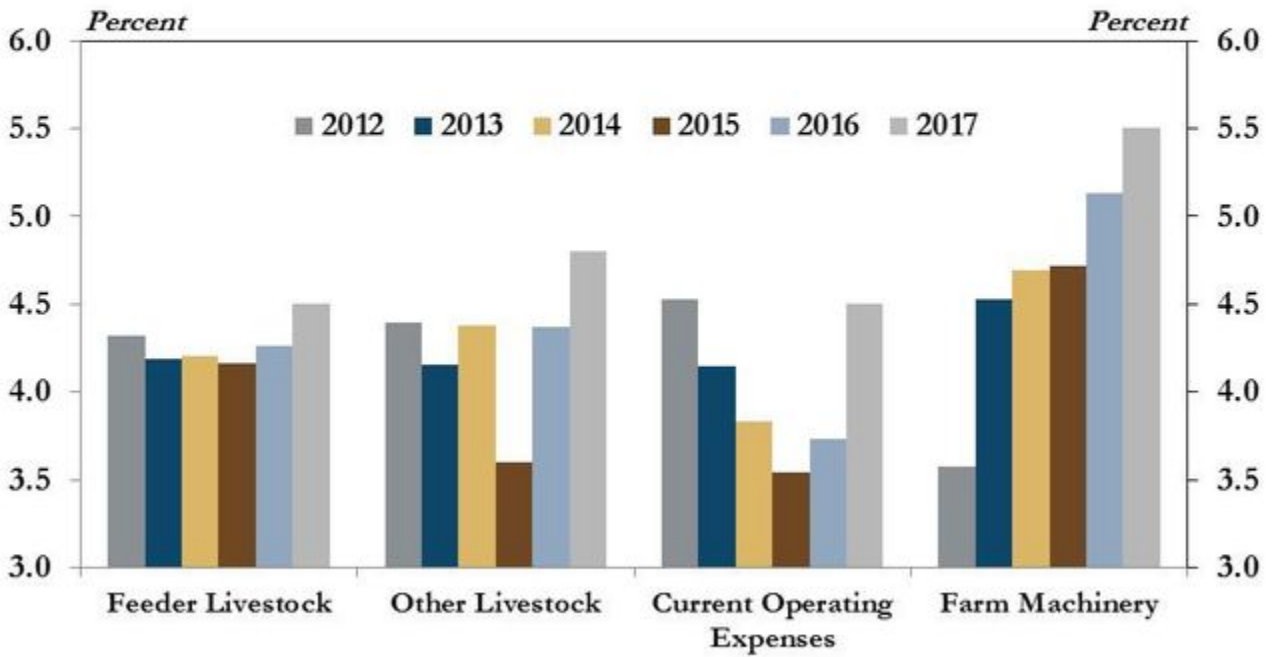
## Chart 3: Average Size of Farm Operating Loans



Source: Agricultural Finance Databook, Table A.2

The average size of farm loans at commercial banks increased alongside rising interest rates. Interest rates on all types of farm loans increased in the fourth quarter, continuing a trend of recent years (Chart 4). Rates on loans used to finance current operating expenses increased nearly a full percent, from 3.7 percent in 2016 to 4.5 percent in the fourth quarter of 2017. In addition, for the first time since 2014, more loans were issued with interest rates greater than 6 percent than loans with rates of 3 percent or less.

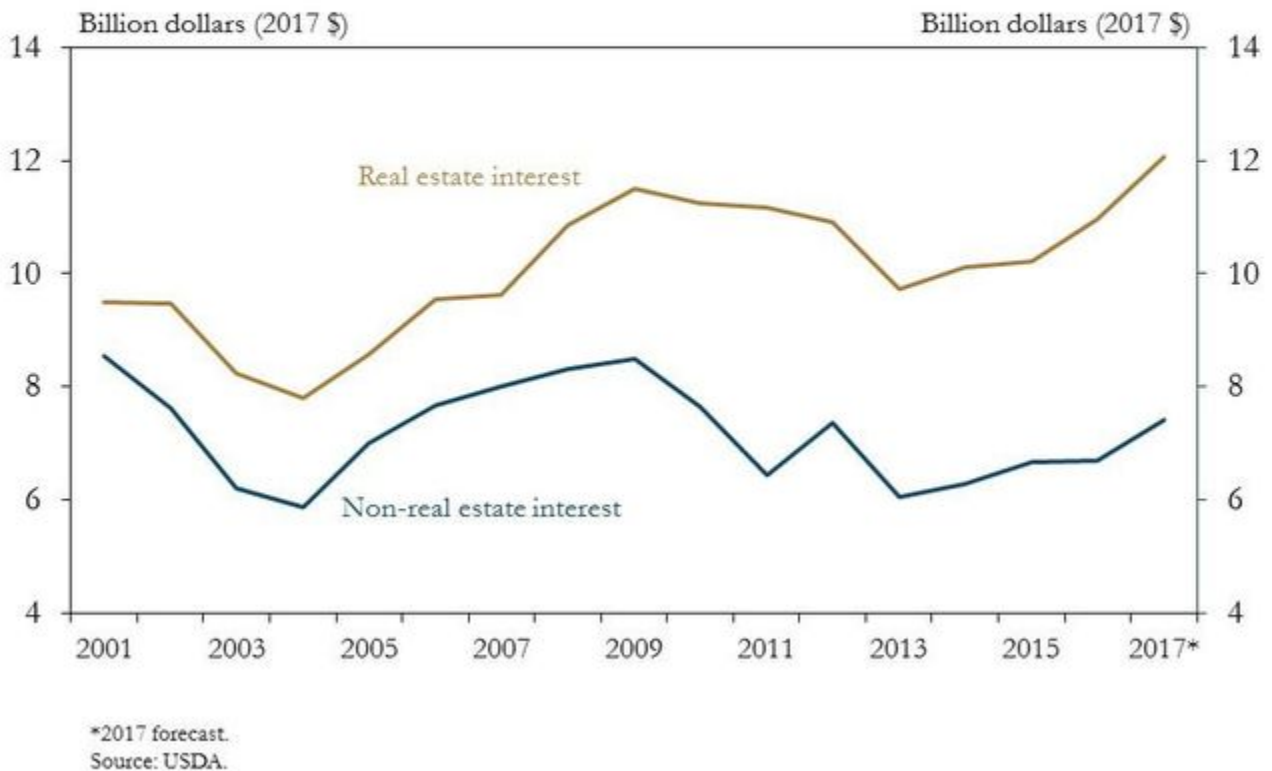
## Chart 4. Interest Rates on Non-Real Estate Farm Loans, Fourth Quarter



Source: Agricultural Finance Databook, Tables A.5.

The combination of larger loans and higher interest rates has, in general, increased farmers' loan payments. According to the U.S. Department of Agriculture, interest expenses on farm loans have risen steadily since 2013 (Chart 5). In fact, in 2017 real estate interest expenses were expected to be the highest since 1989, and non-real estate interest expenses were 23 percent higher than in 2013.

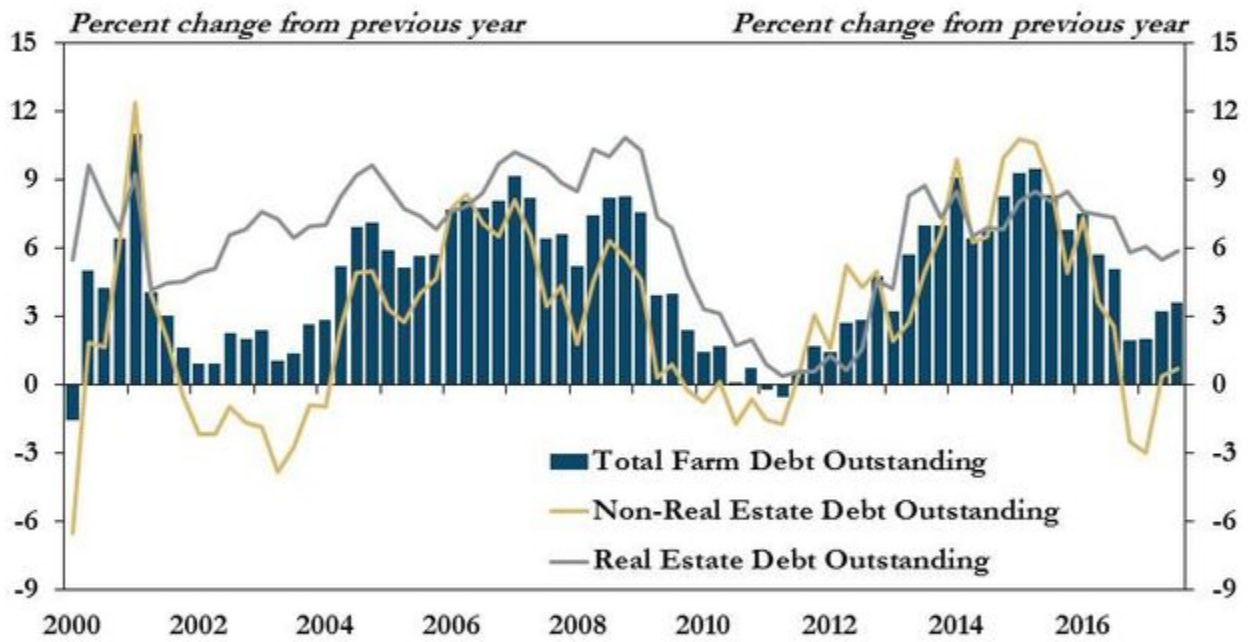
## Chart 5: Interest Expenses on U.S. Farms



### Section B: Third Quarter Call Report Data

According to commercial bank call report data, total farm debt outstanding increased slightly in the third quarter of 2017 from the previous year (Chart 6). This slight uptick can be attributed to both real estate and non-real estate debt. Despite the recent uptick, change in outstanding real estate debt is down slightly from its most recent peak. Non-real estate debt, however, after a couple of quarters of negative growth, increased slightly in the third quarter.

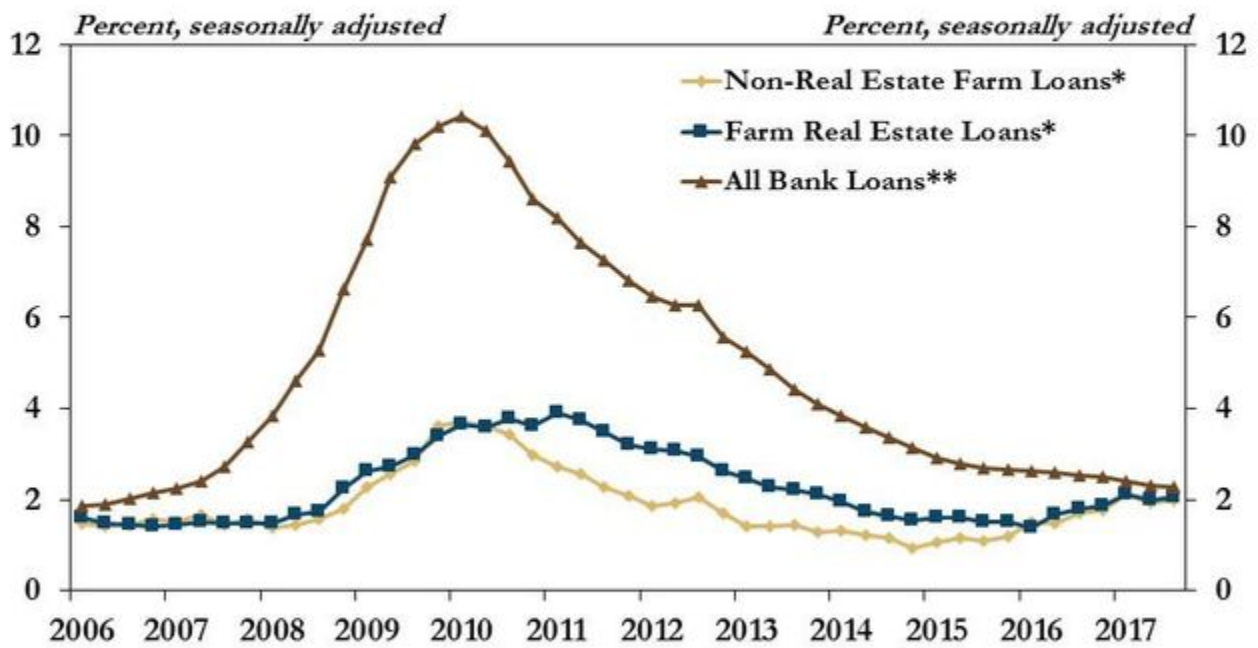
## Chart 6: Farm Debt Outstanding at Commercial Banks



Source: Agricultural Finance Databook, Table B.1

Despite the slight uptick in outstanding debt, farm loan delinquency rates have remained low. Delinquency rates on farm loans for real estate and non-real estate stayed near 2 percent in the third quarter of 2017 (Chart 7). Rates for both types of farm loans remained below delinquency rates for all commercial bank loans.

## Chart 7: Delinquency Rates at Commercial Banks



\* Includes the share of all past due, nonaccruing and net charge-off loans.

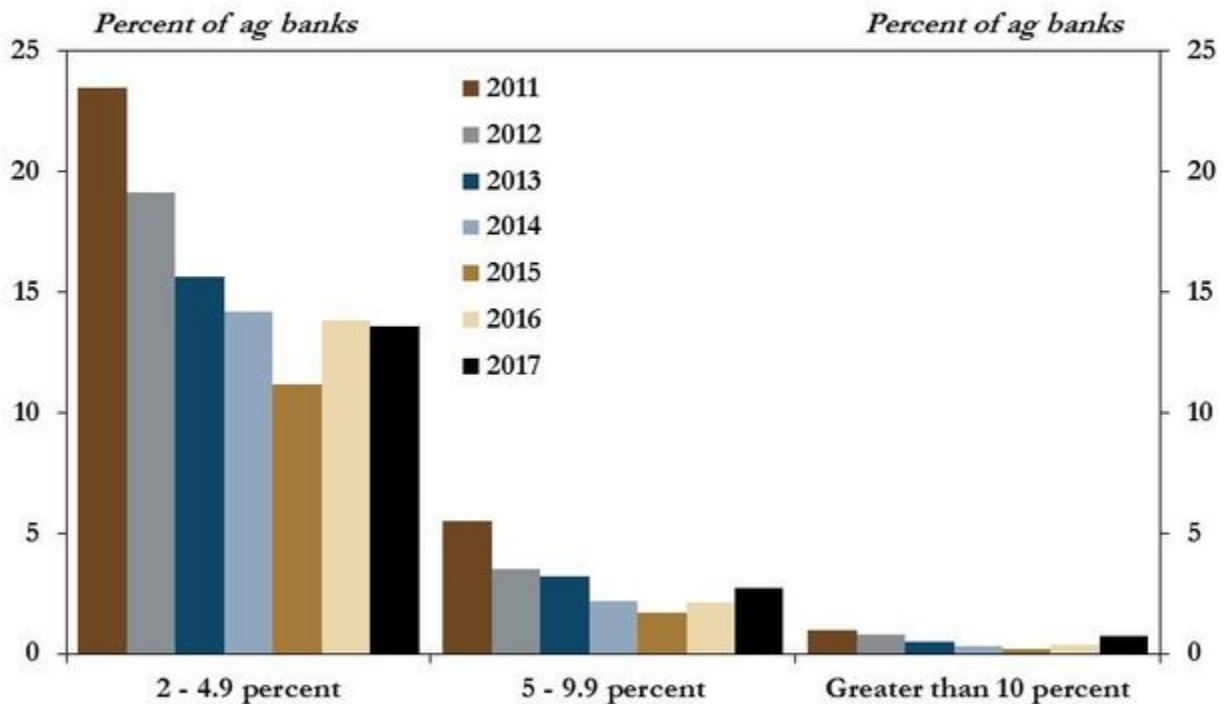
\*\* All bank loans include all loans made at commercial banks.

Sources: Agricultural Finance Databook, Tables B.2, B.3, B.4, B.5. and Board of Governors

In addition to low delinquency rates, the share of nonperforming loans also remained low at most agricultural banks. Although the percentage of banks with more than 5 percent of nonperforming loans edged up slightly, almost all agricultural banks had fewer than 5 percent of their total loans listed as nonperforming (Chart 8).



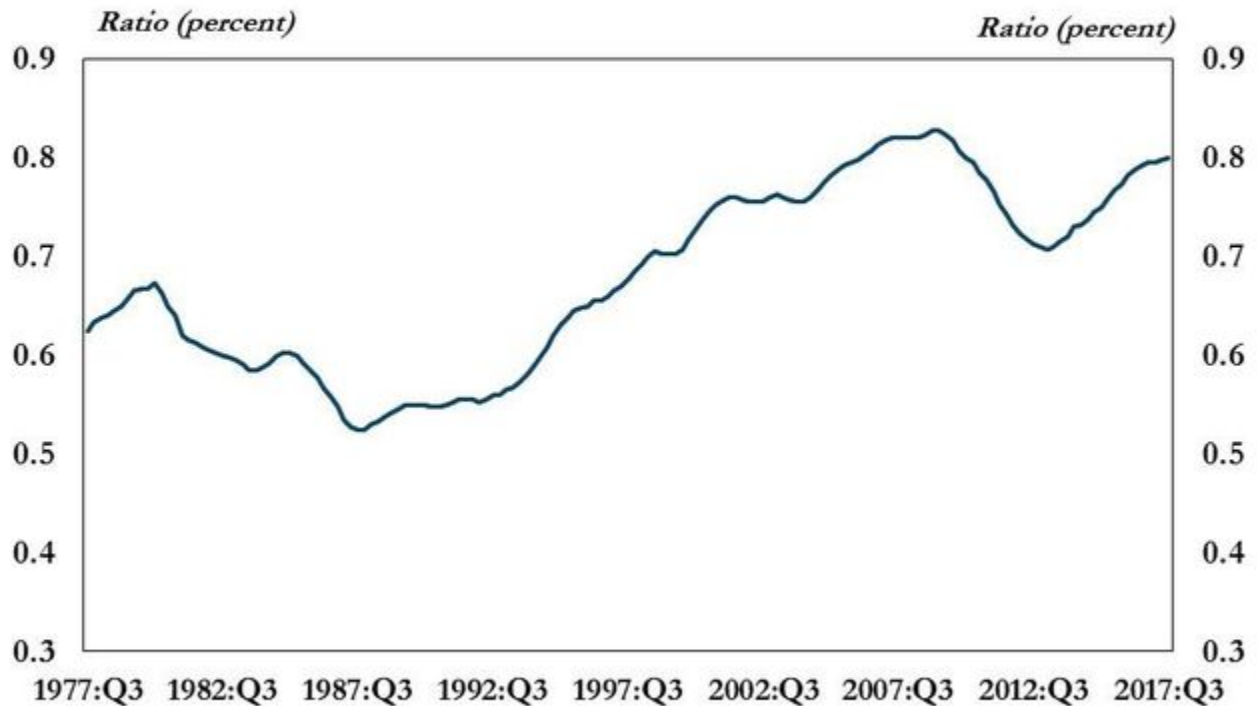
## Chart 8: Distribution of Agricultural Banks by Share of Nonperforming Loans, Third Quarter



Source: Agricultural Finance Databook, Table B.6

Farm loan delinquencies and nonperforming loans have remained low, but liquidity at agricultural banks has continued to tighten. Average loan-to-deposit ratios continued to increase, albeit gradually, to 80 percent in the third quarter (Chart 9). Despite the gradual increase, the ratio is nearing the level of the most recent peak in 2009.

## Chart 9: Average Loan-to-Deposit Ratios at Agricultural Banks

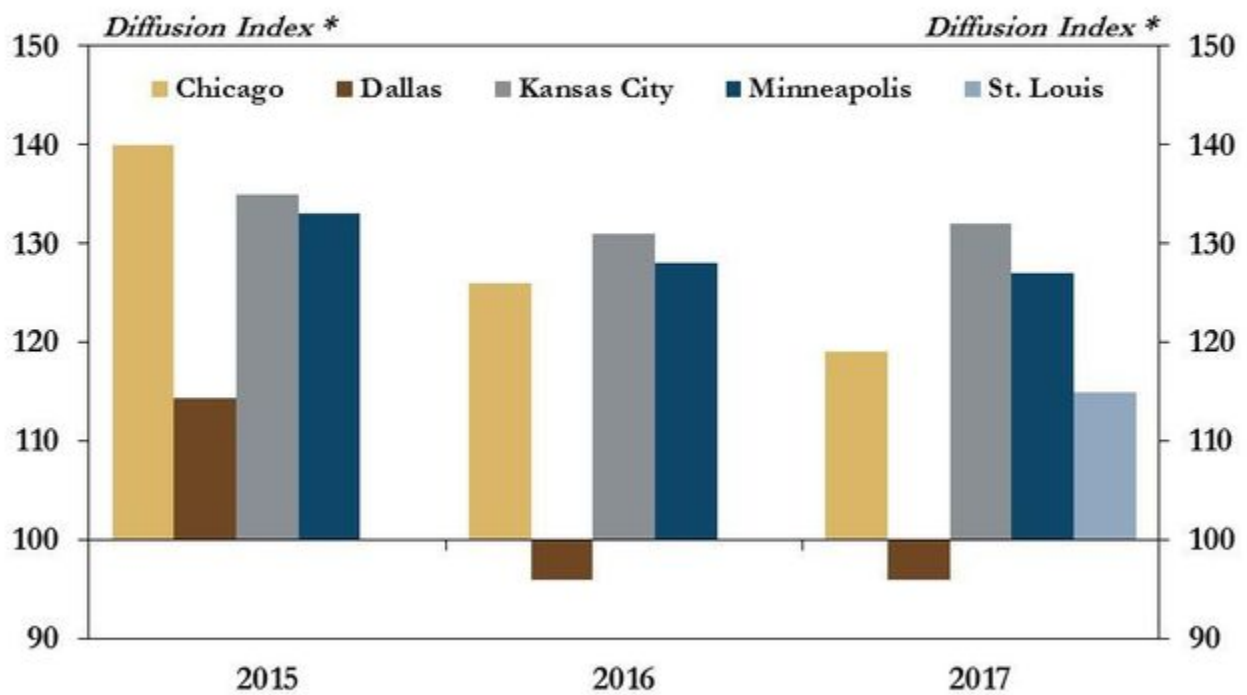


Source: Agricultural Finance Databook, Table B.8.

### Section C: Third Quarter Regional Agricultural Data

Similar to survey data of commercial banks, regional Federal Reserve surveys of agricultural credit conditions showed stronger demand for farm loans. Demand for non-real estate farm loans increased in the third quarter from a year ago in most Federal Reserve Districts, with the strongest increases in the Kansas City and Minneapolis Districts (Chart 10). Growth in loan demand in the third quarter was not as high in most Districts compared to previous years, and all Districts except Dallas indicated higher demand for farm loans.

## Chart 10: Demand for Non-Real Estate Farm Loans, Third Quarter

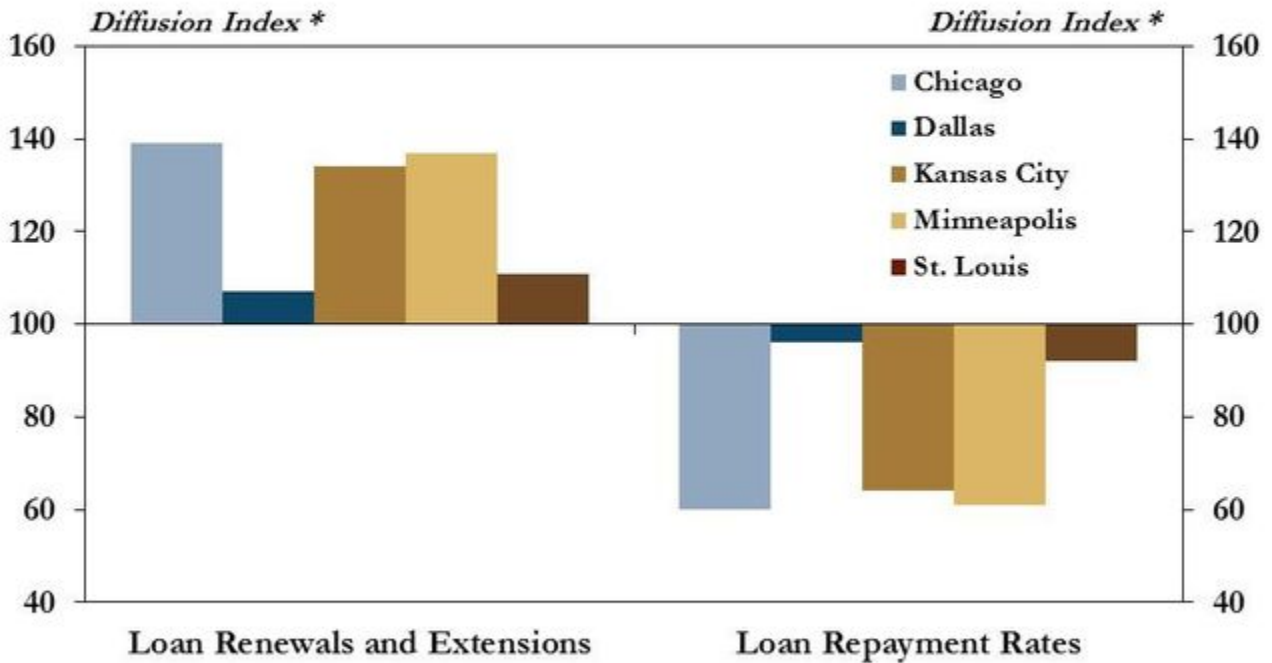


\*Diffusion Index is calculated by subtracting the percentage of respondents who indicated "lower" from the percentage of respondents who indicated "higher" and adding 100

Source: Agricultural Finance Databook, Table C.1

Demand for farm loan renewals and extensions also rose in every District. In the Chicago, Kansas City and Minneapolis Districts, only 1 percent of bankers reported lower renewals and extensions. All other bankers reported that renewals and extensions were higher or unchanged. In the Dallas and St. Louis Districts, more than 80 percent of survey respondents reported that renewals and extensions were unchanged from the third quarter in 2016. Loan repayment rates also continued to decline in each reporting District (Chart 11).

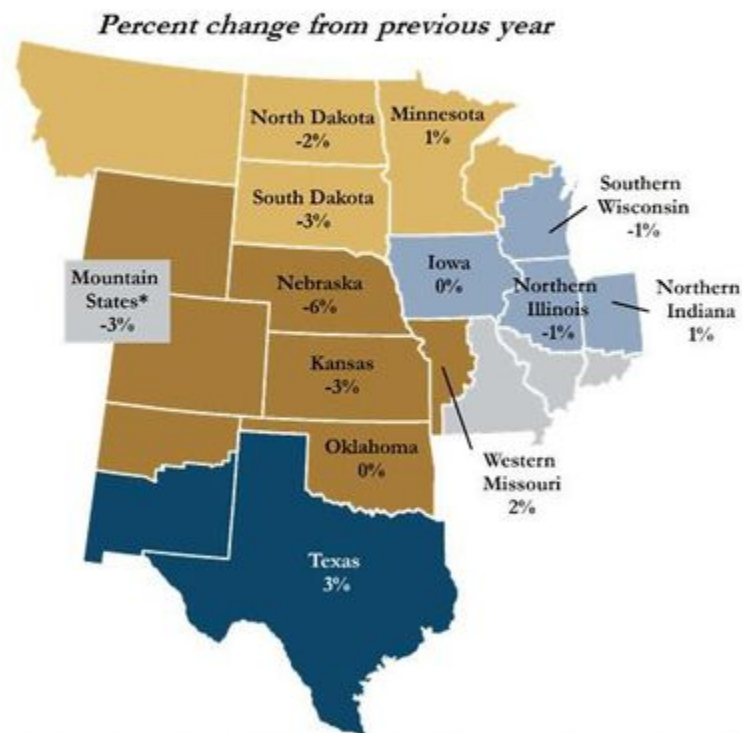
## Chart 11: Selected Agricultural Credit Conditions, Third Quarter 2017



\*Diffusion Index is calculated by subtracting the percentage of respondents who indicated "lower" from the percentage of respondents who indicated "higher" and adding 100  
 Source: Agricultural Finance Databook, Table C.1

Despite continued moderation in credit conditions, farmland values generally have remained stable. In the Corn Belt and Southern Plains states, farmland values increased slightly or remained steady compared with a year ago (Map). In the mid- to upper-Plains states, farmland values declined slightly, most notably in Nebraska, where farmland values fell 6 percent from the third quarter of 2016.

# Map: Value of Nonirrigated Cropland, Third Quarter 2017



\*Mountain States include Colorado, northern New Mexico and Wyoming, which are grouped because of limited survey responses from each state  
Sources: Federal Reserve District Agricultural Credit Surveys (Chicago, Dallas, Kansas City and Minneapolis)

## Conclusion

Farm lending was boosted by larger-sized loans in the fourth quarter even as interest rates continued to rise. Although overall leverage in the agricultural sector has remained relatively modest, the recent uptick in the average size of farm loans at a time of rising interest rates suggests that leverage and liquidity may remain a concern in 2018. Still, delinquency rates have remained low and the value of farm real estate has continued to support farm sector balance sheets as spring planting decisions approach.

## Data and Information

[Historical Data](#) | [Tables](#) | [About](#)

## Authors



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Cortney Cowley is a senior economist in the Regional Affairs Department of the Federal Reserve Bank of Kansas City. She also serves as a special advisor on the agricultural economy to Federal Reserve Governor Miki Bowman. Cortney's current research focuses on agricultural finance, commodity markets, farm management, and natural resource economics and policy. Her responsibilities also include writing for the *Tenth District Survey of Agricultural Credit Conditions* and *Agricultural Finance Updates*. Cortney joined the Bank in 2015 after completing her Ph.D. in Agricultural Economics at Oklahoma State University. She holds a B.S. degree in Biosystems Engineering from Oklahoma State and a M.S. degree in Civil Engineering from Colorado State University.



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John McCoy is an associate economist in the Regional Affairs Department at the Omaha Branch of the Federal Reserve Bank of Kansas City. In this role, he supports research and outreach efforts surrounding economic developments in the state of Nebraska. His responsibilities include serving as Board Secretary to the Omaha Branch Board of Directors and co-authoring *The Nebraska Economist*. John joined the Bank in 2017 as a research associate in the Regional Affairs Department at the Omaha Branch. Prior to 2017, he spent two years as an intern with the department. John holds a BA and MA from Creighton University.