# Agricultural FINANCE Monitor

agricultural credit conditions in the Eighth Federal Reserve District

2014 ■ Third Quarter

The tenth quarterly survey of agricultural credit conditions was conducted by the Federal Reserve Bank of St. Louis from September 15, 2014, through September 30, 2014. The results presented here are based on the responses from 41 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 (should they exist). 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

According to a survey of 41 agricultural banks in the Eighth District, farm household spending and capital equipment expenditures declined in the third quarter relative to the same period a year earlier. Proportionately more bankers reported lower farm income for the third quarter than was expected three months earlier. Bankers expect further declines in farm income, household expenditures, and capital expenditures in the fourth quarter. Respondents reported that farmland values rose sharply in the third quarter. Our survey found that quality farmland values in the Eighth District averaged a little more than $6,100 per acre in the third quarter, which is the highest value the *Agricultural Finance Monitor* has reported. A larger percentage of bankers expect quality farmland prices in the fourth quarter to be lower than they were in the fourth quarter last year. Agricultural loan demand in the third quarter was consistent with the expectations of bankers from three months earlier, and the average interest rate on most fixed- and variable-rate loan products declined or was unchanged from three months earlier. For this survey, we asked three special questions to assess the financial health of agricultural borrowers in our bankers' loan portfolios. The results suggest that the average agricultural borrowers' financial condition has not deteriorated over the past three years.

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

*"The dramatic drop in grain prices will put many producers in a cash flow crunch. Highly leveraged operators will be facing negative cash flow from grain. Livestock has very good margins."* (Illinois)

*"As we have been expecting, the low commodity prices are quickly affecting both actual borrower numbers as well as borrower sentiment in a negative way. I feel it will really begin to show up late next year. The one bright spot is cattle. Fortunately, we have a good mix of borrowers that are involved with livestock production in some form or another."* (Missouri)

*"Prices for all commodities grown in our region have declined to near-production-cost levels. Capital spending has sharply declined to near zero. Many customers will face crop loan carryovers this year. Loan underwriting will be much more difficult in 2015."* (Arkansas)

*"With the price of corn falling to about $2.60 and soybeans falling below $9.00, I do not know how young farmers with no equity built up will pay their cash rent or the payment on equipment and land purchased. This is a critical time for the farming community."* (Missouri)

*"Heavy flooding in eastern Arkansas has resulted in decreased earnings and late replants; however, few farm failures are anticipated as a result. Land prices continue to moderately rise with a foreseeable bubble in valuations on the horizon."* (Arkansas)

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

## Survey Results

### *Farm Income and Expenditures*

Respondents reported that third-quarter farm income declined compared with the same period a year earlier—to a substantially larger degree than in our second-quarter survey. The third-quarter index value (76) was at its lowest level since we began publishing *Agricultural Finance Monitor* survey results (second quarter of 2012). Readers are cautioned that farm income is highly volatile and subject to seasonal patterns that occur in the agricultural sector.

The survey is produced by staff at the Federal Reserve Bank of St. Louis: Gary Corner, Senior Examiner, Bank Supervision and Regulation Division; and Lowell R. Ricketts, Senior Research Associate, 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.

## Table 1

**Income and Expenditures, Land Values, and Cash Rents**

| | |
|---|---|
| **Income and expenditures (versus year-ago levels)** | |
| Farm income | |
| 2014:Q3 (actual) | 76 |
| 2014:Q4 (expected) | 41 |
| Household spending | |
| 2014:Q3 (actual) | 91 |
| 2014:Q4 (expected) | 62 |
| Capital spending | |
| 2014:Q3 (actual) | 55 |
| 2014:Q4 (expected) | 41 |
| **Land values (per acre)** | |
| Quality farmland | $6,120 |
| Expected 3-month trend | 57 |
| Ranchland or pastureland | $2,570 |
| Expected 3-month trend | 93 |
| **Cash rents (per acre)** | |
| Quality farmland | $194 |
| Expected 3-month trend | 46 |
| Ranchland or pastureland | $63 |
| Expected 3-month trend | 100 |

NOTE: In the survey, bankers were 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 third quarter of 2014. 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. Index values from 0 to 99 indicate overall expectations of decreasing values; index values from 101 to 200 indicate overall expectations of increasing values; and an index value of 100 indicates an even split.

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

Actual and expected farm income is a key determinant of household expenditures and capital spending by farmers and ranchers. Thus, not surprisingly, survey respondents reported that farm household spending and capital equipment expenditures declined in the third quarter relative to the same period a year earlier. The survey suggests that the pull-back in capital spending was more widespread than the decline in farm household expenditures. Respondents expect further declines in all three categories in the fourth quarter.

## Table 2

**Expected and Actual 2014:Q3 Variables (versus year-ago levels)**

| | |
|---|---|
| **Farm income** | |
| Expected | 80 |
| Actual | 76 |
| Difference | –4 |
| **Household spending** | |
| Expected | 87 |
| Actual | 91 |
| Difference | 4 |
| **Capital spending** | |
| Expected | 73 |
| Actual | 55 |
| Difference | –18 |
| **Demand for loans** | |
| Expected | 103 |
| Actual | 103 |
| Difference | 0 |
| **Availability of funds** | |
| Expected | 114 |
| Actual | 111 |
| Difference | –3 |
| **Rate of loan repayment** | |
| Expected | 103 |
| Actual | 89 |
| Difference | –14 |

NOTE: All variables are reported using a diffusion index. See the note below Table 1 for details about interpreting diffusion indexes. Components may not sum to totals due to rounding.

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

Land values and cash rents are reported in Table 1. According to our agricultural banker respondents, quality farmland values across the District averaged $6,120 per acre in the third quarter of 2014. This is the highest reported value in our survey's relatively short history. The third-quarter average was up 11.8 percent from the second-quarter average of $5,473 per acre (see Figure 1).[3] In our second-quarter survey, a slight majority of bankers expected quality farmland values to decline in the third quarter. Compared with the third quarter of 2013, quality farmland values in the Eighth District increased by 14.8 percent. Land values and cash rents are reported in current dollars.

The value of Eighth District ranchland or pastureland averaged $2,570 per acre in the third quarter of 2014, an 11.1 percent increase from the previous quarter and also

**Figure 1**

**Average Land Values Across the Eighth District**

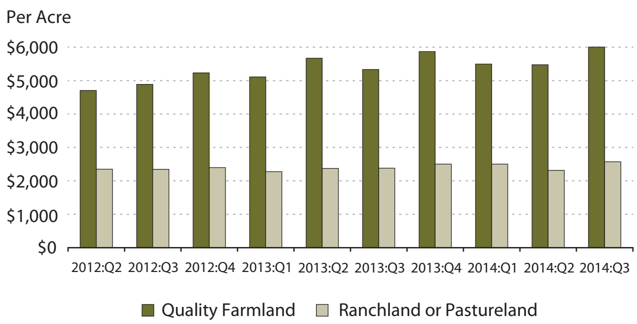



**Figure 2**

**Average Cash Rents Across the Eighth District**


## Table 3

**Lending Conditions**

| | |
|---|---|
| **Loans (versus year-ago levels)** | |
| Demand for loans | |
| 2014:Q3 (actual) | 103 |
| 2014:Q4 (expected) | 106 |
| Availability of funds | |
| 2014:Q3 (actual) | 111 |
| 2014:Q4 (expected) | 94 |
| Rate of loan repayment | |
| 2014:Q3 (actual) | 89 |
| 2014:Q4 (expected) | 83 |

NOTE: Demand for loans, availability of funds, and rate of loan repayment are reported using a diffusion index. See the note below Table 1 for details about interpreting diffusion indexes.

## Table 4

**Interest Rates**

| | 2014:Q3 | 2014:Q2 | Change |
|---|---|---|---|
| **Interest rates (%)** | | | |
| Operating | | | |
| Fixed | 5.24 | 5.37 | –0.13 |
| Variable | 4.89 | 4.94 | –0.06 |
| Machinery/ intermediate-term | | | |
| Fixed | 5.52 | 5.58 | –0.05 |
| Variable | 5.00 | 5.15 | –0.16 |
| Farm real estate | | | |
| Fixed | 5.14 | 5.18 | –0.03 |
| Variable | 4.83 | 4.82 | 0.01 |

the highest reported value in the survey's history. Compared with a year earlier, the value of ranchland or pastureland increased by 8.1 percent in the third quarter. Cash rents for quality farmland across the District averaged $194 per acre in the third quarter, up 1.6 percent from the second quarter. Cash rents for ranchland or pastureland rose an even larger 6.8 percent in the third quarter to $63 per acre.

Despite the surge in farmland prices in the third quarter, respondents expect farmland values to soften in the fourth quarter relative to a year earlier (an index value of 57). In fact, expectations of a softening in quality farmland prices have been prevalent over the past year. A substantially smaller proportion of respondents expect values of ranchland or pastureland to decline in the fourth quarter relative to a year earlier (index value of 93). Since cash rents adjust to the income produced by land—perhaps with a lag—expectations for cash rents for quality farmland and ranchland or pastureland over the next three months were very similar to land values: Proportionately more respondents expect cash rents for quality farmland values to decline in the fourth quarter relative to a year earlier (index value of 46). Figures 1 and 2 show average farmland values and cash rents since our first survey.

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

The examination of actual data relative to expectations is an important aspect of economic analysis. Accordingly, Table 2 provides an assessment of farm income, expenditures, and several other key variables reported in the third quarter of 2014 relative to bankers' expectations from three months earlier.[4] Farm income and capital spending in the

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

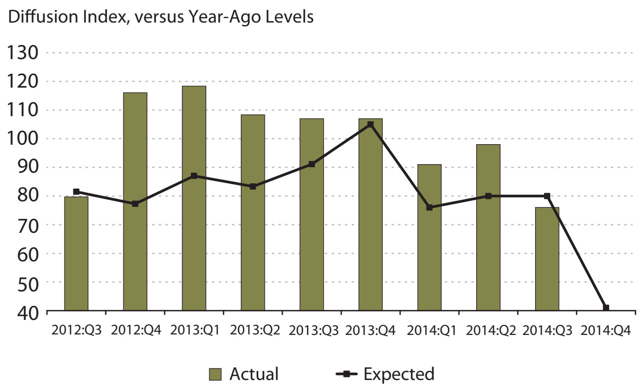



**Figure 4**
**Household Spending: Expected and Actual Values**

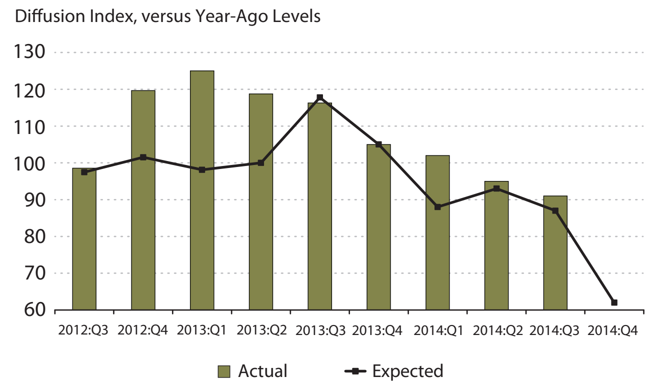



**Figure 5**
**Capital Spending: Expected and Actual Values**

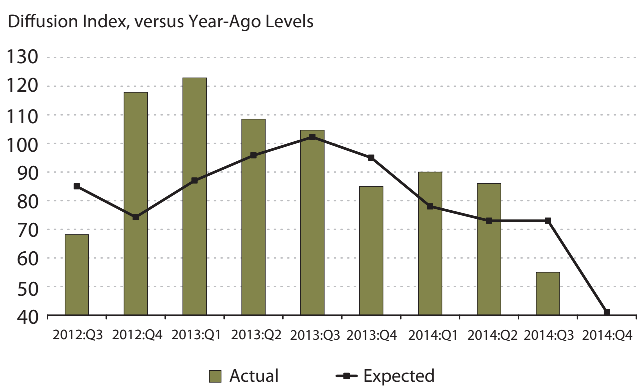



**Figure 6**
**Demand for Loans: Expected and Actual Values**

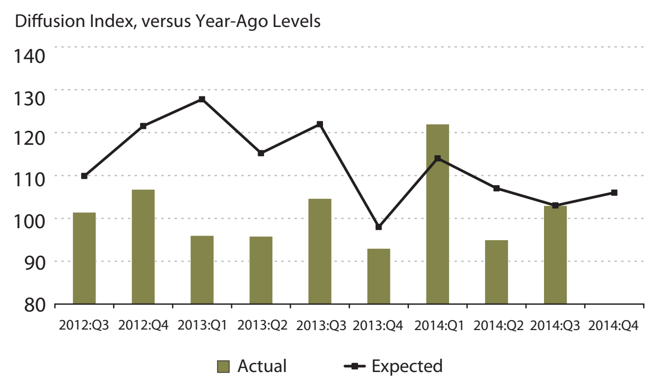



**Figure 7**
**Availability of Funds: Expected and Actual Values**

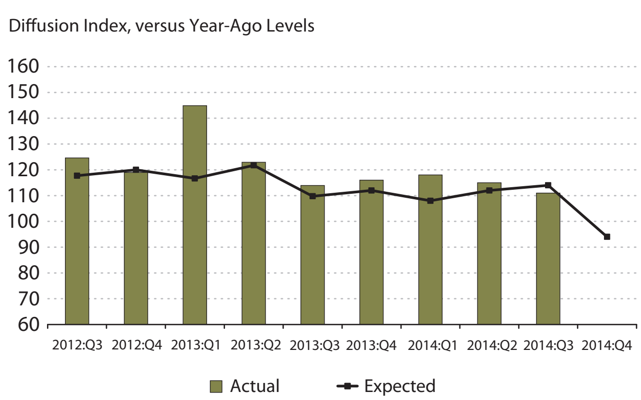
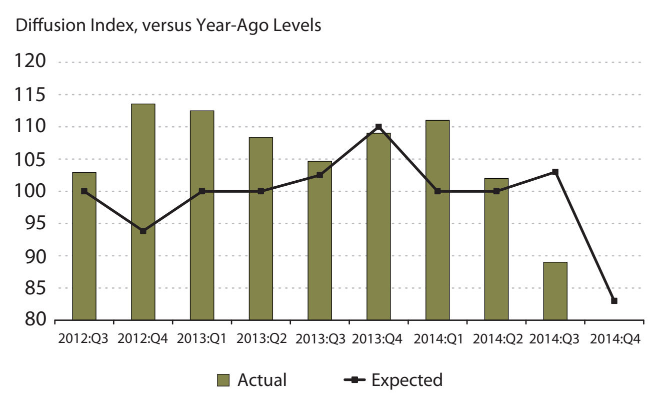



**Figure 8**
**Rate of Loan Repayment: Expected and Actual Values**



third quarter was lower than initially expected in the previous survey. However, farm household spending in the third quarter was slightly higher than expected.

Table 2 indicates that loan demand in the third quarter was consistent with the expectations of bankers from three months earlier (index value of 103). However, the availability of funds in the third quarter was slightly below expectations from three months earlier. A modestly larger share of bankers reported that loan repayments fell short of previous expectations (an index value of 89 relative to an expected index value of 103). Figures 3 through 8 plot the actual and expected diffusion index values for the six variables shown in Table 2 since our first survey.

### *Financial Conditions*

Table 3 reports our survey respondents' assessment of current and prospective commercial lending indicators in the Eighth District. In the third quarter, a slightly larger proportion of bankers reported an increase in loan demand relative to the same period a year ago (index value of 103). The proportion of bankers expecting loan demand to increase over the next three months relative to a year ago increased slightly (index value of 106). By contrast, a larger number of bankers expect that the availability of funds and loan repayment rates will fall in the fourth quarter relative to a year ago.

Table 4 indicates that average interest rates on fixed- and variable-rate loan products in the third quarter of 2014 were modestly below their second-quarter averages. The largest declines were in fixed-rate loans for operating expenses (–13 basis points) and variable-rate loans for machinery/intermediate-term loan types (–16 basis points). The average interest rate on farm real estate loans in the third quarter was little changed from the previous quarter.

### *Special Questions*

Table 5 reports the results of three special questions we posed to our bank respondents for this survey. Taken together, the questions attempt to assess the current financial condition of our bankers' agricultural borrowers. In the first question, we asked bankers to assess the change in loan-to-value ratios (LTVs) over the past three years for agricultural production/operating loans and for land purchase loans. Regarding the former, roughly two-thirds of respondents indicated no change in LTVs over the past three years. Of those bankers reporting a change, a slightly larger percentage noted an increase in LTVs relative to a decrease in LTVs.

**Table 5**

**Special Question**

**How have your loan-to-value ratios changed over the past three years?**

| | |
|---|---|
| Agricultural production/operating loans | |
| Increased | 17.6 |
| Remained stable | 67.6 |
| Declined | 14.7 |
| Land purchase loans | |
| Increased | 24.2 |
| Remained stable | 57.6 |
| Declined | 18.2 |

**What is the range of debt-to-equity ratios for agricultural borrowers in your loan portfolio?**

20 to 75 percent*

**How has the range of debt-to-equity ratios for agricultural borrowers in your loan portfolio changed over the past three years?**

| | |
|---|---|
| Increased | 17.6 |
| Remained stable | 44.1 |
| Declined | 38.2 |

NOTE: Values may not add up to 100 due to rounding.
*Range created from median of responses.

The second special question asked agricultural bankers to assess the debt-to-equity ratios (DERs) for agricultural borrowers in their loan portfolio. The results varied tremendously, and the median responses ranged from a low of 20 percent to a high of 75 percent. Finally, the third question asked bankers to assess how their agricultural borrowers' DERs have changed over the past three years. A significant minority of respondents (44.1 percent) reported that DERs have remained stable, while a substantially smaller percentage (17.6 percent) reported that their borrowers' DERs have increased. The remaining 38.2 percent of respondents reported that their borrowers' DERs have decreased over the past three years. Overall, these results suggest that the average agricultural borrowers' financial condition has not deteriorated over the past three years. ■

## 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.

[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 are eliminating the zone-by-zone responses until the response rate improves.

[3] Since the composition and number of survey respondents tend to change each quarter, it might be more accurate to compare the results reported from the same respondents to this survey and the previous survey (second quarter of 2014). Such an exercise reveals that the average value of quality farmland in the District was $6,112 per acre in the third quarter of 2014, which is a 0.4 percent increase from the $6,086 per acre average reported in the second quarter of 2014.

[4] See http://research.stlouisfed.org/publications/afm/2014/afmq2.pdf.