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AgLetter

FARMLAND VALUES AND CREDIT CONDITIONS

Summary
At 16 percent, the year-over-year increase in farmland values in the first quarter of 2011 for the Seventh Federal Reserve District was the largest since 2007 and was last surpassed in 1979. The quarterly increase in the value of "good" agricultural land was 5 percent, tabulated from 220 surveys submitted by District bankers. District cash rental rates for agricultural land in 2011 jumped 16 percent higher compared with 2010. There was more demand to purchase farmland in the six months ending with March 2011 relative to that of the six months ending with March 2010. Farmers (rather than investors) purchased a higher proportion of the acres sold as well. Moreover, the number of farms sold, the acreage sold, and the amount of farmland for sale grew. Over half the reporting bankers expected farmland values to continue rising during the second quarter of 2011.

Although there was weaker demand for non-real-estate farm loans compared with the first quarter of 2010, the credit conditions for farmers strengthened overall. The availability of funds for lending was higher than a year earlier. Loan repayment rates increased, while renewals and extensions of agricultural loans decreased. Agricultural interest rates seemed to edge up after hitting bottom at the start of 2011. The average loan-to-deposit ratio of 69.8 percent was the lowest in 14 years; this value was 8.4 percentage points below the level preferred by the respondents on average.

SAVE THE DATE

On November 15, 2011, the Federal Reserve Bank of Chicago will hold a conference to explore the factors contributing to large increases in farmland values and cash rental rates in the Midwest. Details are forthcoming on www.chicagofed.org and in the next issue of *AgLetter*.

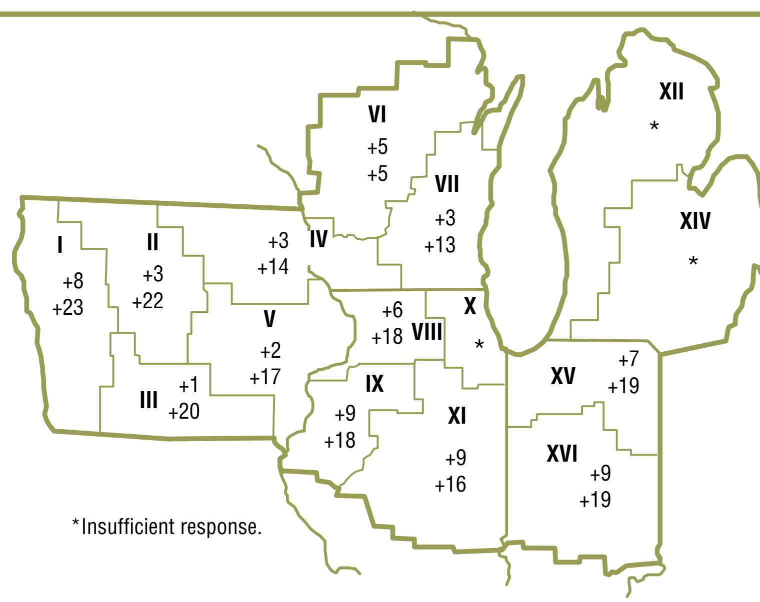
Farmland values
The surge in District farmland values continued, with a 16 percent increase for the first quarter of 2011 compared with the first quarter of 2010 (see map and table below). Illinois, Indiana, and Iowa led the way with year-over-year increases in the value of "good" agricultural land of 17 percent, 19 percent, and 20 percent, respectively. Michigan and Wisconsin farmland values showed solid gains of 11 percent and 9 percent, respectively. The quarterly increase in District farmland values was 5 percent—more than double the quarterly increase of a year ago. Illinois and Indiana had the biggest quarterly increases (8 percent for each). The latest gains were spurred by higher commodity prices, which prompted farmers to buy additional land.

Farmers tended to outbid investors for agricultural land at auctions, according to some respondents. The

Percent change in dollar value of "good" farmland

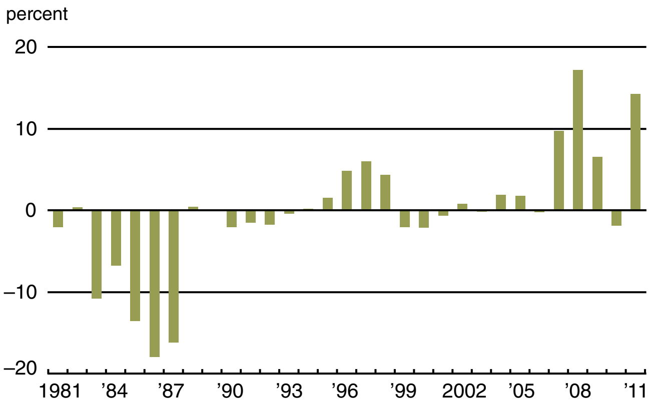
Top: January 1, 2011 to April 1, 2011
Bottom: April 1, 2010 to April 1, 2011

	January 1, 2011 to April 1, 2011	April 1, 2010 to April 1, 2011
Illinois	+8	+17
Indiana	+8	+19
Iowa	+4	+20
Michigan	+3	+11
Wisconsin	+4	+9
Seventh District	+5	+16



*Insufficient response.

1. **Annual percentage change in Seventh District farmland cash rental rates adjusted by PCE**



Sources: Author's calculations based on data from Federal Reserve Bank of Chicago farmland value surveys; and U.S. Bureau of Economic Analysis, Personal Consumption Expenditures (PCE) Price Index, from Haver Analytics.

reporting bankers thought farmers bought an even higher share of farmland than during the prior year; 48 percent of the respondents saw an increasing share of land purchased by farmers and only 6 percent saw a decreasing share in the period from October 2010 through March 2011. With 75 percent of the bankers observing higher demand for the purchase of farmland and just 1 percent observing lower demand, the market for farmland was ripe for fast-rising land values. More farmland was up for sale over the winter and early spring relative to a year ago, according to 31 percent of respondents, while 26 percent noted less farmland was up for sale in their areas. The number and acreage of farms sold were larger than a year ago, as about 10 percent more of the bankers reported increases rather than decreases with regard to these quantities.

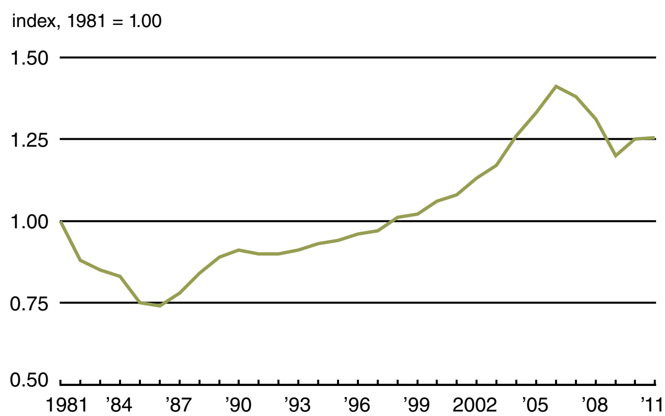
Cash rental rates for agricultural land in 2011 rose sharply relative to 2010—the only year over the past five that had an increase of less than 7 percent. District cash rents climbed 16 percent from 2010. Cash rental rates were up 14 percent in Illinois, 15 percent in Indiana, 16 percent in Iowa, 18 percent in Michigan, and 20 percent in Wisconsin. After adjusting for inflation using the Personal Consumption Expenditures Price Index, District cash rental rates increased 14 percent from 2010 (see chart 1). This increase was the second largest, behind that of 2008, since tracking of District cash rents began in 1981.

With the increase in farmland values matching that for cash rental rates, there was no change in the price-to-earnings (P/E) ratio for agricultural land (see chart 2). The unchanged P/E ratio indicated relatively balanced demand to purchase versus rent farmland. In an asset valuation model, the present price of an asset should reflect both current profitability and expectations for future earnings. The P/E ratio for farmland can be constructed as the ratio of indexes based on average farmland values per acre and cash rental rates per acre (the latter representing the earnings potential of farmland).

Both cash rental rates and farmland values rose because of higher agricultural prices, especially crop prices. Prices in the first quarter of 2011 averaged $5.37 per bushel for corn and $12.33 per bushel for soybeans, according to the U.S. Department of Agriculture (USDA). From the fourth quarter of 2010, corn prices increased 18 percent and soybean prices increased 12 percent. Compared with a year ago, corn prices were 50 percent higher and soybean prices were 29 percent higher. Projections of tight stocks for both corn and soybeans helped elevate and maintain higher prices. For the 2011–12 crop year, the USDA estimated price intervals of $5.50 to $6.50 per bushel for corn and $12.00 to $14.00 per bushel for soybeans. Milk, hog, and cattle prices were all up at least 20 percent from the first quarter of 2010. Prices for these products are forecasted by the USDA to remain above the levels of the first quarter of 2011 throughout the rest of this year (partly supported by strong global demand). Based on the USDA index of prices paid by farmers, the increase in input costs for agriculture was 9.4 percent in the first quarter of 2011 compared with the first quarter of 2010. So, agriculture overall saw higher profit levels in the past year—a trend that will likely continue in upcoming quarters.

Cash-renting agricultural land, although increasingly with clauses that allow owners to benefit when crop prices increase further, remained the dominant method (80 percent) in the District for farms operated by someone other than the owner. With 16 percent of farmland on crop shares, 1 percent on a bushel basis, and 3 percent on other arrangements, there appeared to be an inclination by owners to get more involved in farm operations and garner higher returns in 2011. Illinois remained the District state with the lowest percentage of cash rentals (68 percent), even as rentals on a crop share basis diminished (26 percent).

2. **Seventh District price-to-earnings ratio for farmland**



Source: Author's calculations based on data from Federal Reserve Bank of Chicago farmland value surveys.

Credit conditions at Seventh District agricultural banks

	Loan demand	Funds availability	Loan repayment rates	Average loan-to-deposit ratio	Interest rates on farm loans: Operating loans[a]	Feeder cattle[a]	Real estate[a]
	(index)[b]	*(index)*[b]	*(index)*[b]	*(percent)*	*(percent)*	*(percent)*	*(percent)*
2009							
Jan–Mar	116	112	105	76.2	6.20	6.31	6.14
Apr–June	88	118	93	77.3	6.18	6.36	6.16
July–Sept	95	121	89	75.3	6.17	6.35	6.13
Oct–Dec	102	125	92	75.4	6.23	6.40	6.13
2010							
Jan–Mar	109	127	79	73.7	6.13	6.25	6.04
Apr–June	98	122	85	74.5	6.12	6.25	5.99
July–Sept	90	138	114	73.2	6.05	6.14	5.81
Oct–Dec	101	142	142	71.8	5.85	6.02	5.70
2011							
Jan–Mar	81	149	146	69.8	6.01	5.93	5.80

[a]At end of period.
[b]Bankers responded to each item by indicating whether conditions during the current quarter were higher, lower, or the same as in the year-earlier period. The index numbers are computed by subtracting the percentage of bankers that responded "lower" from the percentage that responded "higher" and adding 100.
Note: Historical data on Seventh District agricultural credit conditions are available for download from the *AgLetter* webpage, www.chicagofed.org/webpages/publications/agletter/index.cfm.

Credit conditions

Agricultural credit conditions improved in the first quarter of 2011. Stronger farm income helped stabilize balance sheets yet also dampened the demand for non-real-estate farm loans. The index of non-real-estate agricultural loan repayment rates hit its highest level in three years (146) for the first quarter of 2011, as 49 percent of the respondents noted higher rates of repayment and only 3 percent noted lower rates. Loan renewals and extensions also improved, as 36 percent of the bankers reported fewer renewals and extensions from January through March of 2011 than over the same period in the previous year and 5 percent reported more. For the first time since 1987, the index of funds availability reached 149, given that half of the respondents had additional funds available to lend.

Farmers had less need to seek bank loans. The index of demand for non-real-estate farm loans dropped to a post-1987 low of 81, illustrating this point. (Of the reporting bankers, 19 percent of them observed higher loan demand, while 38 percent observed lower demand.) Not surprisingly, the average loan-to-deposit ratio declined to 69.8 percent, the lowest level since 1997. The share of banks below their desired level was 77 percent. Also, collateral requirements tightened again from a year ago, with 14 percent of banks requiring more collateral during January through March of 2011 and 1 percent requiring less. The percentage of loans guaranteed by the Farm Service Agency (FSA) of the USDA remained above 5 percent of the District farm loan portfolio, largely because of heavy use of the FSA guarantees at a small number of banks.

Interest rates on agricultural loans ended their downward trend that started after the last peak in 2006. New farm operating and real estate loans averaged 6.01 percent and 5.80 percent, respectively, as of April 1, 2011.

Looking forward

The rapid increase in agricultural land values may not be over, according to survey respondents. For the second quarter of 2011, 56 percent of the responding bankers expected farmland values to continue rising in their areas and 2 percent expected a decline.

Respondents anticipated that the volume of non-real-estate farm loans would decrease during the period from April through June of 2011 compared with the same period of 2010. The bankers forecasted smaller volumes for operating, feeder cattle, dairy, and FSA guaranteed loans. Farm machinery, grain storage construction, and real estate loan volumes were expected to increase in the second quarter of 2011 compared with the second quarter of 2010. Also, there was an indication that dairy loan volumes in Wisconsin were poised to rise after several challenging years.

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SELECTED AGRICULTURAL ECONOMIC INDICATORS

	Latest period	Value	Percent change from: Prior period	Year ago	Two years ago
Prices received by farmers *(index, 1990–92=100)*	April	174	1.2	26	35
Crops *(index, 1990–92=100)*	April	195	0.5	30	29
Corn *($ per bu.)*	April	6.40	15.7	88	66
Hay *($ per ton)*	April	141.00	13.7	31	12
Soybeans *($ per bu.)*	April	12.80	0.8	35	31
Wheat *($ per bu.)*	April	8.18	8.5	85	42
Livestock and products *(index, 1990–92=100)*	April	156	2.6	22	39
Barrows & gilts *($ per cwt.)*	April	68.40	7.4	21	55
Steers & heifers *($ per cwt.)*	April	124.00	5.1	23	40
Milk *($ per cwt.)*	April	19.70	−3.4	35	66
Eggs *($ per doz.)*	April	1.05	23.7	37	14
Consumer prices *(index, 1982–84=100)*	April	224	0.4	3	5
Food	April	226	0.4	3	4
Production or stocks					
Corn stocks *(mil. bu.)*	March 1	6,523	N.A.	−15	−6
Soybean stocks *(mil. bu.)*	March 1	1,249	N.A.	−2	−4
Wheat stocks *(mil. bu.)*	March 1	1,424	N.A.	5	37
Beef production *(bil. lb.)*	March	2.27	12.1	2	6
Pork production *(bil. lb.)*	March	2.06	16.2	1	4
Milk production *(bil. lb.)**	March	15.8	12.9	3	4
Agricultural exports *($ mil.)*	March	13,324	11.0	35	66
Corn *(mil. bu.)*	March	171	31.7	−11	−1
Soybeans *(mil. bu.)*	March	124	−28.0	−6	22
Wheat *(mil. bu.)*	March	121	14.6	64	57
Farm machinery *(units)*					
Tractors, over 40 HP	April	8,356	N.A.	3	−3
40 to 100 HP	April	4,824	N.A.	−3	−12
100 HP or more	April	3,532	N.A.	11	13
Combines	April	764	N.A.	21	36

N.A. Not applicable.
*23 selected states.
Sources: Author's calculations based on data from the U.S. Department of Agriculture, U.S. Bureau of Labor Statistics, the Association of Equipment Manufacturers, and Haver Analytics.