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Theme Overview: Will Rising Interest Rates Lead to Intensifying Risks for Agriculture?

Ryan Kuhns and Kevin Patrick

JEL Classifications: Q14, Q11, Q17, G21

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To encourage economic recovery, the Federal Reserve responded to the Great Recession by slashing interest rates and engaging in monetary easing. Short-term interest rates were pulled down and held near zero for several years. Due to these historically low interest rates, borrowing has been inexpensive for farmers. Along with lower income, the availability of cheap debt encouraged farmers to take on more credit. According to the most recent official USDA Farm Income and Wealth Statistics data (2018), farm sector debt has grown by more than 50% since the Great Recession began. In 2018, outstanding sector debt volume is projected to reach its highest level since the early 1980s, and debt backed by farm real estate is expected to be at the highest level on record.

Recently, the Federal Reserve changed its policy course on interest rates. Since December 2015, the Federal Open Market Committee (FOMC) has raised the federal funds rate by 125 basis points. Continued gradual increases are expected. An increase in the federal funds rate makes it costlier for lenders to obtain funds, which puts upward pressure on interest rates throughout the economy. The FOMC also announced in June 2017 that the Federal Reserve will gradually reduce their holdings of assets, including U.S. treasuries and mortgage-backed securities, which were built up during the recent period of quantitative easing (Federal Open Market Committee, 2017); the FOMC has since indicated it has begun to implement the policy by not reinvesting to replace some of these maturing assets. The likely impact of this policy shift is additional upward pressure on interest rates, particularly on longer-term debt. With rising interest rates, the era of relatively inexpensive farm debt may be coming to an end. This raises the question: Are farmers prepared for rising interest rates?

Following historically high profitability for many farm sector participants from 2012 through 2014, prices for many commodities have declined substantially while input costs have not declined as much (Patrick, Kuhns, and Borchers, 2016). As result, net farm income, a measure of farm sector profitability, is now half of its peak in 2013. As one way to compensate for reduced income, farmers tapped into working capital built up during the preceding high-income years. As a result, farm sector working capital has declined by \$100 billion since 2012. As previously mentioned, farmers also borrowed more. Multiple years of expanding farm sector debt and declining profitability and liquidity have raised concerns about the farm sector's financial resiliency.

Articles in this theme:

- **Monetary Policy and Agricultural Commodity Prices: It's All Relative**
Jason Henderson
- **How Sensitive is the Farm Sector's Ability to Repay Debt to Rising Interest Rates?**
Ryan Kuhns and Kevin Patrick
- **Understanding Farmland Values in a Changing Interest Rate Environment**
Bruce J. Sherrick
- **Farmers Aren't Immune to Interest Rate Risk: A Duration Gap Analysis of Farm Balance Sheets**
Jackson Takach

Rising interest rates make it more expensive to service debt, potentially hurting profitability. Interest rates are also widely expected to influence real estate values (Barry and Ellinger, 2012). In addition to these avenues, rising interest rates can impact the farm sector's income statement and balance sheet in other ways. Given the interest in the farm sector's financial strength and the Federal Reserve's stated intention to continue gradually raising interest rates, the articles in this *Choices* theme explore ways in which interest rates influence the farm sector and how rising interest rates may impact farmers moving forward.

Henderson explores the complex relationships between interest rates, the money supply, exchange rates, and commodity prices. The article highlights how less (more) accommodating monetary policy can suppress (increase) commodity prices directly. The potential for indirect impacts on commodity prices from changes in relative interest rates and the resulting exchange rate impacts are also explained.

Next, Kuhns and Patrick consider the link between rising interest rates and farmers' ability to cover their interest payment obligations. To illustrate the impact of rising rates on the overall farm sector, they perform a scenario analysis to uncover how rising interest rates influence repayment risks. Farm-level survey data is also used to identify which types of farms would be most vulnerable to an increasing interest burden if interest rates increase.

Sherrick observes recent farmland value trends and explores whether they make sense in the context of the current interest rate environment. After providing background on the farmland value market, the article analyzes how farmland values could be impacted by rising interest rates. The article also explores how aspects of the changing interest rate environment and the relative performance of farmland compared to other asset categories could influence how farmland values respond to higher interest rates.

Finally, Takach explains how duration and modified duration can be used to gauge the level of interest rate risk inherent in the farm sector's balance sheet. The article also uses scenario analysis to highlight how interest rate risks can be caused by differences in the duration of assets and liabilities, known as the duration gap. The article then covers ways farmers can immunize their balance sheet from this type of risk.

For More Information

Barry, P., and P. Ellinger. 2012. "Credit Risk Assessment and Capacity-Borrower Relationships." In P. Barry and P.N. Ellinger, eds. *Financial Management in Agriculture*, 7th ed. London: Pearson, pp. 85–99.

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Author Information

Ryan Kuhns (rkuhns@farmermac.com) is an Economist at Farmer Mac.

Kevin Patrick (Kevin.Patrick@nass.usda.gov) is a Statistician at the United States Department of Agriculture, National Agricultural Statistics Service. He was an Economist at the United States Department of Agriculture, Economic Research Service when this research was conducted.

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