2018 ■ First Quarter

# AGRICULTURAL Finance Monitor

**Selected Quotes from Banker Respondents Across the Eighth Federal Reserve District**

*Crop prices have slightly improved. However, loan repayment is still dependent on government program payments, which occur from 14-15 months after harvest. The fact that there is a government payment at all indicates a weakness in the commodity markets—and the delayed cash flow is as problematic as the weak price.* (Arkansas)

*Recent farm sales in our area brought $14,000 per acre for multiple 20- to 40-acre tracts.* (Illinois)

*There is uncertainty whether the farm bill will remain intact. Without affordable crop insurance, all agricultural lending institutions would be at a great risk for loss.* (Illinois)

*[There is concern about the] untimeliness of Farm Service Agency (FSA) payments and lower commodity prices.* (Mississippi)

*We are concerned about a drought.* (Missouri)

*In the past, producers sought off-farm income to bridge cash flow shortages. Today, larger producers are seeking to diversify (excavating, construction, trucking, and new livestock confinement) to provide additional income by using existing equipment and labor. Consolidation continues. Older farmers are discontinuing operations at a fast pace to secure equity for retirement. Few farmers and their bankers are interested in acquiring land due to really tight cash flow coverage ratios. Few producers start up in agriculture unless ushered in by a retiring producer.* (Missouri)

NOTE: These are generally verbatim quotes, but some were lightly edited to improve readability.

The twenty-fourth quarterly survey of agricultural credit conditions was conducted by the Federal Reserve Bank of St. Louis from March 15, 2018, through March 31, 2018. The results presented here are based on the responses from 34 agricultural banks within the boundaries of the Eighth Federal Reserve District.[1] The Eighth District includes all or parts of seven Midwest and Mid-South states. These data are not adjusted for any seasonal patterns. Accordingly, users are cautioned to interpret the results carefully. Users are also cautioned against drawing firm conclusions about longer-run trends in farmland values and agricultural lending conditions.[2]

## Executive Summary

For the seventeenth consecutive quarter, agricultural bankers in the Eighth Federal Reserve District, on net, reported that farm income had declined compared with a year earlier. This quarter's survey assesses agricultural finance conditions during the first quarter of 2018. Bankers also reported that farm household spending and capital expenditures remained below year-earlier levels in the first quarter. Compared with the previous survey, slightly more bankers were more optimistic about the prospects for farm income, household income, and capital expenditures over the next three months. Quality farmland values fell slightly in the first quarter from a year earlier, as did cash rents on quality farmland. By contrast, ranchland or pastureland values rose sharply in the first quarter, as did cash rents on this type of land. Judging from the expectations for several farm-related metrics reported last quarter, respondents generally believe that economic conditions in the farm economy in the first quarter of 2018 were modestly better than anticipated three months earlier. Interest rates on four of the six fixed- and variable-rate loan categories rose slightly in the first quarter. There were three special questions in this quarter's survey. Results from the first question indicated that nearly all bankers made loans to row crop farmers, while roughly three-quarters made loans to farmers with cattle operations. The second and third special questions looked at off-farm income for farmers. Nearly four of five bankers reported that half or less of the farmers they lend to have full- or part-time off-farm jobs. A similar percentage indicated that half or less of the farmers they lend to would have difficulty servicing their farm-related debt without off-farm income.

## Survey Results

### *Farm Income and Expenditures*

A majority of bankers continue to report declines in farm income relative to a year earlier. As seen in Table 1, the diffusion index for farm income registered a value of 67 in the first quarter of 2018. The first-quarter index marks the seventeenth consecutive quarter with a value below 100. [NOTE: An index value below 100 indicates that a larger percentage of bankers reported decreases in farm income relative to a year earlier than increases in farm income.] Bankers were modestly more optimistic when asked about the

In the survey, bankers are regularly asked two types of questions: (i) estimates of current dollar values and interest rates and (ii) expectations for future values. Dollar values and rates refer to the first quarter of 2018. Regarding expectations for future values, bankers were asked whether they expect values to increase, decrease, or remain constant (either relative to a year ago or relative to current values; see table descriptions). A "diffusion index" value was then created for "income and expenditures" and for the 3-month trends in "land values" and "cash rents" (per acre). The diffusion index was created by subtracting the percent of bankers that responded "decrease" from the percent that responded "increase" and then adding 100. We reasonably interpret a "remain constant" response as half a "decrease" response and half an "increase" response. Hence, index values from 0 to 99 indicate a majority witnessed/expected decreases; index values from 101 to 200 indicate a majority witnessed/expected increases; and an index value of 100 indicates an even split. More specifically, lower index values indicate proportionately more bankers witnessed/expected decreases.

The results reported in these tables refer to the entire Eighth Federal Reserve District.

## Table 1

**Income and Expenditures (versus year-ago levels)**

| | Index value |
|---|---|
| **Farm income** | |
| 2018:Q1 (actual) | 67 |
| 2018:Q2 (expected) | 72 |
| **Household spending** | |
| 2018:Q1 (actual) | 82 |
| 2018:Q2 (expected) | 90 |
| **Capital spending** | |
| 2018:Q1 (actual) | 61 |
| 2018:Q2 (expected) | 69 |

NOTE: Actual and expected values for the indexes use all responses from the 2018:Q1 survey.

## Table 2

**Land Values and Cash Rents (year/year change)**

| | Percent or index value |
|---|---|
| **Land values** | |
| Quality farmland | –1.4% |
| Expected 3-month trend | 94 |
| Ranchland or pastureland | 13.0% |
| Expected 3-month trend | 108 |
| **Cash rents** | |
| Quality farmland | –0.5% |
| Expected 3-month trend | 97 |
| Ranchland or pastureland | 12.6% |
| Expected 3-month trend | 104 |

NOTE: Changes in land values and cash rents are calculated using a common sample of respondents for the most recent survey as well as the survey conducted a year ago. Expected trends of land values and cash rents are calculated using all responses from the 2018:Q1 survey. Expected trends are presented as a diffusion index; see the note above for details about interpreting diffusion indexes.

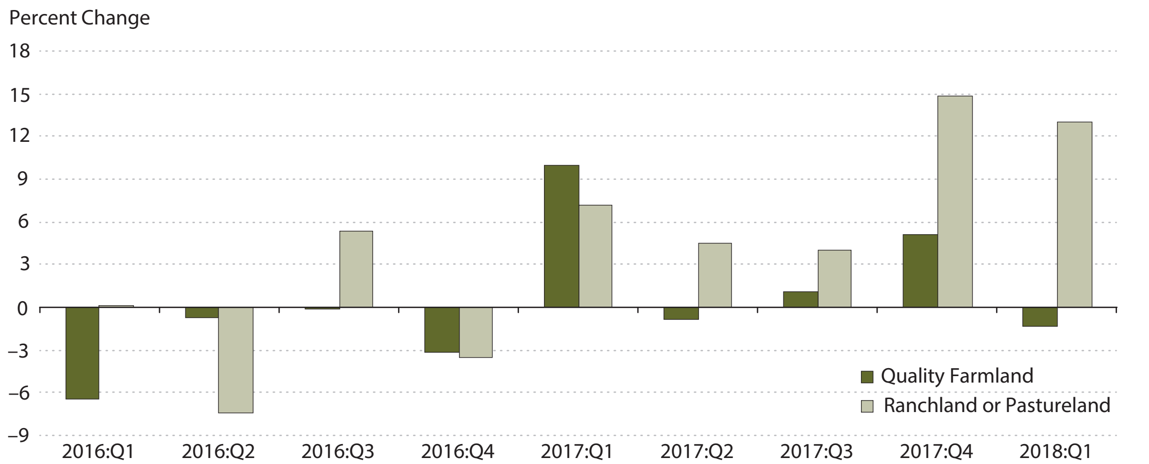
prospects for farm income in the second quarter of 2018, yielding a diffusion index value of 72. Proportionately more bankers also reported that household spending and capital expenditures in the first quarter were lower than a year earlier. But, similar to the expectations for farm income, a modestly larger diffusion index value for the second quarter suggests bankers expect some improvement in household spending and capital expenditures over the next three months—though still below year-earlier levels. As seen in Figures 3 to 5, the percentage of respondents reporting declines in farm income, household income, and capital expenditures from a year earlier has steadily decreased. [This is reflected in larger values of the diffusion index.] These trends suggest rising optimism about the farm economy on the part of agricultural bankers. Readers are reminded that farm income is highly volatile and subject to seasonal fluctuations. Readers are also reminded that the index values in Table 1 are based on all responses received for the first-quarter survey and thus can differ from the values reported in Figures 3 to 5. [See note at the bottom of Figure 8.]

### *Current and Expected Land Values and Cash Rents*

Table 2 reports year-to-year changes in current-quarter land values and cash rents, as well as banker expectations for the trend in land values and cash rents over the following three months. Quality farmland values fell 1.4 percent in the first quarter from a year earlier, the first decline since the third quarter of 2017. By contrast, ranchland or pastureland values increased sharply for the second consecutive quarter. After increasing by 14.8 percent in the fourth quarter of 2017, ranchland or pastureland values in the first

**Figure 1**

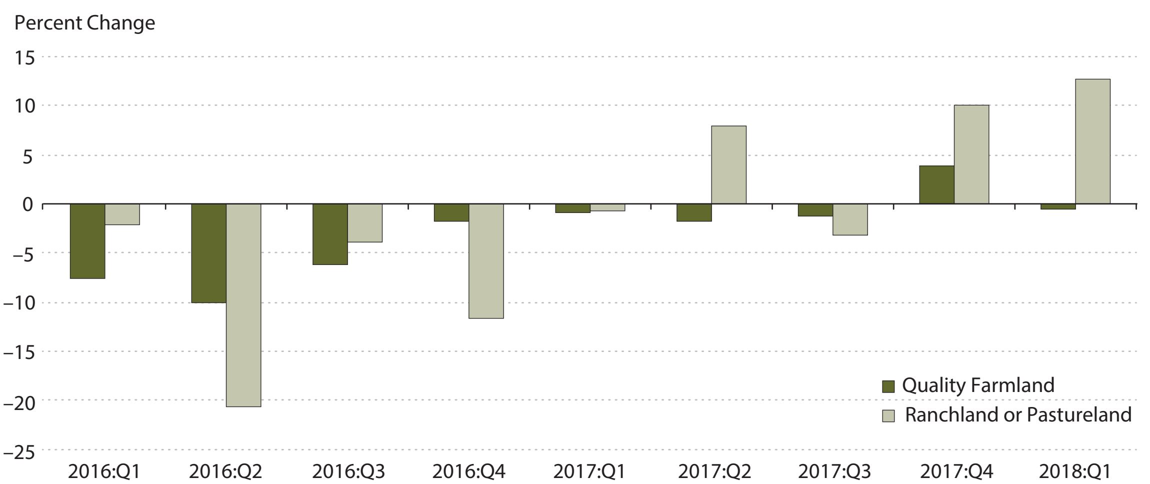
**Year-Over-Year Change in Average Eighth District Land Values**




NOTE: Percent changes are calculated using responses only from those banks reporting in both the past and the current quarters.

**Figure 2**

**Year-Over-Year Change in Average Eighth District Cash Rents**




NOTE: Percent changes are calculated using responses only from those banks reporting in both the past and the current quarters.

quarter were up 13 percent from a year earlier. Respondents expect this divergence in land values to continue into the second quarter: Proportionately more bankers expect quality farmland values to decline over the next three months (index value of 94), while proportionately more bankers expect ranchland or pastureland values to increase over the next three months (diffusion index of 108). Similar to the pattern for land values in the first quarter, cash rents for quality farmland values declined slightly in the first quarter from a year earlier, while cash rents for ranchland or pastureland rose sharply. Looking forward, proportionately more bankers expect that cash rents for quality farmland values will decline over the next three months, but that cash rents for ranchland or pastureland values will increase over the next three months. See Figures 1 and 2 for a historical perspective of land values and cash rents.

### *Outcomes Relative to Previous-Quarter Expectations*

Table 3 reports diffusion indexes for farm income, household expenditures, farm-related capital expenditures,

### Table 3

**2018:Q1 Variables (versus year-ago levels)**

| | Index value |
|---|---|
| **Farm income** | |
| Expected | 65 |
| Actual | 75 |
| Difference | 10 |
| **Household spending** | |
| Expected | 74 |
| Actual | 89 |
| Difference | 16 |
| **Capital spending** | |
| Expected | 55 |
| Actual | 70 |
| Difference | 15 |
| **Demand for loans** | |
| Expected | 129 |
| Actual | 118 |
| Difference | –12 |
| **Availability of funds** | |
| Expected | 106 |
| Actual | 106 |
| Difference | 0 |
| **Rate of loan repayment** | |
| Expected | 83 |
| Actual | 117 |
| Difference | 33 |

NOTE: All variables are reported using a diffusion index. See the note above Table 1 for details about interpreting diffusion indexes. For comparison purposes, we compute diffusion indexes using only those banks that responded to the given questions in both the past and the current quarters. Components may not sum to totals due to rounding.

and three bank-related metrics for the first quarter of 2018 compared with the values that were expected in the previous survey three months earlier. [NOTE: For Table 3, we compute diffusion indexes using only those banks that responded to both the 2017 fourth-quarter and 2018 first-quarter surveys.] Overall, actual values for five of the six diffusion indexes in the first quarter were larger than expected three months earlier. The lone exception was the demand for loans, which was modestly less than expected. In short, the results in Table 3 are consistent with the notion that respondents believe that economic conditions in the farm economy in the first quarter of 2018 were modestly better than anticipated three months earlier.

### Table 4

**Lending Conditions (versus year-ago levels)**

| | Index value |
|---|---|
| **Demand for loans** | |
| 2018:Q1 (actual) | 113 |
| 2018:Q2 (expected) | 107 |
| **Availability of funds** | |
| 2018:Q2 (actual) | 100 |
| 2018:Q3 (expected) | 100 |
| **Rate of loan repayment** | |
| 2018:Q1 (actual) | 100 |
| 2018:Q2 (expected) | 87 |

NOTE: Demand for loans, availability of funds, and rate of loan repayment are reported using a diffusion index. See the note above Table 1 for details about interpreting diffusion indexes. Actual and expected values for indexes use all responses from the 2018:Q1 survey.

### Table 5

**Interest Rates (%)**

| | 2018:Q1 | 2017:Q4 | Change |
|---|---|---|---|
| **Operating** | | | |
| Fixed | 5.87 | 5.76 | 0.11 |
| Variable | 5.36 | 5.32 | 0.04 |
| **Machinery/ intermediate-term** | | | |
| Fixed | 5.85 | 5.85 | 0.00 |
| Variable | 5.45 | 5.36 | 0.09 |
| **Farm real estate** | | | |
| Fixed | 5.53 | 5.62 | –0.09 |
| Variable | 5.22 | 5.01 | 0.21 |

NOTE: For comparison purposes, we calculate interest rates in both periods using a common sample of banks that responded to the given questions in both the past and the current quarters. Components may not sum to totals due to rounding.

*Financial Conditions*

Table 4 reports our survey respondents' assessment of current and prospective bank lending conditions in the first quarter of 2018 compared with four quarters earlier. Proportionately more bankers reported an increase in loan demand from a year earlier (diffusion index of 113), which may reflect increased funding needs stemming from the multi-year strains on farm incomes. For the second quarter

**Figure 3**
**Farm Income: Expected and Actual Values**

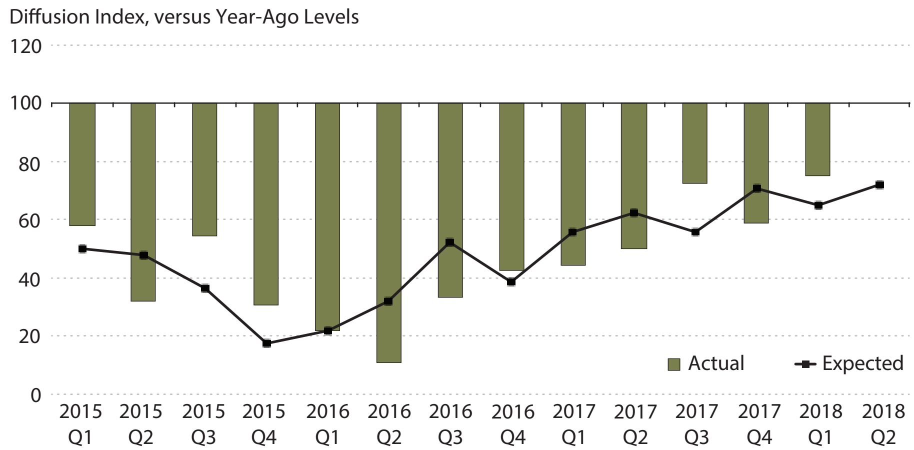



**Figure 4**
**Household Spending: Expected and Actual Values**

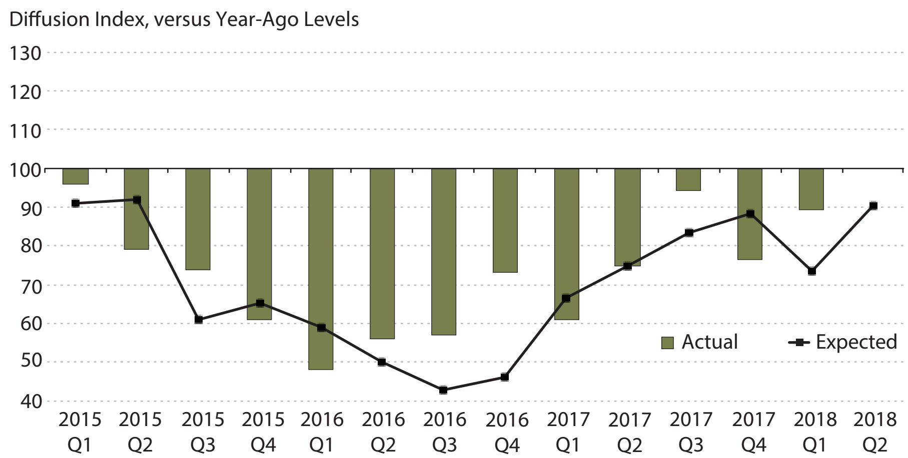
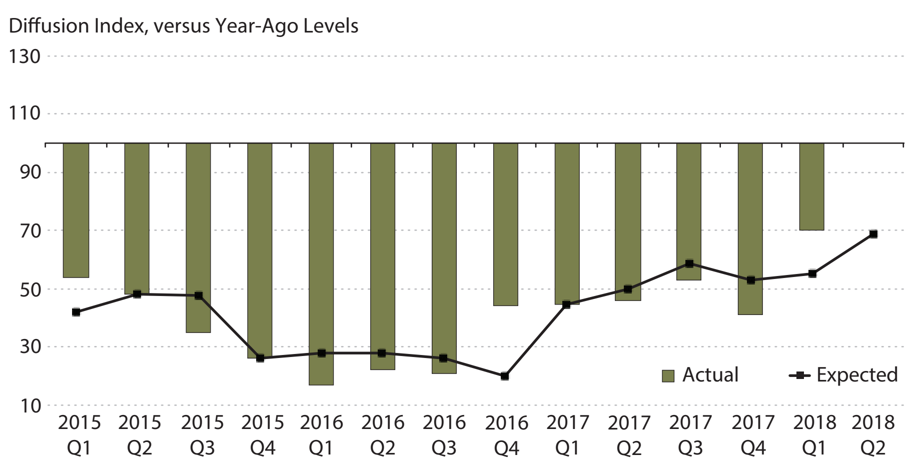



**Figure 5**
**Capital Spending: Expected and Actual Values**




NOTE: All variables in Figures 3 through 8 are reported using a diffusion index. See the note above Table 1 for details about interpreting diffusion indexes. For comparison purposes, we compute diffusion indexes using only those banks that responded to the given questions in both the past and the current quarters. Expected values for indexes in 2018:Q2 are calculated using only the responses from the 2018:Q1 survey. There is no actual value (and hence no bar) for the final quarter shown in each figure. For all previous quarters, if no bar is shown, the actual value is 100.

**Figure 6**

**Demand for Loans: Expected and Actual Values**

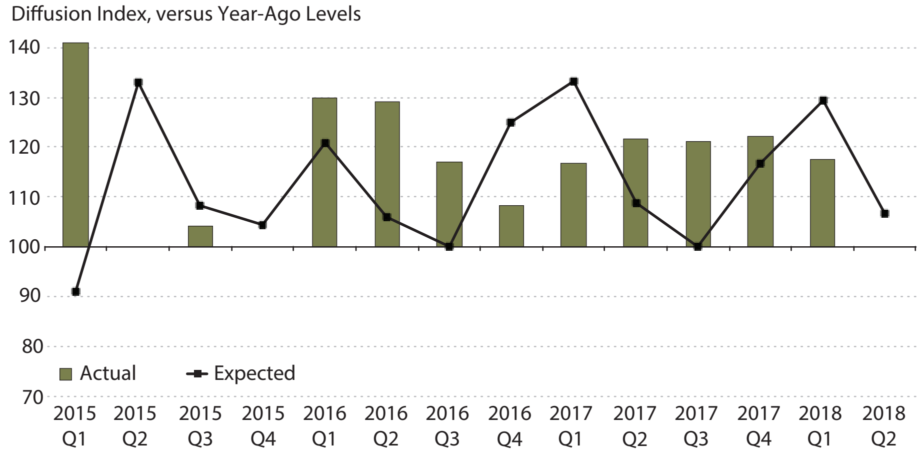



**Figure 7**

**Availability of Funds: Expected and Actual Values**

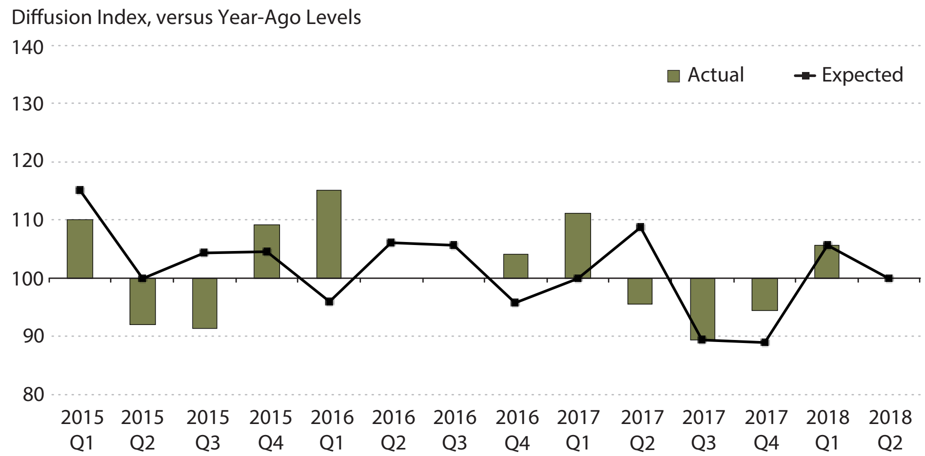
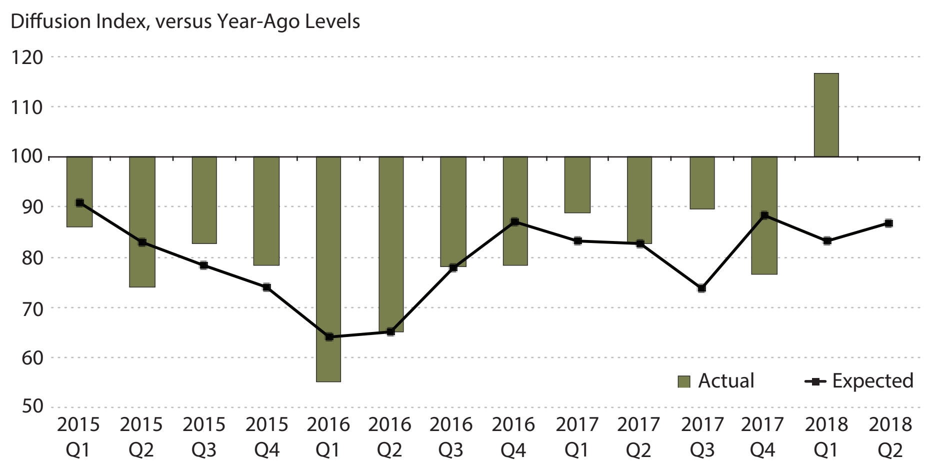



**Figure 8**

**Rate of Loan Repayment: Expected and Actual Values**




NOTE: All variables in Figures 3 through 8 are reported using a diffusion index. See the note above Table 1 for details about interpreting diffusion indexes. For comparison purposes, we compute diffusion indexes using only those banks that responded to the given questions in both the past and the current quarters. Expected values for indexes in 2018:Q2 are calculated using only the responses from the 2018:Q1 survey. There is no actual value (and hence no bar) for the final quarter shown in each figure. For all previous quarters, if no bar is shown, the actual value is 100.

of 2018, proportionately more bankers expect an increase in the demand for loans (index value of 107), but proportionately more bankers expect a decrease in the rate of loan repayment (index value of 87). As in the previous survey, the percentage of bankers expecting increases in the availability of funds for the second quarter is equal to the percentage expecting decreases. [As noted in previous surveys, the actual index values for first-quarter values reported in Table 4 may differ from those reported in Table 3. The reason is that Table 4 uses all responses from the first-quarter 2018 survey, instead of a common sample between the current and previous surveys.]

Table 5 shows average interest rates on fixed- and variable-rate loans in the fourth quarter of 2017 and the first quarter of 2018. Compared with the fourth-quarter averages, interest rates for fixed- or variable-rate operating loans increased slightly in the first quarter. Fixed-rate intermediate loans or loans to finance machinery purchases were unchanged in the first quarter from three months earlier, while for variable-rate loans they rose 9 basis points. Fixed rates for farm real estate loans fell by 9 basis points to 5.62 percent, while variable rates for farm real estate loans rose by 21 basis points to 5.01 percent.

### *Special Questions*

Table 6 reports the results of three special questions posed to our agricultural bankers. The first question asked agricultural bankers to identify the types of agricultural and natural resources operations they finance. Nearly all of our respondents (97 percent) reported that they lend to row crop farmers, while nearly three-quarters (73 percent) lend to those with cattle operations. Around a tenth, a fifth, and a quarter of bankers lend to catfish, poultry, and other livestock operations, respectively.

The second and third special questions asked agricultural bankers to assess the extent that farmers they lend to rely on off-farm income—that is, farmers with full- or part-time off-farm jobs—and whether these borrowers would face financial difficulty without this off-farm income. In question two, 41 percent of the bankers reported that up to one-quarter of their agricultural borrowers (farmers) had off-farm income, with another 38 percent reporting that between a quarter and half of farmers had off-farm income. Roughly one of five (22 percent) bankers reported that more than half of their farmer borrowers had off-farm income.

The third special question asked bankers to estimate what percentage of farmers they lend to would have severe difficulty servicing their farm-related debts (making principle and interest payments) without off-farm income. A little more than half of the bankers reported that between zero percent and 25 percent would have severe financial difficulty without off-farm income. One of five bankers (22 percent) indicated that between a quarter and a half of their farmers would face severe financial difficulty. The remainder of respondents (22 percent) indicated that more than half of their farm borrowers would face severe financial difficulty without off-farm income. ■

## Table 6

### Special Questions

**Please indicate the types of agriculture and natural resource operations you lend to:**

| | *Percent of respondents* |
|---|---|
| Row crop farming | 97 |
| Forestry | 15 |
| Poultry | 21 |
| Cattle | 73 |
| Catfish | 12 |
| Other livestock | 27 |
| Other non-row crop, non-livestock agricultural industry | 15 |

**The percentage of farmers who rely on off-farm income (e.g., a full- or part-time non-farm job) has increased over time. Approximately what percentage of the farmers that you lend to have full- or part-time off-farm jobs?**

| | *Percent of respondents* |
|---|---|
| 0% to 25% | 41 |
| 26% to 50% | 38 |
| 51% to 75% | 13 |
| More than 75% | 9 |

**What percentage of the farmers that you lend to would have severe difficulty servicing their farm-related debts (principle and interest payments) without off-farm income?**

| | *Percent of respondents* |
|---|---|
| 0% to 25% | 56 |
| 26% to 50% | 22 |
| 51% to 75% | 9 |
| More than 75% | 13 |

## Notes

[1] An agricultural bank, for survey purposes, is defined as a bank for which at least 15 percent of its total loans outstanding finances agricultural production or purchases of farmland, farm equipment, or farm structures. As of March 31, 2018, there were 226 banks in the Eighth Federal Reserve District that met this criteria.

[2] Readers are also cautioned that the number of responses in each zone is relatively small. Statistically, this tends to suggest that the responses in each zone have a larger plus-or-minus margin of error than for the District as a whole. We have eliminated the zone-by-zone responses until the response rate improves.


The survey is produced by staff at the Federal Reserve Bank of St. Louis: Larry D. Sherrer, Senior Examiner, Banking Supervision and Regulation Division; Jonas Crews and Brian Levine, Research Associates; and Kevin L. Kliesen, Business Economist and Research Officer, Research Division. We thank staff at the Federal Reserve Bank of Kansas City for initial and ongoing assistance with the agricultural credit survey.

If you have comments or questions, please contact Kevin Kliesen at kevin.l.kliesen@stls.frb.org.

The Eighth Federal Reserve District is headquartered in St. Louis and includes branch offices in Little Rock, Louisville, and Memphis; the District includes the state of Arkansas and portions of Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee.

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