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Financial Challenges Facing Farm Enterprises

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As the outlook for the U.S. economy improves, agricultural enterprises are once again considering new investment opportunities. But searching for financing has become a challenge. In 2009, volatility in agricultural markets jumped and farm profits dropped, while the risks associated with lending intensified. In response, agricultural lenders raised their credit standards. Now, as new profit opportunities in the farm sector emerge, many potential borrowers from all segments of the industry wonder if credit will be available.

This article describes the factors that shape credit availability for agriculture. The article begins by examining the relatively strong performance of agricultural banks during the financial crisis. It then examines how lending risks have kept credit conditions tight despite the easing of the crisis. Finally, the article explores how new profit opportunities and lower debt levels should improve credit availability for many producers in the year ahead. Those facing the most difficulty in getting credit are livestock producers, whose thin profit margins and high debt levels are likely to continue in 2010.

Agricultural Bank Performance in the Financial Crisis

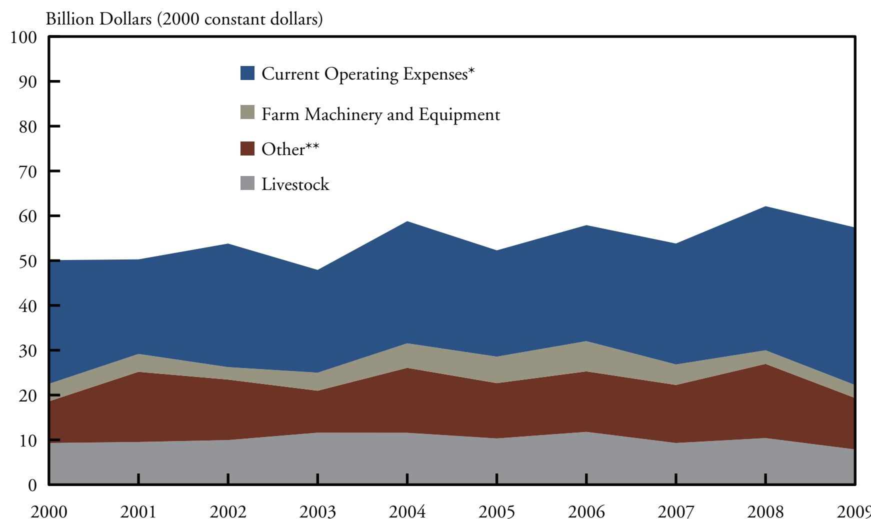
With fragile financial markets, agricultural producers have concerns about financing agricultural investments. Even though agricultural banks outperformed their banking peers during the recession, bank profits declined. Still, agricultural bankers report having ample funds for farm loans at historically low interest rates.

Agricultural banks outperformed banks nationwide during the recent financial crisis but still saw profits fall sharply.[1] In the third quarter of 2009, agricultural banks saw their rate of return to assets and equity drop to roughly half their pre-financial crisis levels. At agricultural banks, the average rate of return to assets and equity fell to 0.6 and 5.5, respectively. In contrast, other small commercial banks reported negative returns to assets and equity.[2] During the entire year, less than ten agricultural banks failed, while closures of commercial banks soared to 140.

With stronger profits than their peers, agricultural banks have consistently reported that funds have been available for creditworthy borrowers in the farm sector. Throughout the recession, most bankers responding to Federal Reserve Bank agricultural credit surveys reported that funds were available for non-real estate farm loans.[3] In the Kansas City District, few agricultural loans were denied due to a shortage of bank funds. Loan approval decisions were based primarily on projected cash flow from farm operations and the amount of collateral pledged (Briggeman and Akers).

The ample funds at agricultural banks have supported a high volume of low-interest loans to the farm sector. According to the *Agricultural Finance Databook*, the total volume of non-real estate agricultural loans at commercial banks declined slightly in 2009 from the year before but remained above the ten-year average (Chart 1).

Chart 1
Agricultural Non-Real Estate Loan Volume



Source: Agricultural Finance Databook
* Includes expenditures for crop production and the care and feeding of livestock
** Typically loans for which the lender does not know the purpose

Over the past few years, however, the composition of the average farm loan portfolio at agricultural banks has shifted. The proportion of loans to support current operating expenses rose from 45 percent in 2005 to more than 60 percent in 2009. This increase in operating loans was driven by surging production input costs, especially for fuel, fertilizer and livestock feed. Various national and regional Federal Reserve surveys on farm lending also reported a steady drop in farm interest rates for short-term operating loans, intermediate-term machinery and equipment loans, and long-term real estate loans.[4]

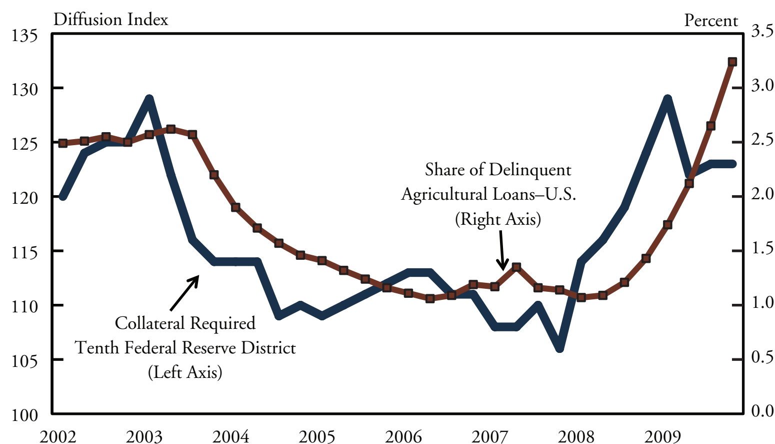
Credit Standards Rise with Loan Defaults

Even though agricultural banks have performed better than other commercial banks in general, the repercussions of the recession and financial crisis remain. Declining farm incomes in 2009 depressed repayment rates and raised delinquency and charge-off rates on agricultural loans. As a result, commercial banks have tightened credit standards by maintaining elevated collateral requirements and stringent loan terms.

During the recession, shrinking profit margins raised agricultural lending risk. In 2009, net farm income declined 35 percent as softer commodity prices, coupled with elevated input costs, trimmed agricultural profits. Lower farm incomes hindered the ability of agricultural producers to service debt during the year. In regional Federal Reserve surveys, agricultural bankers reported that farm operating loan repayment rates were lower in 2009 than in the previous year. At the same time, survey respondents indicated that requests for loan renewals and extensions grew rapidly.

Moreover, loan delinquency and charge-off rates have risen as the number of non-performing loans increased. Delinquent, nonperforming agricultural loans at commercial banks rose from 1.07 percent of such loans in the first quarter of 2008 to 3.24 percent by the fourth quarter of 2009 (Chart 2). During the same time, the portion of agricultural loan charge-offs rose even more rapidly, from 0.09 to 0.58 percent of

Chart 2
Collateral Requirements and Delinquency Rates on Agricultural Loans



Source: Federal Reserve Bank of Kansas City and Federal Reserve Board of Governors

agricultural loans. While these delinquency and charge-off rates remain well below those on other types of loans, delinquency rates on agricultural loans were still rising at the end of 2009.

In response to lower loan repayments and rising delinquency and charge-off rates, bankers have boosted the risk rating and collateral requirements on agricultural loans. Banks assign risk ratings to loans based on the borrower's expected payment performance, which typically incorporates both the borrower's history of debt repayment and current financial prospects. Since 2008, the risk ratings on agricultural loans have climbed steadily, and respondents to Federal Reserve surveys reported raising collateral requirements for farm loans (Chart 2). Some respondents noted that loan-to-value ratios have declined for farm real estate purchases, requiring larger equity positions from borrowers (Henderson and Akers).

Farm Profits and Debt Shapes Credit Availability

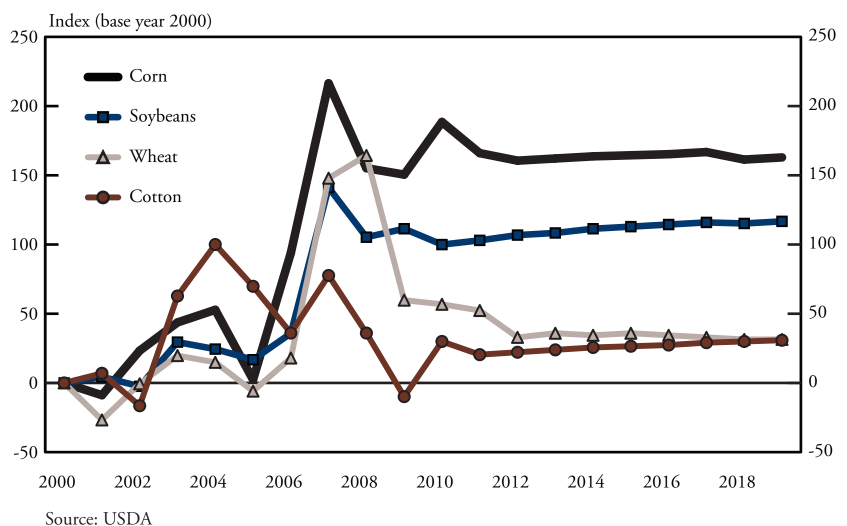
While credit standards will likely remain elevated in the year ahead, credit availability to agricultural enterprises could improve. Profitability shapes credit availability, and stronger farm incomes in 2010, coupled with a resurgent global economy, should help improve access to credit as the year progresses. With improved profitability, farm debt levels could remain low, further enhancing credit access. Still, agricultural enterprises facing weak profit opportunities and high debt levels will find obtaining credit difficult. Many livestock operations, in particular, could confront a stiff challenge.

A rebound in 2010 farm income should improve farmers' ability to tap credit for operating needs. USDA projects that, after falling in 2009, net farm income will increase 12 percent in 2010 with stronger livestock receipts and stable cash expenses. Longer term, USDA expects net farm incomes to rise further over the next decade as net returns to crop production hold at historical highs with a sustained recovery in livestock profits.

In 2010, crop producers are expected to enjoy another year of robust profitability. Farm prices for most of the major program crops–corn, soybeans, wheat, and cotton–are expected to rise, though rice prices may edge down from record highs due to increased production. After surging in recent years, crop production costs are expected only to edge up in 2010. As a result, crop profits are projected to remain historically high, but well below the record peaks in 2007 and 2008 (Chart 3).

After struggling to cover costs, livestock producers could see profit opportunities brighten at the end of 2010. Since 2007, cattle, hog, dairy, and poultry producers have suffered through extended periods of economic loss. Heading into this year, profit losses narrowed and USDA projected that net returns would strengthen with stronger protein demand in an economic recovery (Chart 4). The return to profitability and stronger cash flow should improve the availability of credit to the livestock sector.

Chart 3
Net Returns to Crop Production (Gross Market Returns minus Variable Costs)

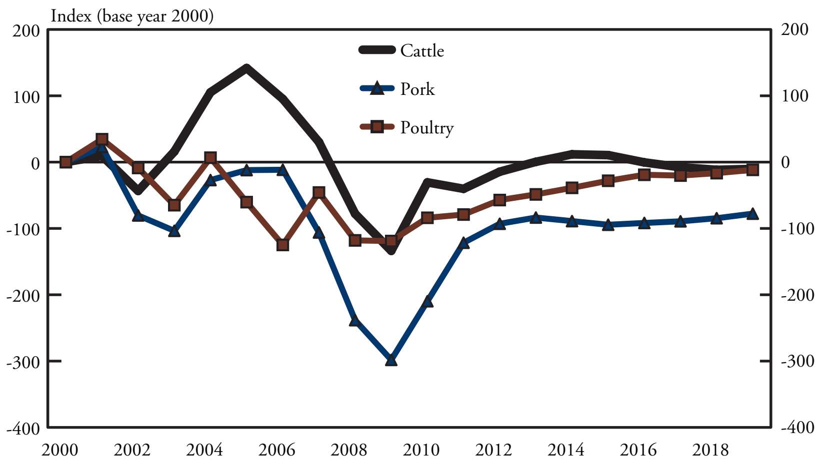


Source: USDA

Variable costs exclude costs for labor and management, depreciation, land, taxes, insurance, and farm overhead.

Rising profitability could help keep farm debt levels low, further enhancing the farm sector's ability to access credit. Since the 1980s farm crisis, fewer farms have reported using debt to finance operations. Only 31 percent reported using debt in 2007, compared to 60 percent in 1986. As a result, farm balance sheets remain relatively healthy, and historically low debt ratios have limited financial risk to the farm sector.

Chart 4
Net Returns to Livestock Production (Returns above cash costs)



Source: USDA
Net returns are returns above cash costs.

USDA reports that three types of farm operations tend to have higher debt levels (Harris et. al). First, according to the *Agricultural Resource Management Survey (ARMS)*, larger farming operations tend to have higher levels of debt. In 2007, farms with annual sales up to $100,000 had a DRCU index below 15. In contrast, farms with annual sales between $100,000 and $5 million had an average index between 25 and 30, and farms with more than $5 million in annual sales had an index of 37. Larger farm operations tend to be more capital intensive, using more equipment and machinery than smaller farms. Moreover, farm earnings are the primary source of income for larger farm operations, while smaller farms tend to have a greater reliance on off-farm incomes (Harris et.al).

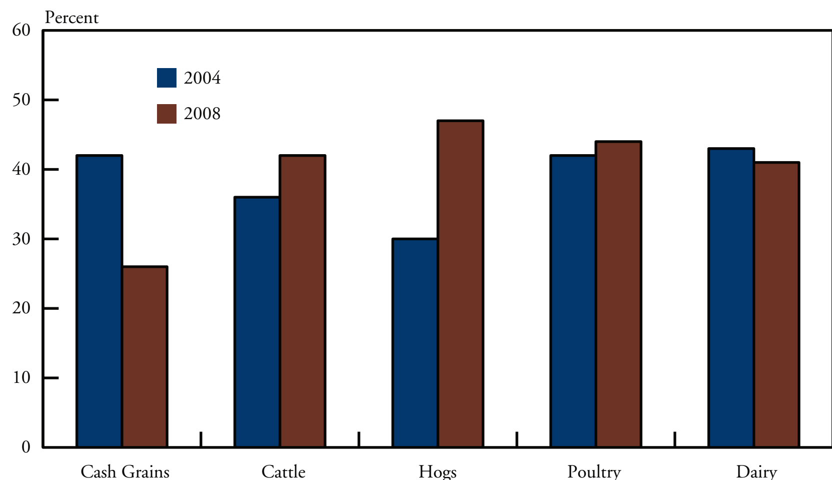
Second, livestock operations also have higher debt use in recent years due to shrinking profit margins. In 2008, hog farms had the highest DRCU at 47, followed by poultry at 44 and dairy and cattle operations at close to 40. Debt utilization increased between 2004 and 2008 for poultry, hog, and cattle operations as profit margins plunged, due in large part to rising feed costs. In contrast, crop operations had DRCU levels below 30 percent in 2008, and their debt utilization diminished from 2004 to 2008 (Chart 5).

Debt Remains High for Large Farms, Livestock Operations and Young Farmers

Still, the debt ratios of a small subset of farmers remain relatively high. Larger farming operations, livestock operations, and operations owned by young and less experienced farmers typically have higher debt ratios and less ability to service debt than other farm operators. As a result, overall industry averages mask some of the financial risks in the agricultural sector that could arise with high debt levels.

Higher debt levels can place more pressure on a borrower's ability to repay debt with current income. One measure of the ability to repay debt is the debt repayment capacity utilization (DRCU) index, which takes into account debt obligations in relation to maximum debt repayment capabilities. A DRCU index below 100 indicates that the borrower has enough income to service the debt. Conversely, a DRCU index above 100 infers the borrower does not have enough income to service the debt. Therefore, a lower DRCU index implies a stronger debt repayment position for the borrower.

Chart 5
Debt Repayment Capacity Utilization by Production Sector



Source: USDA

Third, operations owned by young and less experienced farmers also tend to have high debt levels as they are typically still financing the initial start-up costs of a farm operation. Traditionally, farm operations use debt to finance land, equipment and machinery purchases, and younger farm operators with less equity in the farm operation tend to have higher debt levels than older, more experienced farmers. In 2008, 56 percent of all farm enterprises headed by operators younger than 35 had debt, compared to only 19 percent headed by farmers 65 or older. Moreover, the debt-to asset ratio was highest (21.1 percent) among farm operations headed by the younger farmers.[5]

Given current profit projections and debt levels, it appears the greatest financial risk in agriculture could emerge in larger operations in the livestock sector. As a result, the livestock sector could face the most difficulty obtaining credit. Dairy, hog, and cattle feeding enterprises operated in the red for most of 2009, as livestock prices remained well below costs of production. Losses are expected to narrow in 2010 as USDA projects livestock prices to rise amid stronger demand and shorter supplies.

Still, loan volumes for feeder cattle and dairy production are expected to decline further in 2010. In 2009, the total loan volumes made by commercial markets for feeder and other livestock fell from $13.0 to $11.1 billion. Agricultural bankers responding to Federal Reserve surveys in the Chicago and Dallas districts expected that loan volumes for feeder cattle and dairy industries would continue to decline in 2010. While the interest rates on livestock loans fell below 5 percent in 2009, commercial banks reduced loan maturities and raised collateral requirements to mitigate their risk exposure to the sector. But, improving profit opportunities in 2010 should help lessen some of these financial challenges.

In sum, brighter profit opportunities and low debt levels should improve access to credit for agricultural producers in 2010. In general, agricultural banks remain in solid financial condition and have ample funds available for agricultural loans at historically low interest rates. The recession cut demand for agricultural products and raised the risks surrounding agricultural loan activity, as evidenced by higher delinquency and charge-off rates. The biggest challenges have emerged among livestock enterprises struggling with economic losses and higher debt levels. Still, overall farm debt levels remain near historical lows, and a rebound in farm profits should bolster farm income statements and balance sheets. A farm rebound, spurred by a global economic recovery, could open credit flows and foster additional investments in U.S. agriculture.

Endnotes

[1]Agricultural banks are commercial banks with farm real estate and non-real estate loans greater than 14 percent of their loan portfolio, the unweighted average at all commercial banks. This information is published by the Federal Reserve System in Section B of the Agricultural Finance Databook using data from the quarterly reports of condition and income for commercial banks.

[2]Small commercial banks are those with less than $500 million in assets.

[3]Links to Federal Reserve Banks agricultural credit surveys are available at www.kansascityfed.org/agcrsurv/agcrmain.htm.

[4]The Federal Reserve System conducts the national Survey of Terms of Bank Lending to Farmers, which is published in Section A of the Agricultural Finance Databook. Regional interest rates on agricultural loans are obtained from the Federal Reserve Banks agricultural credit surveys, which may be accessed at www.kansascityfed.org/agcrsurv/agcrmain.htm.

[5]U.S. farm debt data is available from the USDA, Farm Structure and Finance data set available at www.ers.usda.gov/Data/ARMS/FarmsOverview.htm

References

Agricultural Finance Databook. 2009. Federal Reserve Statistical Release E.15. Board of Governors of the Federal Reserve System. *www.federalreserve.gov/releases/e15/current/pdf/databook.pdf*

Briggeman, Brian and Maria Akers. 2009. "Farmland Values Hold Steady and Farm Credit Conditions Deteriorate." *Survey of Tenth District Agricultural Credit Conditions.* Third Quarter, Federal Reserve Bank of Kansas City. *www.kansascityfed.org/Agcrsurv/AGCR3Q09.pdf*

Harris, J. Michael, et. al. 2009. "Agricultural Income and Finance Outlook." Economic Research Service, U.S. Department of Agriculture, AIS-88, December. *http://usda.mannlib.cornell.edu/usda/current/AIS/AIS-12-22-2009.pdf*

USDA Agricultural Projections to 2019. 2010. Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture. OCE-2010-1, February. *www.ers.usda.gov/Publications/OCE101/OCE101.pdf*