Agricultural *FINANCE Monitor*

agricultural credit conditions in the Eighth Federal Reserve District

2014 ■ Fourth Quarter

The eleventh quarterly survey of agricultural credit conditions was conducted by the Federal Reserve Bank of St. Louis from December 15, 2014, through December 31, 2014. The results presented here are based on the responses from 39 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]

We have made an important change in the reporting of survey results. Beginning with this quarter's survey, we are now placing more emphasis on the results from the same respondents for two comparable periods. (These respondents will be described here as "common respondents.") This change largely reflects a reduction in the number of respondents over time. The entrance or exit of an individual respondent may potentially generate an outsized effect on aggregate values—especially for land values and cash rents. To minimize this potential problem, we will no longer report dollar values for farmland and cash rents. Instead, consistent with other Federal Reserve surveys, we will report year-to-year percentage changes. This change will better illustrate longer-term trends. For most reporting measures, this will diminish the sample size. However, given the relatively diverse nature of agribusiness across the Eighth District, we believe this change will sharpen the accuracy of survey results.

Executive Summary

According to the survey responses from 39 agricultural banks in the Eighth District, farm income, farm household spending, and capital equipment expenditures all declined in the fourth quarter relative to the same period a year earlier.

Selected Quotes from Banker Respondents Across the Eighth Federal Reserve District

"The concentration that has taken place in farming and the aging of the farm population should be causing some concern as to the concentration of debt. Some aggressive, especially young farmers and sometimes multiple-family operations have taken on large debt loads. This could become a problem if agricultural profitability reverts to more historical returns." (Illinois)

"The uncertainty of tax laws is affecting equipment purchases at the end of the year." (Illinois)

"Lower commodity prices have reduced margins for 2014 and created frequent carryovers. Restoring trade relations to Cuba would give an immediate, positive affect to our local ag economy." (Arkansas)

"Our farmers are mostly cattle and integrated livestock and poultry producers. Cow/calf producers are seeing good profits, stocker operations margins are about the same as before price spike, it takes more capital to run the same numbers. All in all our producers have had a good year." (Arkansas)

"It is very difficult for farmers to buy farmland and new equipment with corn prices in the $3.50 range. Many received much less for their crops this fall. Farmers with a lot of debt cannot postpone the sale of their crop waiting for prices to rebound when they have payments due after harvest." (Missouri)

"Extremely high yields and high cattle prices have helped offset the reduction in crop prices." (Missouri)

"Cash rents are typically renegotiated from now until March. With lower grain prices, expectations are for rents to begin adjusting downward. Excellent yields have helped offset lower grain prices for most producers for the 2014 crop, but future incomes are expected to be reduced based on average yields and projected prices for the 2015 crop year. Higher livestock incomes have also offset lower grain prices for those with cattle and/or hogs." (Missouri)

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

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.

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 fourth 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.

Table 1

Income and Expenditures (versus year-ago levels)

	Index value
Farm income	
2014:Q4 (actual)	78
2015:Q1 (expected)	61
Household spending	
2014:Q4 (actual)	89
2015:Q1 (expected)	80
Capital spending	
2014:Q4 (actual)	69
2015:Q1 (expected)	49

Table 2

Land Values and Cash Rents (year/year change)

	Percent or index value
Land values	
Quality farmland	0.8%
Expected 3-month trend	87
Ranchland or pastureland	–2.6%
Expected 3-month trend	100
Cash rents	
Quality farmland	3.6%
Expected 3-month trend	77
Ranchland or pastureland	–2.1%
Expected 3-month trend	100

NOTE: Land value and cash rent estimates, as well as expected trends of those variables, are calculated using only the banks that responded to those respective questions in both the past and the current quarter. Expected trends are presented as a diffusion index, see note (above) for details about interpreting diffusion indexes.

In terms of fourth-quarter expectations, fewer respondents indicated that farm income declined than was expected in the prior survey; farm household spending was largely as expected. Further, significantly more respondents (relative to prior survey) reported that capital equipment expenditures in the fourth quarter fell short of their previous year's levels. By and large, a significant majority of respondents expect these downward trends to hold in the first quarter of 2015.

The average quality farmland values reported by common respondents in the fourth quarter indicate that quality farmland values were little changed from one year ago (+0.8 percent). However, a majority of bankers expect quality farmland prices to soften in the first quarter of 2015 compared with prices a year earlier. Respondents indicate that, for the quarter, their funds available for lending increased ahead of expectations while loan demand increased but fell somewhat short of expectations.

For this survey, we asked two special questions aimed at assessing the general underwriting of, and the risks associated with, loans secured by farmland. The responses suggest that bankers are employing prudent management practices in this area.

Survey Results

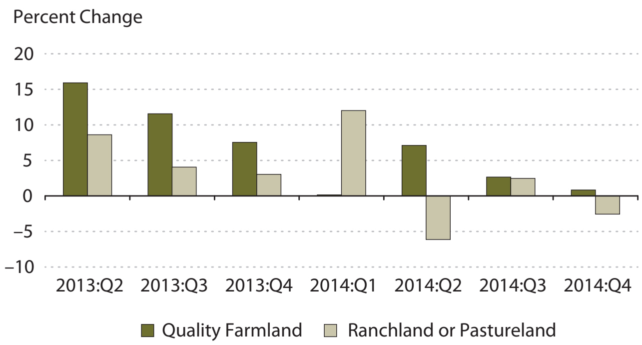
Farm Income and Expenditures

A larger percentage of respondents reported that farm income fell in the fourth quarter of 2014 compared with the same period a year earlier. The actual index value for the fourth quarter (78), while moderately low, is stronger than the assessment bankers offered for farm income over the following three months (61). (See Table 1.) Readers are cautioned that farm income is highly volatile and subject to seasonal patterns that occur in the agricultural sector.

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 fourth quarter relative to the same period a year earlier. The survey suggests that,

Figure 1

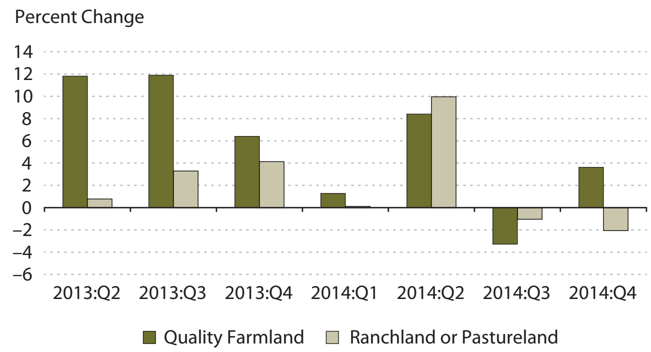
Year-Over-Year Change in Average Eighth District Land Values



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.

again, the pull-back in capital spending in this quarter was more pronounced than the decline in farm household expenditures. Respondents continue to expect further declines in both categories in the first quarter of 2015, with the more significant decline expected in capital expenditures.

Current and Expected Land Values and Cash Rents

The annual percentage changes in land values and cash rents are reported in Table 2[3] (also see Figures 1 and 2). According to our banker respondents, quality farmland values across the District increased on average 0.8 percent from one year ago. Proportionately more respondents remain pessimistic about farmland values over the next three months (an index value of 87). Pastureland presents a somewhat different story: While the average value declined 2.6 percent from one year ago, bankers are largely divided about future values.

Cash rents for quality farmland increased on average 3.6 percent from one year ago. However, proportionately more bankers see downward pressure on farmland cash rents over the next three months (an index value of 77). As with the trend in pastureland values, respondents reported a decline in pastureland cash rents: 2.1 percent lower than one year ago. Similarly, bankers are equally divided on the future direction of cash rents over the next quarter. Since cash rents adjust to land values—perhaps with a lag—expectations for cash rents for quality farmland and ranchland or pastureland over the next three months are generally very similar to land values.

Outcomes Relative to Previous-Quarter Expectations

The examination of actual data relative to expectations is an important aspect of economic analysis. Accordingly, Table 3 provides an assessment of farm income, expenditures, and several other key variables reported in the fourth quarter of 2014 relative to bankers' expectations from three months earlier.[4] Compared with the previous survey, farm income was higher than expected while actual reported capital spending in the fourth quarter was even lower than the relatively dim view reported by bankers three months earlier. Farm household spending in the fourth quarter was largely consistent with previous expectations.

Table 3 also indicates that loan demand in the fourth quarter was relatively good but did fall a bit shy of banker expectations. However, the availability of funds in the fourth quarter was significantly stronger than expected three months ago. A sizable share of bankers reported that loan repayments exceeded previous expectations (an index value of 105 relative to an expected index value of 82), nearly opposite of what occurred in the prior quarter. Figures 3 through 8 plot the actual and realized diffusion index values for the six variables shown in Table 3 since the first *Agricultural Finance Monitor* survey (in the second quarter of 2012).

Table 3

2014:Q4 Variables (versus year-ago levels)

	Index value
Farm income	
Expected	59
Actual	68
Difference	9
Household spending	
Expected	86
Actual	86
Difference	0
Capital spending	
Expected	62
Actual	52
Difference	–10
Demand for loans	
Expected	109
Actual	105
Difference	–5
Availability of funds	
Expected	95
Actual	123
Difference	27
Rate of loan repayment	
Expected	82
Actual	105
Difference	23

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 quarter. Components may not sum to totals due to rounding.

Table 4

Lending Conditions (versus year-ago levels)

	Index value
Demand for loans	
2014:Q4 (actual)	114
2015:Q1 (expected)	100
Availability of funds	
2014:Q4 (actual)	122
2015:Q1 (expected)	116
Rate of loan repayment	
2014:Q4 (actual)	100
2015:Q1 (expected)	91

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.

Table 5

Interest Rates (%)

	2014:Q4	2014:Q3	Change
Operating			
Fixed	5.24	5.36	–0.11
Variable	4.95	5.00	–0.05
Machinery/ intermediate-term			
Fixed	5.55	5.59	–0.04
Variable	5.20	5.07	0.13
Farm real estate			
Fixed	5.36	5.29	0.06
Variable	4.88	4.87	0.01

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 quarter.

Financial Conditions

Table 4 reports our survey respondents' assessment of current and prospective commercial lending conditions in the Eighth District. In the fourth quarter, a modestly larger proportion of bankers reported an increase in loan demand relative to the same period a year ago (index value of 114). Bankers are equally divided, however, on their views of loan demand over the next three months relative to a year ago (index value of 100). By contrast, a larger number of bankers expect that loan repayment rates will fall in the first quarter relative to a year ago, while funds availability remains high.

Table 5 presents the average interest rates on fixed- and variable-rate loan products in the fourth quarter of 2014. The results in the table reflect the pricing of farm operating loans; these rates have declined slightly, while the rates for farm real estate credit have risen somewhat. The pricing of machinery loans reflects a rise in variable-rate loans, while fixed-rate loans declined slightly.

Figure 3

Farm Income: Expected and Actual Values

Diffusion Index, versus Year-Ago Levels

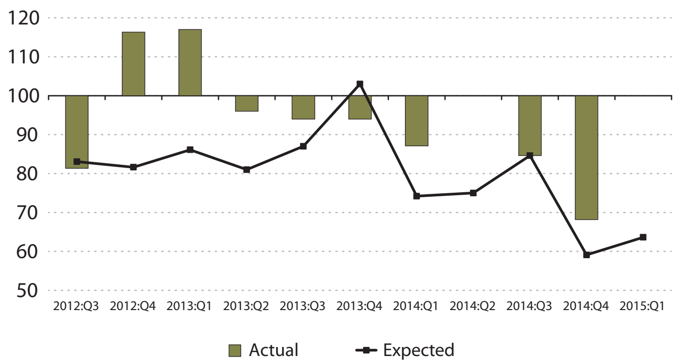


Figure 4

Household Spending: Expected and Actual Values

Diffusion Index, versus Year-Ago Levels

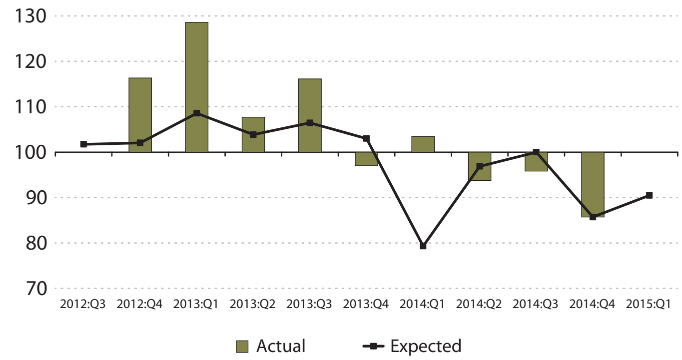


Figure 5

Capital Spending: Expected and Actual Values

Diffusion Index, versus Year-Ago Levels

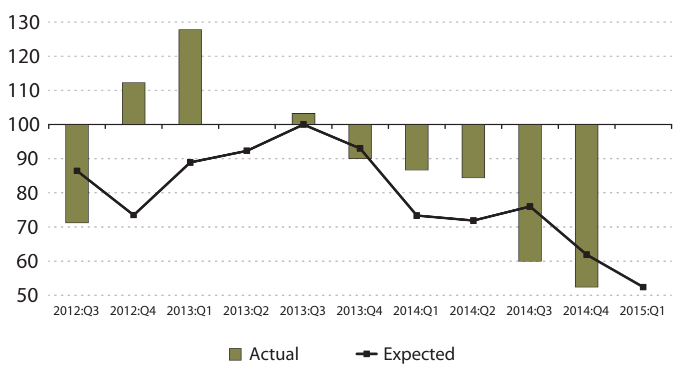


Figure 6

Demand for Loans: Expected and Actual Values

Diffusion Index, versus Year-Ago Levels

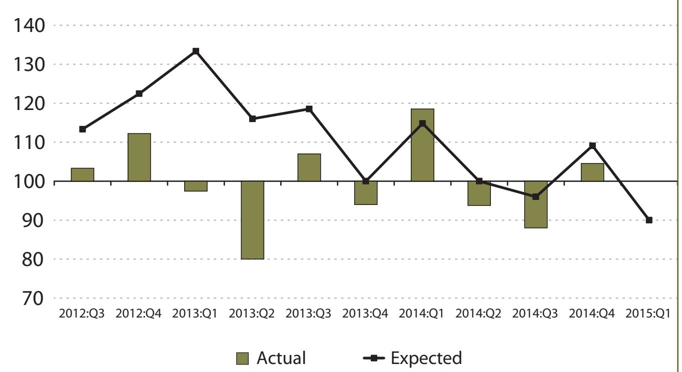


Figure 7

Availability of Funds: Expected and Actual Values

Diffusion Index, versus Year-Ago Levels

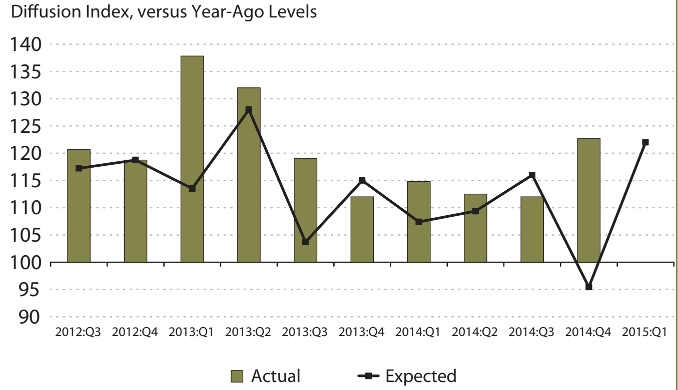
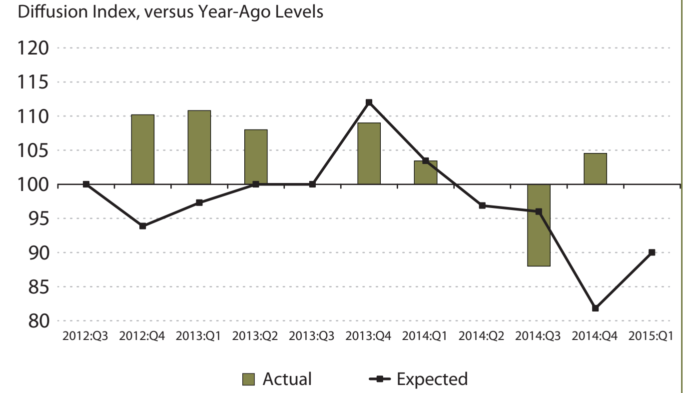


Figure 8

Rate of Loan Repayment: Expected and Actual Values

Diffusion Index, versus Year-Ago Levels



Special Questions

Table 6 reports the results of two special questions we posed to our bankers for this survey. These questions attempt to assess recent underwriting practices and, to a certain extent, loan portfolio exposure to a sizable decline in farmland values.

Question one: Respondents report on average that 55 percent of the value of recent farmland transactions was financed with new debt, while 30 percent of the transaction value was supported by a pledge of existing equity. Also, on average, cash was used for 15 percent of the transaction value.

Question two: Our banker respondents assessed their loan portfolio exposure relative to the financial health of their borrowers. More than 80 percent of banker respondents reported that they had less than 50 percent of "exposed" farm real estate loans in their portfolios: that is, loans to borrowers who are most exposed to an unexpected plunge in farmland prices.

Overall, these responses suggest that the credit underwriting of recent farmland secured transactions remains sound and less than half of farm real estate loans are held by more exposed or highly leveraged borrowers. ■

Table 6

Special Questions

For all farmland purchased by your customers over the last three months, what percent was:

Average of responses	
New debt financed	55.2
Pledged existing equity	30.2
Cash down payment	14.5
Other (owner financed)	0.2

For the farm real estate loans in your portfolio, how would you currently characterize the distribution of that debt according to the financial health of the borrowers?

Share of total respondents	
The minority (less than 50 percent) of farm real estate loans originated over the past few years is to farmers who are the most exposed to an unexpected plunge in farmland prices.	84.4
The majority (50 percent or more) of farm real estate loans originated over the past few years is to farmers who are the most exposed to an unexpected plunge in farmland prices.	15.6

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 Beginning with this survey, our reporting methodology reflects the annual percentage change in land values and cash rents based on common responses. That is, a respondent must have provided a response to questions in both the current and previous surveys.

4 See http://research.stlouisfed.org/publications/afm/2014/afmq3.pdf.