Farmland
IN PERSPECTIVE

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Goodwin & Associates Real Estate, L.L.C.

**Mark Goodwin**
*Real Estate Broker*

**21036 S. States Lane**
**Shorewood, IL 60404**
**(815) 741-2226**

## Midsize and large-scale family farms dominate certain ag production

In 2014, 99% of U.S. farms were family farms in which the principal operator and his or her relatives owned the majority of the business, according to the Economic Research Service (ERS) of the U.S. Department of Agriculture. Most of U.S. farm production, 68%, occurred on the 9% of farms classified as midsize or large-scale family farms having at least $350,000 in annual gross cash farm income (GCFI). Those farms together accounted for most production of dairy (87% of production), cotton (81%), and cash grains/soybeans (76%).

Large-scale family farms alone (those with annual GCFI of $1 million or more) produced 73% of dairy output in 2014, according to the ERS. Although small family farms (with less than $350,000 annual GCFI) accounted for 90% of U.S. farms, they contributed just 22% to U.S. farm production.

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# How the Federal Reserve impacted farm income, 2008-2014: Pumped up risks and prices

**by Ernie Goss • Creighton University**

**Interest rates and changes in interest rates directly impact businesses such as farms. Interest rates are based on the Federal Funds Rate which is determined by the monetary policy of the Federal Reserve. The Federal Reserve manipulates the interest rate level to control the supply of money and inflation. The following article helps clarify how the actions of the Federal Reserve affect farm income.**

In 2007, the Federal Reserve (Fed) owned approximately $900 billion of U.S. Treasury bonds and mortgage backed securities. Beginning in December 2008, the Fed initiated a bond buying program intended to expand their bond ownership and jump-start the U.S. economy. The bond buying program, titled quantitative easing (QE), resulted in the Fed's balance sheet of bonds climbing to approximately $4.4 trillion by the time the program ended in October 2014.

Thus, this program effectively created $3.5 trillion in U.S. currency and consequently reduced the value of those dollars. Also commencing in 2008, the Fed reduced short-term interest rates, termed the funds rate, to practically zero percent. This action pushed global and U.S. investors to seek greater returns on investments outside the U.S. To purchase these investment instruments, investors exchanged their U.S. dollars for other currencies, thus again reducing the value of the U.S. dollar.

Since its formation in 1913, the Fed has never taken such aggressive monetary actions to stimulate the U.S. economy. As intended, the Fed via QE and rock-bottom short-term interest rates, stimulated the U.S. economy. But perhaps contrary to intentions, the unparalleled Fed monetary actions spilled over into other sectors of the economy, particularly agricultural commodities, via reductions in the value of the U.S. dollar.

For example, these monetary actions, while providing a boost to the overall U.S. economy, were particularly effective in advancing exports, the farm economy and agricultural land prices. Both Fed actions meant that U.S. goods that are priced in a weaker U.S. dollar were purchased by foreign buyers who

*Continued on page 2*

were purchasing with their strengthened currency. So these buyers forked over fewer Euros, Yen, and Yuan than previously (i.e. lower prices for them) when they purchased U.S. goods.

They then purchased more U.S. agriculture products such as beef, soybean and pork. The higher agriculture product sales along with record-low interest rates encouraged farmers to bid up the prices of farmland. ***Figure 1*** shows the chain of events.

**Figure 1: Federal Reserve actions beginning in 2008–2014**

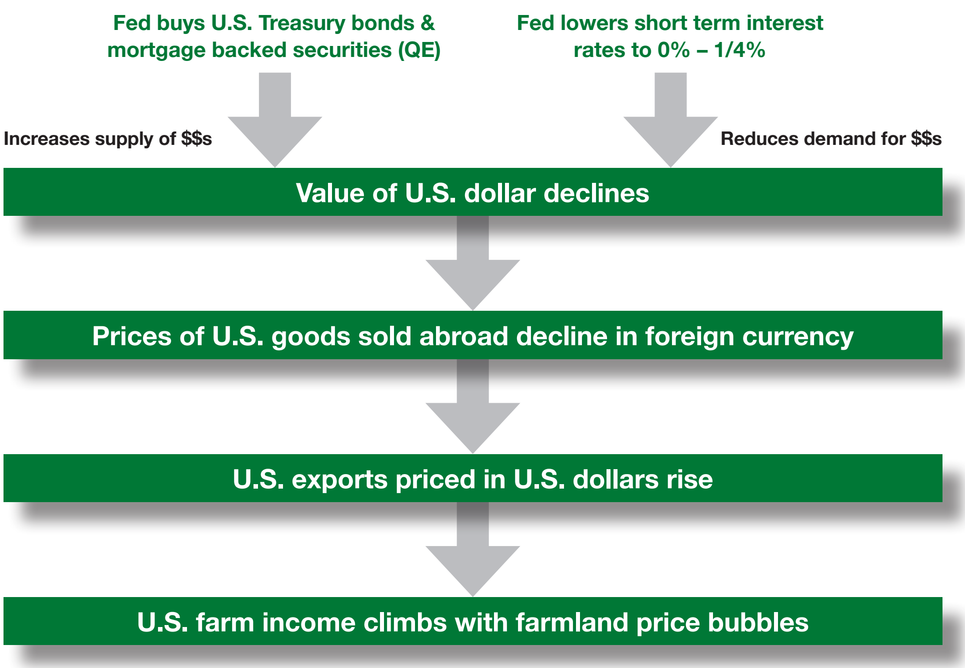



***Table 1*** lists pre-QE, QE, and post-QE agricultural economic indicators. As listed and expected, Fed monetary actions during QE (2008–14) resulted in significantly lower interest rates and a lower value of the U.S. dollar.

The lower value of the U.S. dollar stimulated agriculture exports and farm income. Higher farm income and historically low interest rates encouraged farmers to bid up agricultural land prices, both dry land and irrigated land. Though long-term interest rates did not rise with the ending of QE and the raising of the funds rate in 2014, the Fed unwinding produced the expected outcome of a higher value of the U.S. dollar, declines in growth rate of irrigated farmland prices, and a decline in dry land prices.

**Table 1: Pre-QE, QE and post-QE economic indicators**

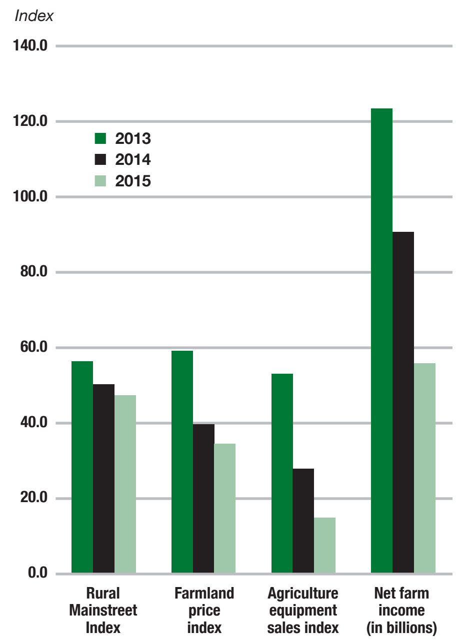
| | Pre QE 1997-2008 | QE 2008-14 | Post QE 2014-15 |
|---|---|---|---|
| Average interest rate:10-year U.S. Treasury bond | 4.9% | 2.8% | 2.1% |
| Average value of U.S. dollar | 113.7 | 101.6 | 122.1 |
| Agriculture exports as a percent of total farm receipts | 27.5% | 35.2% | n.a. |
| Farm income (compound annual growth rates) | 1.8% | 7.0% | n.a. |
| Ag dry land prices (compound annual growth rates) | 7.5% | 11.0% | -1.0% |
| Ag irrigated land prices (compound annual growth rates) | 6.3% | 9.2% | 1.6% |

Sources: St. Louis Federal Reserve; U.S. Bureau of Economic Analysis; U.S.D.A
n.a. indicates not available at time of publication.

***Figure 2*** shows results from the Creighton University monthly survey of bank CEOs in rural areas of ten states.[1] The bank CEOs are reporting on economic conditions in areas heavily dependent on agriculture with an average community size of 1,300 in population. Also presented are net farm income from U.S.D.A. for 2013 and 2014 along with projected net farm income for 2015. An index of 50.0 indicates no growth in farmland prices while any index above 60.0 is consistent with farmland price growth above 10 percent annually.

Data tell much the same story: The ending of the Fed's stimulus program and global economic slowdowns have softened economic conditions among agriculture communities. This has resulted in declines in farm income producing sinking farmland prices and agriculture equipment sales.

**Figure 2: Creighton University's Rural Mainstreet indicators and U.S.D.A.'s net farm income, 2013–2015**




Sources: Creighton University, and U.S.D.A.

With the Fed more likely to raise short-term interest rates even further in 2016 and very unlikely to engage in more QE activity, the value of the U.S. dollar is likely to remain strong. The concoction of a strong U.S. dollar and continued global economic weakness will not produce "green shoots" for the 2016 farm economy. But, there is some room for economic optimism.

[1] Creighton's Rural Mainstreet states are: Colorado, Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota and Wyoming.

**The Federal Reserve System, often referred to as the Federal Reserve or simply "the Fed," is the central bank of the United States. It was created by the Congress to provide the nation with a safer, more flexible, and more stable monetary and financial system.**

***The Federal Reserve's responsibilities fall into four general areas:***

- **Conducting the nation's monetary policy by influencing money and credit conditions in the economy in pursuit of full employment and stable prices.**
- **Supervising and regulating banks and other important financial institutions to ensure the safety and soundness of the nation's banking and financial system and to protect the credit rights of consumers.**
- **Maintaining the stability of the financial system and containing systemic risk that may arise in financial markets.**
- **Providing certain financial services to the U.S. government, U.S. financial institutions, and foreign official institutions, and playing a major role in operating and overseeing the nation's payments systems.**

## *TPP and Trade*

What policy actions can put wind back in the financial sails of agriculture? As indicated earlier, I do not think agriculture can count on the U.S. Federal Reserve for 2016 economic support. However, renewed economic growth among U.S. food-buying trading partners and the approval of the Trans Pacific Partnership (TPP) trade pact will, in my judgment, put U.S. agriculture on firmer economic ground.

In October 2015 in Atlanta, the United States, Japan, Vietnam and nine other Pacific Rim nations reached final agreement on the largest regional trade pact in history. However, given that it requires Congressional approval, President Barack Obama is a long way from putting this feather in his economic cap. Current U.S. exports to Japan, Vietnam and the other 10 cosignatories to TPP accounted for approximately 44 percent of 2014 U.S. exports.

U.S. Agriculture Secretary Tom Vilsack said without question, "Agriculture is going to be a winner with TPP." His organization estimates that implementation of TPP would expand U.S. sales abroad by $130 billion.

According to my calculations, if agriculture accounts for its historic share of U.S. exports, TPP would expand U.S. agricultural sales by approximately $8.4 billion and U.S. net farm income by roughly $1.0 billion in just one year.

An even bigger positive jolt to agriculture sales and farm income would come from a reduction in the value of the U.S. dollar. According to my "back of the envelope" calculations, a one percent reduction in the value of the U.S. dollar would add approximately $4.6 billion to U.S. farm revenues.

What changes would be necessary to achieve a significant reduction in the value of the U.S. dollar? U.S. farmers would need for central banks, including the Bank of Canada, European Central Bank, the Bank of Japan, the Peoples Bank of China and the Bank of England, to begin raising rates while the Fed holds off on any additional rate hikes. This will not likely happen in the first half of 2016 but is a possibility in the latter half of 2016.

Central bank actions, global trade policy, and U.S. farmers' fortunes are, for better or worse, in sickness and health, wedded. In some periods, it works for U.S. farmers, and in other periods, it works against American farmers and those linked to the farm.

***Ernie Goss, Ph.D.**, is currently the MacAllister Chair and Professor of Economics at Creighton University in Omaha, Nebraska, and Director of the Goss Institute in Denver, Colorado. Dr. Goss also is a research faculty member at California State University-Fresno. Dr. Goss was a visiting scholar with the Congressional Budget Office and the National Aeronautics & Space Administration.*

*His book,* Changing Attitudes toward Economic Reform during the Yeltsin Era *was published by Praeger Press in 2003 and his book* Governing Fortune: Casino Gambling in America *was published by the University of Michigan Press in 2007 (www.erniegoss.com and www.outlook-economic.com).*

*To gauge regional economic conditions, Goss conducts a monthly survey of bank CEOs in rural areas of 10 states and a monthly survey of supply managers in 12 states. Results from the two surveys were recently cited in the* Wall Street Journal, Business Week, Forbes, *and* The Economist, *as well as regional newspapers such as the* Denver Post, *the* Kansas City Star, *and the* Minneapolis Pioneer Press. *Recently, Goss has appeared on CNN, Fox Business News, National Public Television and BBC.*

## *Midsize and large-scale family farms*

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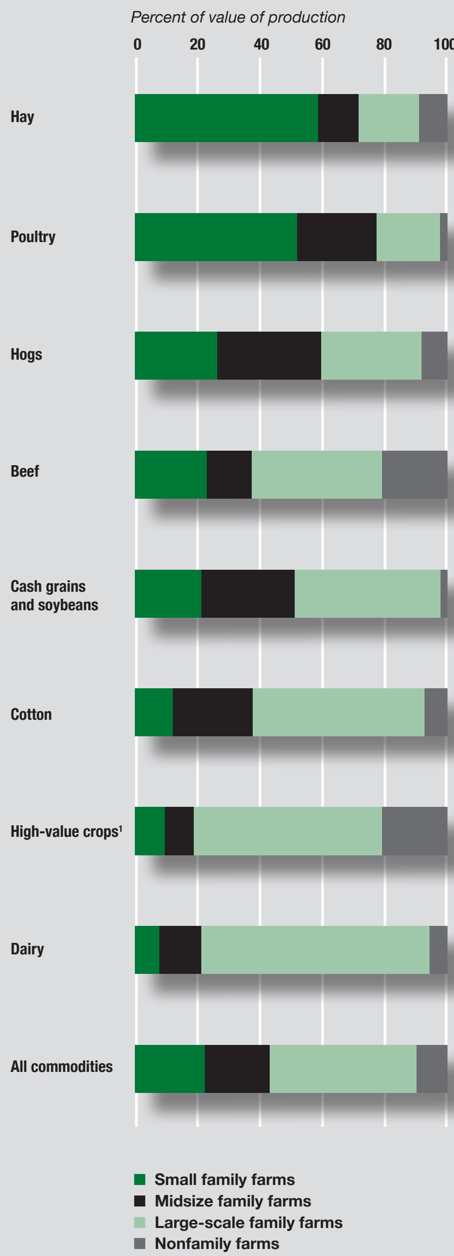
Among some commodity specializations, though, small family farms account for a much higher share of production, accounting for more than half of poultry output (mostly under production contracts) and hay, according to the ERS. Non-family farms accounted for 10.4% of all production, but were most prominent in high-value crops and beef, through operating feedlots.

### Value of production for selected commodities by farm type, 2014




[1] High-value crops include vegetables, fruits/tree nuts, and nursery/greenhouse products.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2014 Agricultural Resource Management Survey.

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Mark Goodwin & Associates Real Estate LLC
21036 S. States Ln.
Shorewood, IL 60404

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