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Rising Interest Rates Will Add to Inflationary Stress in Agriculture

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Inside…

Key Points:

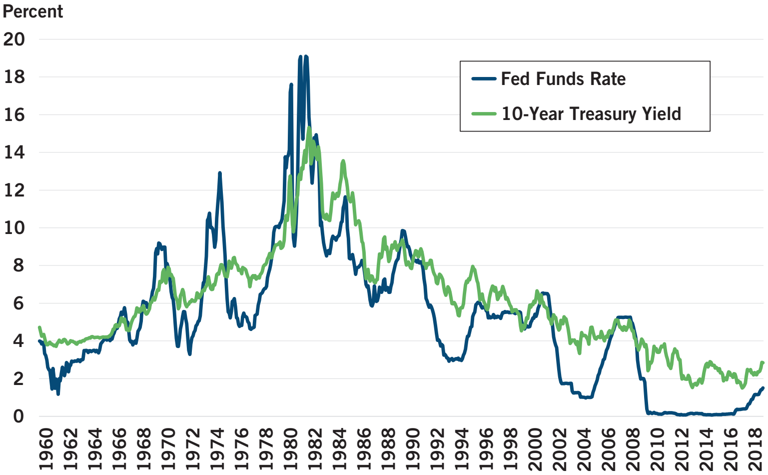
- Rising interest rates are adding to the cost burden of the agricultural economy, which is already struggling with other rising costs including labor, transportation, fuel, and raw materials for infrastructure.
- The Federal Reserve's plan to continue raising short-term interest rates is increasing the interest expense for farmers and other rural businesses such as agribusinesses and utilities.
- The gradual rise in interest rates will discourage farmers from leveraging farmland purchases with long-term debt, which is likely to result in softer farmland values. However, rising interest expense on non-real estate debt like operating loans will likely accelerate and add cost pressure on farmers' ability to operate.
- With farmland accounting for about 83 percent of farmers' net worth, further drops in land values will add stress to farmers' balance sheets. The diversity of agriculture, though, will keep the stress mostly a regional issue.
- USDA forecasts farmers' debt-to-income ratio at 6.5x for 2018, up from last year's level of 6.0x, hinting at more financial stress to come at the farm level.

Summary

After nearly a decade of record-low interest rates, the market environment is changing. The ongoing strength of the U.S. economy amid the second-longest expansion since WWII is stirring inflation. With the U.S. economy widely expected to continue growing into 2019, the Federal Reserve is expected to continue on a path of gradual rate increases to stem rising inflation and prepare for the next recession. Meanwhile, surging U.S. government debt is pushing yields on longer-dated bonds higher, thereby raising long-term rates as well.

Rising interest rates will impact every segment of agriculture and rural America with interest costs rising for both long-term and short-term borrowers. This comes at a time when agriculture has rapidly expanded its debt load in an era of cheap money since the 2007-09 financial crisis. While interest rates remain historically benign, the rising cost of borrowing is accompanied by other cost increases that are constricting the business climate in agriculture and rural America. Rising interest expense is joined by steady increases in labor, transportation, fuel, and raw materials like steel and aluminum that are crucial for infrastructure.

EXHIBIT 1: Fed Funds Rate vs. 10-year Treasury Yield



Source: The Federal Reserve System

This gradual, stair-step approach to rate increases is in sharp contrast to the last time the Federal Reserve moved rates higher. From 2004 to 2006, the Federal Reserve sent the federal funds rate 525 basis points higher over 18 months in response to rising inflation and strong U.S. and global economic growth. The overnight rate charged by the Federal Reserve is now 1.5 - 1.75 percent since rates began rising from 0 percent in 2015. Current expectations are for the Federal Reserve to raise rates at a much more gradual pace (compared to 2004 to 2006) given the current slow climb of inflation and wages nationwide. Changes in interest rates on short-term agricultural loans tend to follow the changes in the federal funds rate. (*See Exhibit 1.*)

Meanwhile, agricultural commodity prices remain depressed amid global abundance and rising uncertainty in trade negotiations. Combined with the inflationary cost environment, margins are expected to erode further across the agricultural supply chain. At the farm level, rising interest rates are expected to soften farmland values through 2018, bringing further financial stress for some farmers and ranchers.

Rates on the Rise

Since December 2015, when the Federal Reserve nudged interest rates higher for the first time since the 2007-09 financial crisis, interest rates have been on a steady but gradual climb higher. The federal funds target rate, which is set by the Federal Reserve, has increased by 150 basis points over the past 29 months. The increase comes from optimism that improving U.S. economic growth will lead to still lower unemployment without significant increases in inflation. Further gradual rate hikes are widely expected based on current economic data with the Federal Open Market Committee (FOMC) signaling that two more 25 basis point rate increases lie ahead in 2018 while three more are pending for 2019.

While Federal Reserve actions directly impact short-term interest rates, longer-term rates are more reflective of global financial market conditions and inflationary expectations. Changes in fixed-rate real estate or intermediate non-real estate loans are usually dictated by changes in the 10-year Treasury yields. The 10-year Treasury yield has only increased by about 90 basis points since December 2015. But with a yield that has surpassed 3.0 percent, rates are the highest in seven years. While the Federal Reserve's preferred measure of inflation – the personal consumption expenditure (PCE) index – achieved their target of nearly 2.0 percent in March, yields on longer-dated bonds remain held in check as other central banks around the world continue to pursue zero or negative interest rate policies and inject liquidity into financial markets.

Agriculture's Vulnerability to Rising Interest Rates

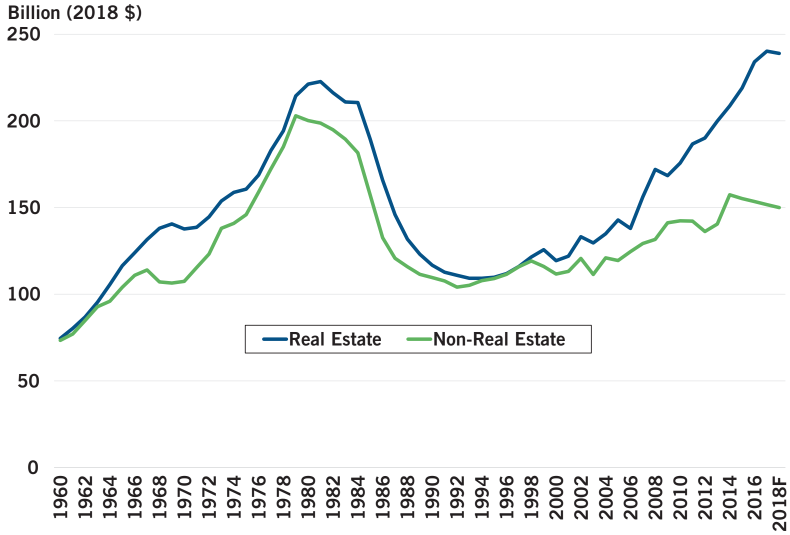
The pace and impact of the rising interest rate structure will be different in every sector of the economy. Debt across the U.S. economy has accumulated rapidly under this low interest rate environment. With net farm income down nearly by half since the peak in 2014, agriculture in particular, has seen a surge in debt. However, the sharpest increase in farm debt has mostly occurred in real estate while non-real estate debt has remained relatively flat.

The quickening pace of real estate debt versus non-real estate debt indicates that farmers and ranchers have taken advantage of cheap long-term rates to buy land as opposed to taking on short-term debt to fund operations. (*See Exhibit 2.*)

The gradual increases in long-term rates as reflected in the 10-year Treasury yield will likely temper farmers' and ranchers' willingness and ability to leverage acreage expansions. Demand for short-term debt, though, is expected to increase despite rising short-term rates. This is a result of the rising cost environment in agriculture, tepid agricultural commodity markets and the persistent erosion of working capital.

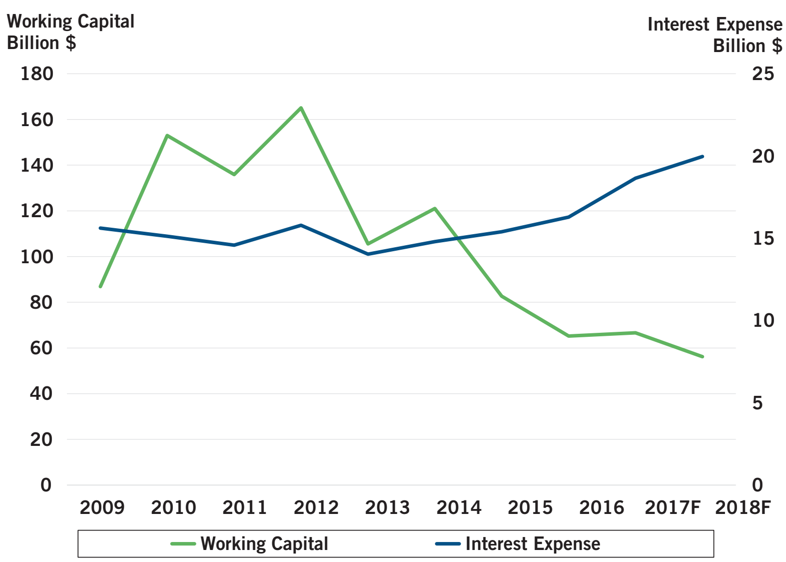
While there appears to be a modest recovery in certain sectors and regions of the ag economy, the recent trends in commodity markets and rising costs in agriculture dampen optimism for the sector. Particularly concerning is the erosion of working capital among farmers and ranchers over the past few years, which has raised questions about the ability of farmers and ranchers to manage debt obligations in a rising interest rate environment. (*See Exhibit 3.*)

EXHIBIT 2: Farm Sector Debt



Source: USDA-ERS

EXHIBIT 3: Farm Working Capital vs. Interest Expense



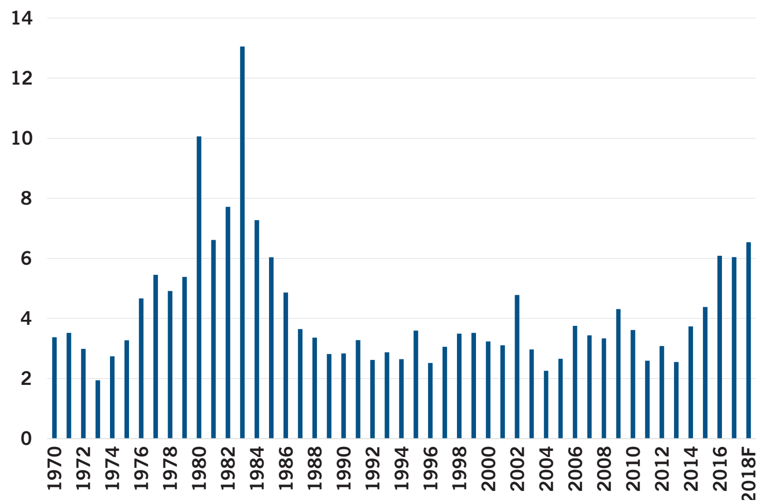
Source: USDA-ERS

Between 2014 and 2017, working capital in the farm sector declined by $54 billion – a 45 percent decline. Further reductions in working capital are expected in 2018, based on the current commodity outlook and the expectation for costs to continue rising across agriculture.

This working capital drawdown has buffered the impact of the declining cash flow in recent years and allowed the sector to cover expenses, limit additional debt exposure, and/or finance other investment opportunities, such as land acquisition. That buffer is now at the lowest level in nearly a decade. With the erosion of working capital expected to continue into 2019, farmers will likely lean more heavily on debt to finance operations rather than making land purchases.

The farm level debt-to-income ratio – a strong leading indicator of the sector's ability to service debt under a changing interest rate environment – hints at further stress ahead for the farm economy. The farm sector's debt-to-income ratio is projected to rise to 6.5x in 2018, up from 6.0x in 2017 and the highest level since the 1980s, according to USDA-ERS estimates. (*See Exhibit 4.*)

EXHIBIT 4: Debt-to-Income Ratio



Source: USDA-ERS

Agricultural Asset Values Threatened

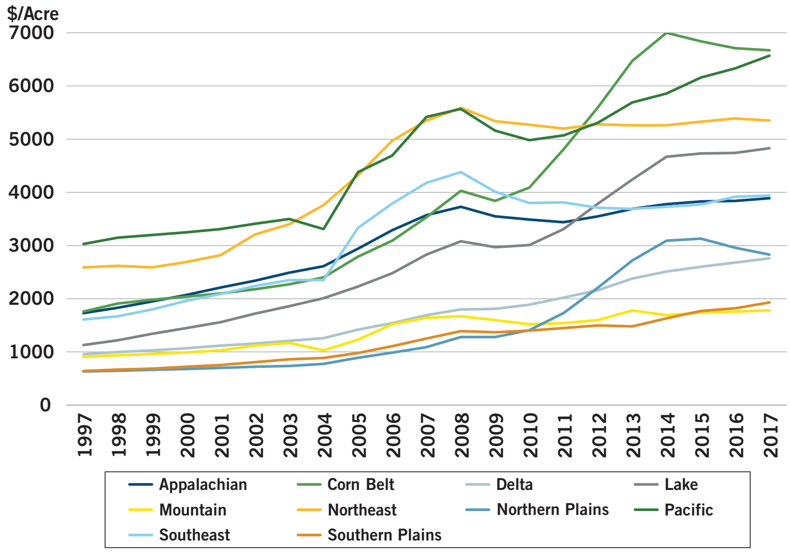
Rising interest rates could have significant impact on local land values, which have been resilient in the last decade despite the drop in net farm income. The value of farm assets has increased by about 3 percent since 2014 while farm debt has risen around 11.5 percent amid a 50 percent drop in net farm income. The cheap money supply of the last decade led to an increased appetite for debt among farmers, to buy land in particular.

The availability of cheap money has sustained farmland values in the face of a significant drop in net farm income. With farmland constituting about 83 percent (USDA estimate) of agriculture's assets, the resiliency of this important asset class has helped the agriculture economy remain solvent through the commodity downturn.

However, rising interest rates threaten to remove some support for land values in the years ahead. Inflation, which is the chief driver of yields on longer-dated bonds like 10-year Treasuries, is showing signs of awakening nationwide. In the event inflation picks up further steam in the U.S., long-term interest rates will likely climb higher. To varying degrees, rising long-term rates will weaken farmland values as the cost of taking on debt to finance land purchases increases.

Along with the reduced income flows from rising farm production costs, weak commodity markets and rising interest rates could precipitate declines in land values and other assets on the agriculture balance sheet. It should be remembered that debt has been well managed in this commodity cycle. A 10-15 percent drop in real estate assets would push the farm debt-to-asset ratio to around 14 percent – still quite manageable compared to

EXHIBIT 5: Regional Farmland Values



Source: USDA-ERS

the 22 percent peak achieved at the height of the 1980s Farm Crisis. However, this calculation does not account for the indirect impact of lower land values on farmer borrowing. Lower farmland values reduce farm asset levels, which can raise the risk factor when borrowing, and further elevate interest expenses.

Nevertheless, given the diversity of agriculture and the numerous influences that drive local land values, the effects on farmers' balance sheets will remain largely a local issue. Of note are the U.S. Corn Belt and Northern Plains regions that have seen the greatest amount of stress in land values. (*See Exhibit 5.*)

Conclusion

The agriculture industry and the rural economy face a number of stressors, including rising costs of labor, transportation, fuel, and raw materials, with rising interest rates expected to add to the cost burden. Nationwide, a resurgence in inflation is the biggest risk to the interest rate path now being contemplated by the Federal Reserve. An acceleration in inflation would likely boost long-term rates even in the absence of actions by the Federal Reserve to increase the federal funds rate.

In the currently projected interest rate environment, agriculture seems to have the capacity to service its debt obligations in the near term. The main threat to agriculture would be a more rapid increase in interest rates – currently viewed as a remote possibility. A further deterioration in farm cash flow could result from the dual pressures of rising production costs and rising interest rates amid tepid agricultural commodity markets.

However, not all farms and agribusinesses mirror these aggregate measures. Commodity prices and cash flow vary across commodities and regions. Farms and agribusinesses with higher debt levels, increased leverage, more short- term and variable-rate versus fixed-rate debt, or a need for larger operating loans will face more financial stress as interest rates rise.

CoBank's Knowledge Exchange Division welcomes readers' comments and suggestions.
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