2016 ■ Fourth Quarter

AGRICULTURAL Finance Monitor

Selected Quotes from Banker Respondents Across the Eighth Federal Reserve District

Cattle prices have negatively affected overall income for 2016. One large land-owning estate has liquated some real estate in 2016, but I expect this to slow down in 2017. Some poultry expansion is being planned, which will impact capital spending. (Arkansas)

Regarding the special question on interest rates, I think overall farm profitability will be a bigger driving force than interest rates. The farm economy is preparing to shed the next layer of farmers—those who are near retirement age or at a point where their operations cannot sustain the current debt load and family living costs. This is about 20 percent of my portfolio in the next 5 years. (Illinois)

We are experiencing the same effects of the lower corn prices that other financial institutions are experiencing. Farmland values have decreased slightly; however, they are still very high compared to what any farm can cash flow from straight commodity crop production. (Illinois)

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

The nineteenth quarterly survey of agricultural credit conditions was conducted by the Federal Reserve Bank of St. Louis from December 15, 2016, through December 31, 2016. 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, particularly with respect to agricultural lending conditions. Users are also cautioned against drawing firm conclusions about longer-run trends in farmland values.[2]

Executive Summary

According to the latest survey of agricultural bankers in the Eighth Federal Reserve District, fourth-quarter farm income declined from the previous year, continuing the downward trend reported in the past several surveys. Lower incomes continue to push down farmers' household and capital spending. Bankers also reported that agricultural land values and cash rents moved in tandem with farm income in the fourth quarter, with values and rents falling from the previous year for quality farmland and ranch or pastureland. Regarding bank-related activities, a majority of bankers reported that fourth-quarter demand for loans and availability of funds were up relative to the fourth quarter of 2015, while the average rate of loan repayment was down. Our three special questions focused on farmland sales. Results show most bankers believe the volume of farmland sales in 2017 will be unchanged from the previous year. Regarding 2016 sales, 69 percent of bankers reported that farmers purchased more than half the farmland sold in their area. Responses to the question of what interest rate on fixed-rate farm real estate loans would cause the volume of farmland sales to decline were relatively evenly distributed among response options, which ranged from a "5.5 to 6 percent" bin to a "more than 7 percent" bin.

Survey Results

Farm Income and Expenditures

Most bankers continue to report year-over-year declines in farm income, with a fourth-quarter diffusion index value of 39. This marks the twelfth consecutive quarter with a value below 100. [NOTE: An index value of 100 would indicate that an equal percentage of bankers reported increases and decreases in farm income relative to a year earlier.] Expectations for the first quarter of 2017 show little optimism for a near-term turnaround (index value of 41). Most bankers also saw year-over-year declines in household and capital spending in the fourth quarter (index values of 77 and 45, respectively), and the declines are expected to continue in the first quarter of 2017 (see Table 1). Readers are cautioned that farm income is highly volatile and subject to seasonal fluctuations.

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 2016. 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	
2016:Q4 (actual)	39
2017:Q1 (expected)	41
Household spending	
2016:Q4 (actual)	77
2017:Q1 (expected)	68
Capital spending	
2016:Q4 (actual)	45
2017:Q1 (expected)	41

NOTE: Actual and expected values for the indexes use all responses from the 2016:Q4 survey.

Table 2

Land Values and Cash Rents (year/year change)

	Percent or index value
Land values	
Quality farmland	–8.0%
Expected 3-month trend	74
Ranchland or pastureland	–3.5%
Expected 3-month trend	86
Cash rents	
Quality farmland	–1.8%
Expected 3-month trend	68
Ranchland or pastureland	–11.6%
Expected 3-month trend	70

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 2016:Q4 survey. Expected trends are presented as a diffusion index; see the note above for details about interpreting diffusion indexes.

Current and Expected Land Values and Cash Rents

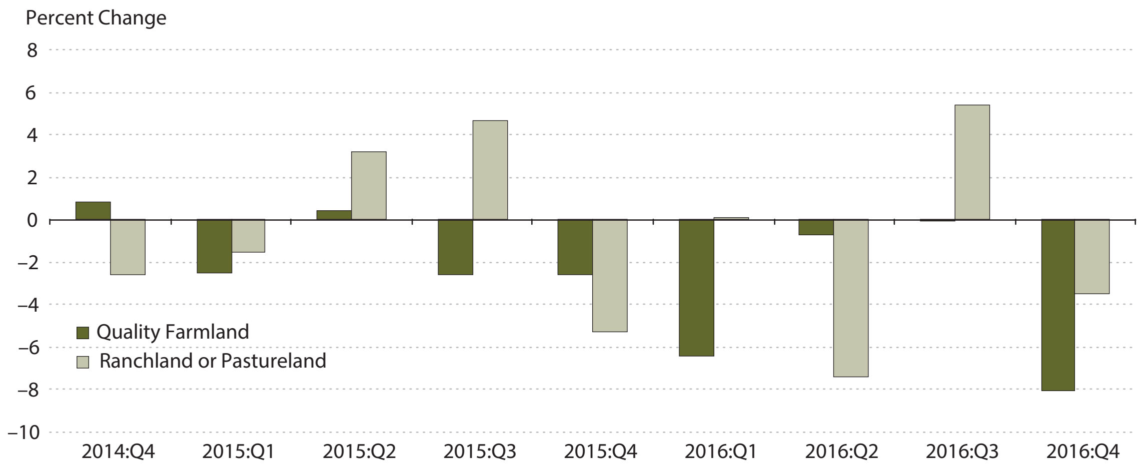
After a year-over-year increase in ranchland or pastureland values and no change for quality farmland values in the third quarter, land values declined again in the fourth quarter. Quality farmland values fell 8 percent from the fourth quarter of 2015, while ranchland or pastureland values fell 3.5 percent. Ranchland or pastureland cash rents experienced another large year-over-year decline in the fourth quarter (11.6 percent), while cash rents for quality farmland fell 1.8 percent. Most bankers expect further declines in the first quarter of 2017, as the diffusion indexes of land values and cash rents are below 100 for each type of agricultural land reported (see Table 2 as well as Figures 1 and 2).

Outcomes Relative to Previous-Quarter Expectations

Table 3 reports farm income, household expenditures, and banking-related metrics in the fourth quarter relative to the expectations of agricultural bankers from the survey taken in the third quarter of 2016. [NOTE: For Table 3, we compute diffusion indexes using only those banks that responded to the third- and fourth-quarter surveys.] Roughly the same proportion of bankers expected a farm income decline as the proportion that witnessed a decline. Household and capital spending both had much smaller proportions witnessing declines than the proportions expecting them. Regarding banking-related measures, the demand for loans and rate of loan repayment both had modest declines in their index values. Availability of funds moved from a slight majority expecting a decrease to an equal majority witnessing an increase.

Figure 1

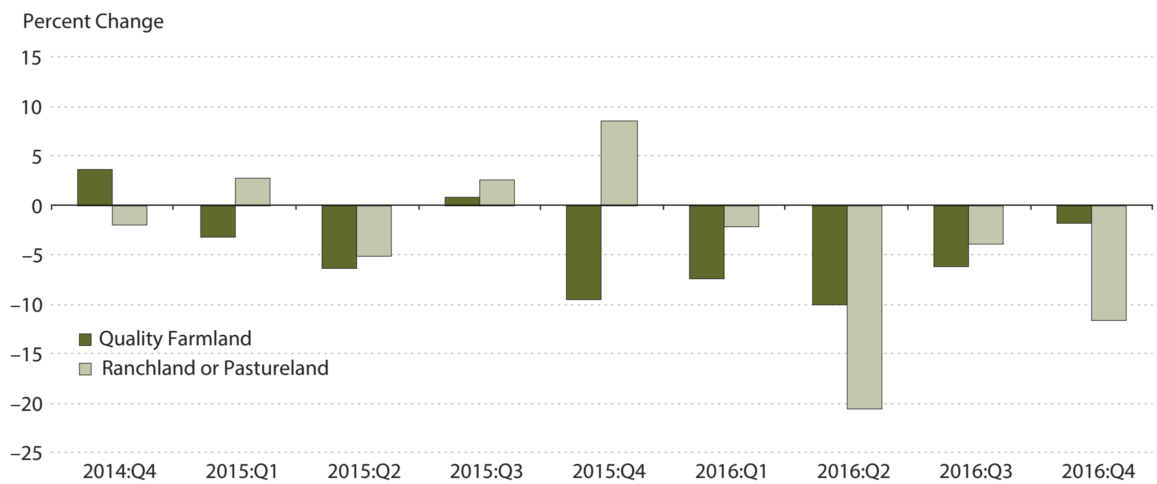
Year-Over-Year Change in Average Eighth District Land Values



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.

Financial Conditions

Table 4 reports our survey respondents' assessment of current and prospective bank lending conditions in the Eighth District in the fourth quarter of 2016 and first quarter of 2017, respectively. As noted in previous surveys, the actual index values reported in Table 4 may differ from those reported in Table 3 because Table 4 uses all responses to the fourth quarter 2016 survey, instead of a common sample between the current and previous surveys. As reported in the table, most bankers witnessed a year-over-year increase in loan demand in the fourth quarter, and an even larger percentage expect the year-over-year growth to continue in the first quarter. Availability of funds had index values of 100 for both the fourth-quarter and the first-quarter expectations. Regarding the rate of loan repayment, a solid majority of bankers witnessed declines in the survey quarter, while a slightly smaller majority believe the decline will continue into the subsequent quarter.

Table 5 presents average interest rates on fixed- and variable-rate loan products in the third and fourth quarters

Table 3

2016:Q4 Variables (versus year-ago levels)

	Index value
Farm income	
Expected	38
Actual	42
Difference	4
Household spending	
Expected	46
Actual	73
Difference	27
Capital spending	
Expected	20
Actual	44
Difference	24
Demand for loans	
Expected	125
Actual	108
Difference	–17
Availability of funds	
Expected	96
Actual	104
Difference	8
Rate of loan repayment	
Expected	87
Actual	78
Difference	–9

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.

Table 4

Lending Conditions (versus year-ago levels)

	Index value
Demand for loans	
2016:Q4 (actual)	106
2017:Q1 (expected)	130
Availability of funds	
2016:Q4 (actual)	100
2017:Q1 (expected)	100
Rate of loan repayment	
2016:Q4 (actual)	77
2017:Q1 (expected)	83

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 indices use all responses from the 2016:Q4 survey.

Table 5

Interest Rates (%)

	2016:Q4	2016:Q3	Change
Operating			
Fixed	5.60	5.49	0.11
Variable	5.01	4.86	0.15
Machinery/ intermediate-term			
Fixed	5.72	5.67	0.06
Variable	5.01	5.10	–0.09
Farm real estate			
Fixed	5.21	5.32	–0.11
Variable	4.86	4.82	0.04

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.

of 2016. Interest rates on fixed- and variable-rate operating loans each increased more than 10 basis points from the third to the fourth quarter. Fixed rates for machinery and other intermediate-term investment loans increased slightly, while variable rates for such loans fell 9 basis points. Fixed and variable farm real estate loan rates also moved in opposite directions, with fixed rates falling 11 basis points and variable rates up slightly.

Special Questions

Table 6 reports the results of three special questions that we asked our agricultural bankers. Due to reports of possible increases in farmland sales, we asked bankers to characterize the farmland market in their area. The first question asked bankers to provide the rate at which they believe land sales would begin to slow. Answers were relatively evenly dispersed across the four response options, but slightly more bankers reported that loan rates needed to rise above 7 percent to trigger a drop in land sales volume in their area.

The second and third questions are identical to questions we asked in the fourth quarter of 2015, except that years were changed appropriately. [NOTE: Table 6 reports

Figure 3

Farm Income: Expected and Actual Values

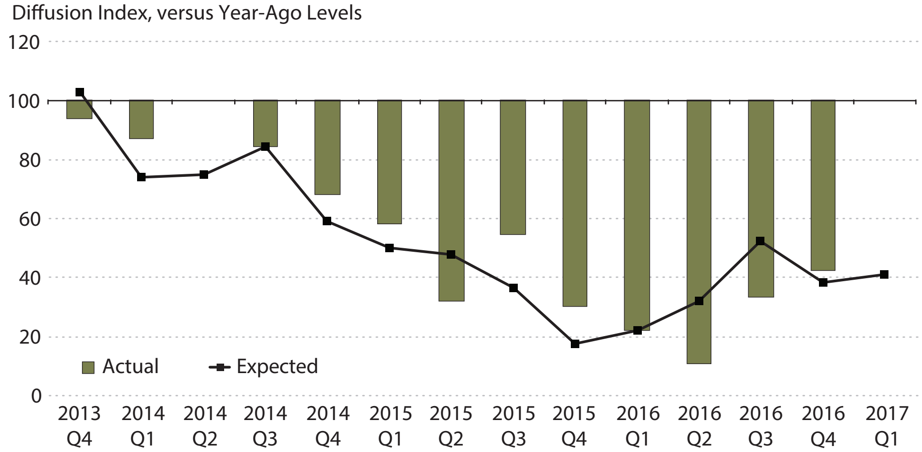


Figure 4

Household Spending: Expected and Actual Values

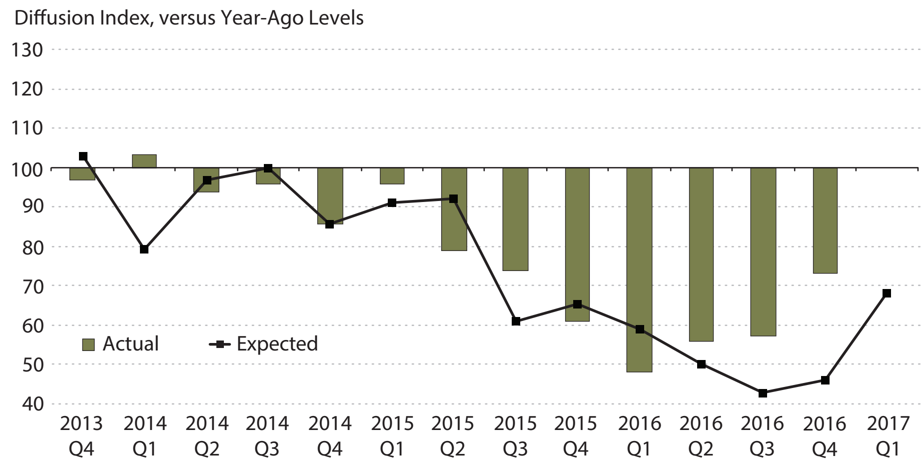
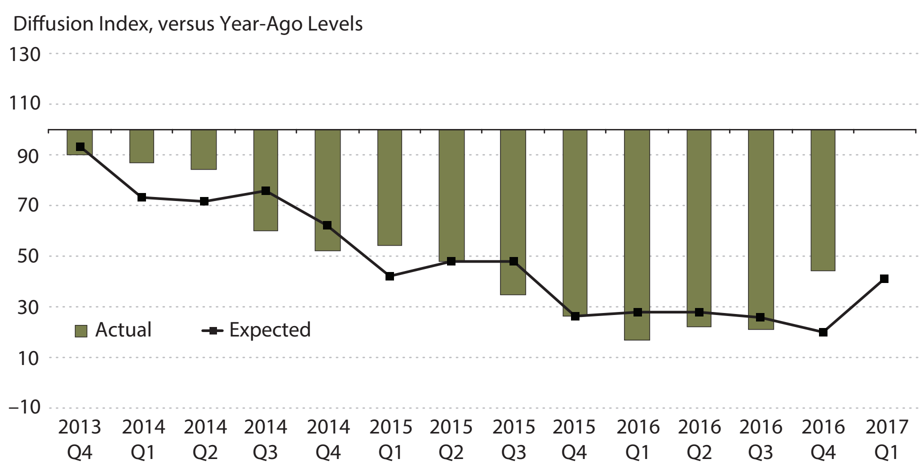


Figure 5

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 indices in 2017:Q1 are calculated using only the responses from the 2016:Q4 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

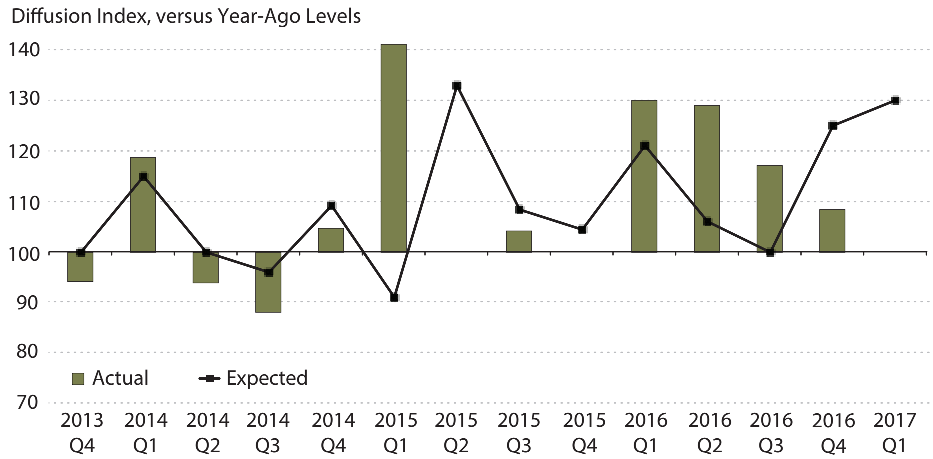


Figure 7

Availability of Funds: Expected and Actual Values

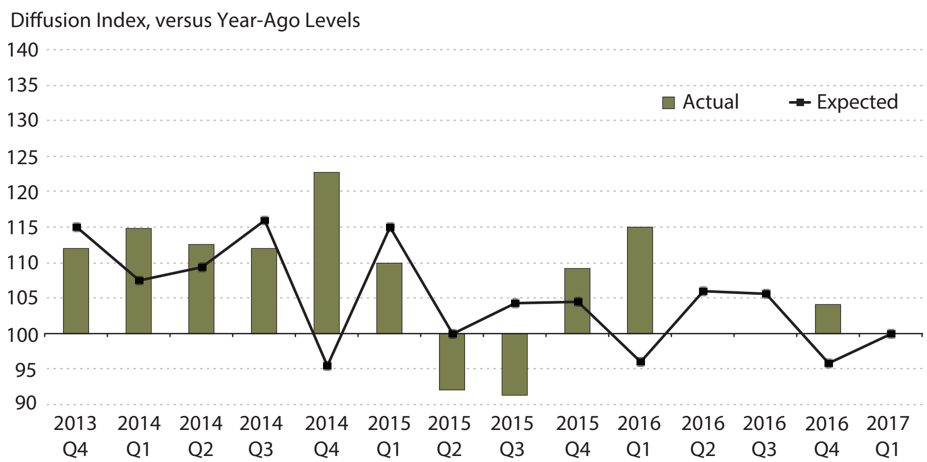
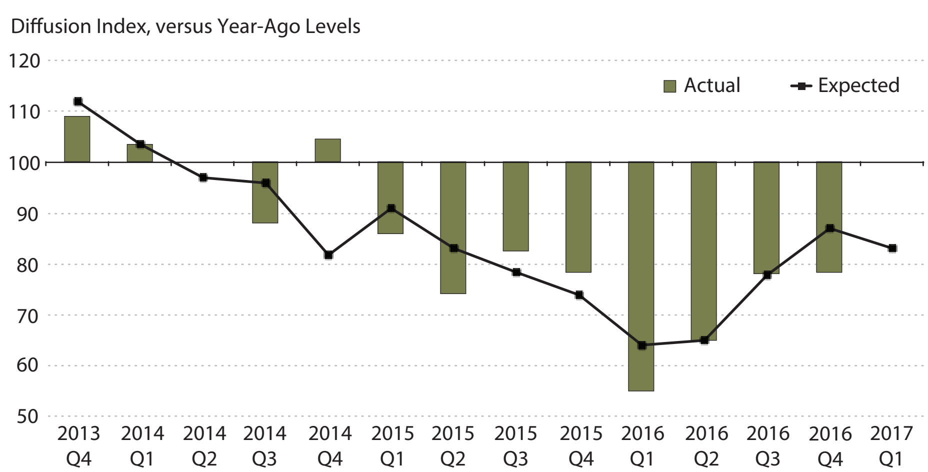


Figure 8

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 indices in 2017:Q1 are calculated using only the responses from the 2016:Q4 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.

only responses from the current survey.] The second question asked bankers how they believe the volume of farmland sales in 2017 will fare against 2016, while the previous year asked how 2016 sales would compare with 2015. A much smaller portion of bankers believe the volume of farmland sales will increase in 2017 than the portion that expected an increase in 2016 (13 percent versus 31 percent). The share of respondents expecting a decline in sales was little changed (22 percent versus 25 percent), so the decline in bankers expecting increased sales coincided with a large increase in bankers expecting no change.

The third question asked bankers if farmers bought more or less than 50 percent of farmland sold in their area in 2016 (last year's fourth-quarter survey asked the same question for 2015). Survey results were little changed from 2015, with the portion of respondents responding "greater than 50 percent" falling 3 basis points to 69 percent for 2016. Hence, farmers remain the largest buyer group of District farmland. ■

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 December 31, 2016, there were 235 banks in the Eighth Federal Reserve District that met the 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.

Table 6

Special Questions

At what level of interest rates on fixed-rate farm real estate loans would you expect to see a decline in the volume of farmland sales in your area (choose one answer only)?

Percent of respondents	
5.5 to 6 percent	25
6 to 6.5 percent	22
6.5 to 7 percent	25
More than 7 percent	28

Compared with 2016, the volume of farmland sales in your area in 2017 will be:

Percent of respondents	
Higher	13
No change	63
Lower	25

Of the farmland sold in your area in 2016, approximately what percent was purchased by farmers?

Percent of respondents	
Less than 50 percent	31
Greater than 50 percent	69

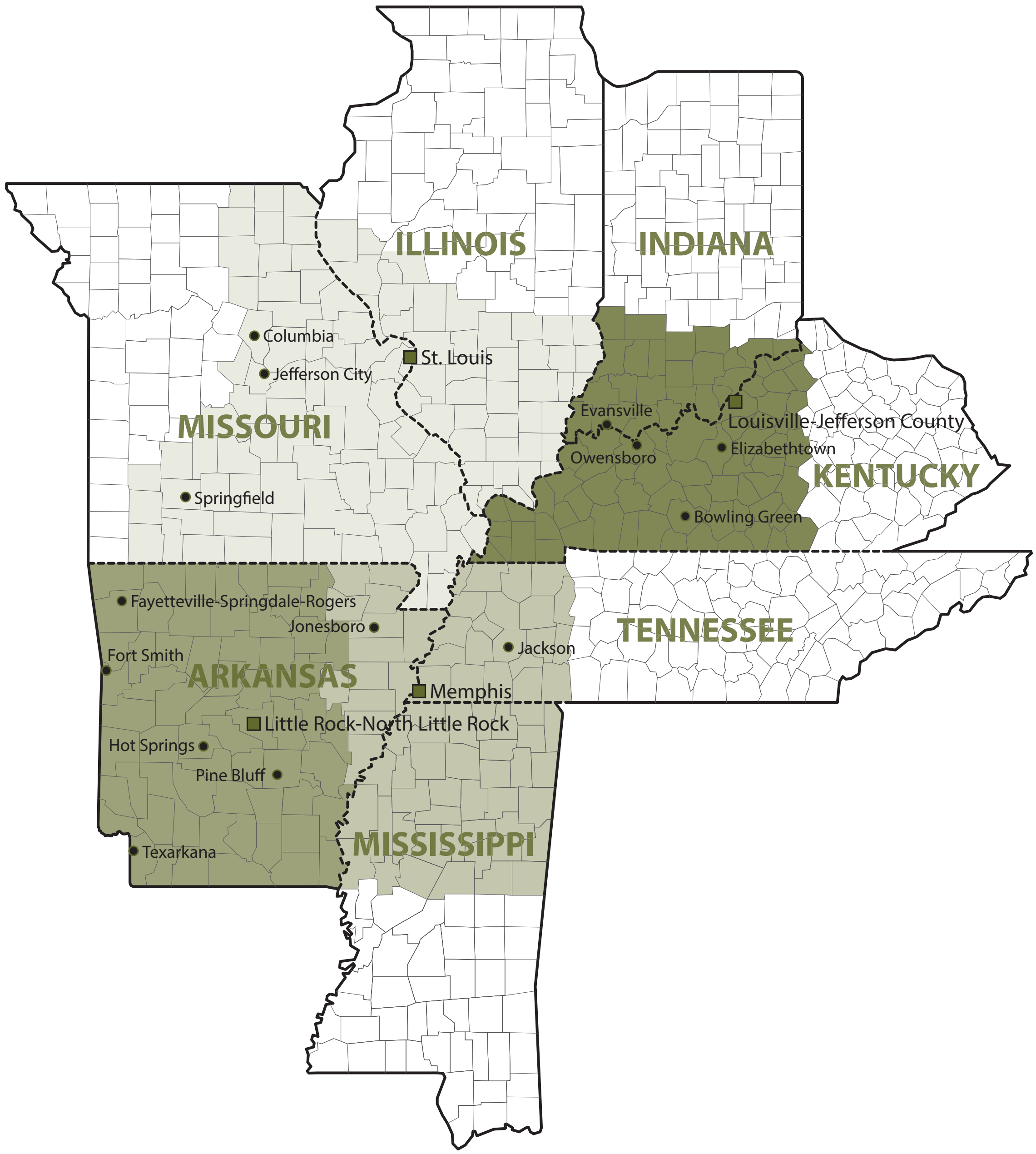
NOTE: Parts may not sum to 100 due to rounding.

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.

Posted on February 9, 2017



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