Economics Report

Farm Credit Administration
Office of Regulatory Policy
Agricultural and Economic Policy Team

December 14, 2017

Summary

USDA expects net cash farm income to increase from $93.3 billion in 2016 to $96.9 billion in 2017. The gain is driven by stronger cash receipts for cattle/calves, hogs, broilers, and dairy. Cash receipts are expected to be down for most crop categories in 2017. Adjusted for inflation, net cash income is near the historic average (1960 to 2016) for the second consecutive year.

Farm debt remains relatively high, at four times the sector income. This compares with the historical average of three times the sector income. As a result, some farmers may not have enough liquidity to cover farm expenses and repay their loans.

Several economic and policy issues could affect risk in the System. Continued strong demand in the protein sector will be necessary to prevent steep drops in farm prices amid the expanding supplies of meat. For crops, demand is critical for clearing out grain stocks.

An increase in interest rates is a risk for producers with debt, but a gradual rise will allow producers (as well as the land market) to more easily absorb the increase. Another concern would be a geopolitical event that triggers an oil shock or some other economic shock that disrupts global growth. Potential changes to farm policy and trade policy in 2018 could affect farm sector income and the ability of farmers to mitigate risk.

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Economic Conditions Affecting the Farm Credit System, December 2017

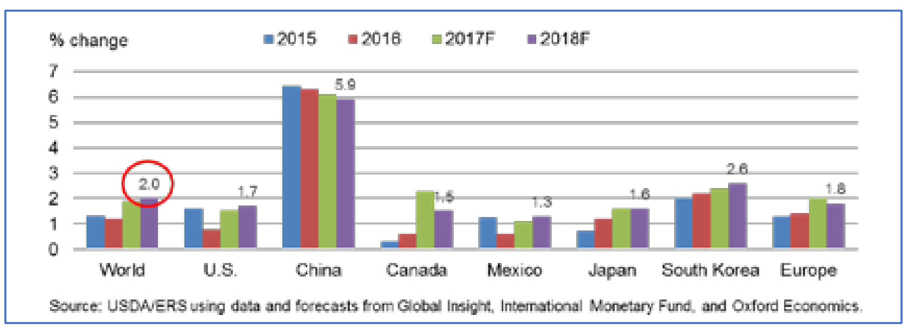
The direction of the U.S. farm economy at the end of 2017 might be best described as sideways. Positives, such as strong demand in the livestock sector, are contrasting with weak markets for many crops. According to USDA's latest forecast, inflation-adjusted farm income appears to be stabilizing near its historical average, but concerns remain that some farmers may not have enough liquidity to cover farm expenses and repay their loans.

Cropland values continue to decline in parts of the Midwest and Great Plains, but the current rate of decline is mild enough to prevent alarm among lenders regarding collateral values. The pressure on land values and farm returns, as well as liquidity concerns for farmers, stems from continued large commodity supplies and strong export competition. As usual, export demand across all sectors will be key in shaping farm sector prospects. A big unknown heading into 2018 is policy — both trade and farm policy — and how any changes might affect farm returns and the ability of farmers to manage risks.

Macroeconomic factors are positive

A seven-year global economic expansion continues to underpin demand for agricultural products. The expansion is broad based, with the top U.S. export markets growing. As shown in figure 1, the growth in world GDP per capita is expected to be 2.0 percent.

Figure 1. Real GDP per capita of the world and major exporters, 2015 to 2018F



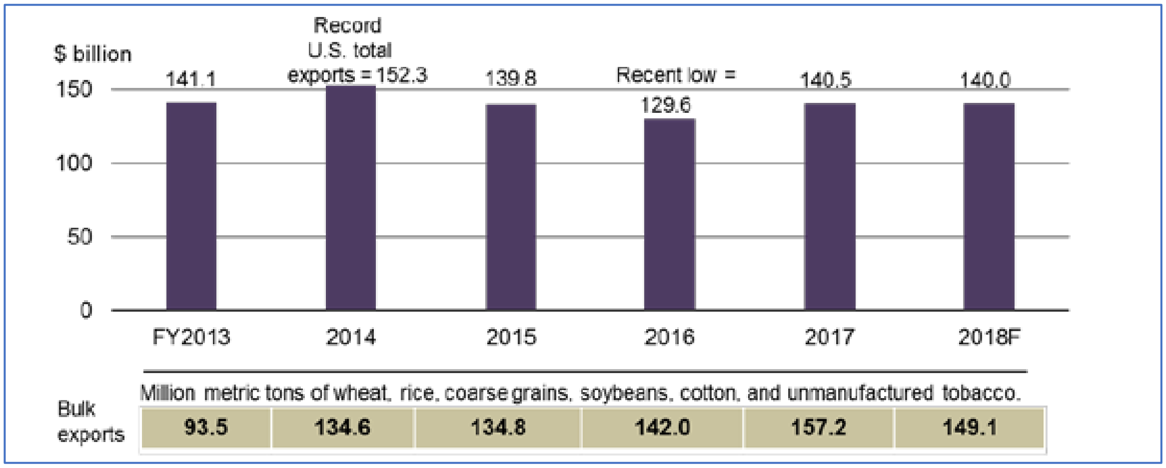
Source: USDA's Economic Research Service (ERS), using data and forecasts from Global Insight, the International Monetary Fund, and Oxford Economics.

The relative weakness of the U.S. dollar against the currencies of our trading partners is another positive factor for U.S. agriculture. The dollar has weakened since the beginning of the year and is expected to continue to weaken next year. Relative economic growth and actions by various central banks are expected to favor foreign currencies such as the euro and Canadian dollar.

However, even with this year's decline, the dollar remains relatively strong compared with its value earlier in the decade.

Figure 2 shows how a relatively high exchange rate a few years ago contributed to the decline in U.S. exports from a record $152.3 billion in 2014 to $129.6 billion in 2016. In fiscal years 2017 and 2018, total exports are bouncing back, and tonnage of bulk commodity exports is higher. The top three U.S. export markets are China, Canada, and Mexico, each with a little under one-sixth of the U.S. total.

Figure 2. U.S. agricultural exports from FY 2013 to FY 2018F



Source: "Outlook for U.S. Agricultural Trade," USDA's ERS.

As the U.S. economy advances, macro forecasters expect mild growth in personal income and declining unemployment. See table 1. Both trends bode well for domestic demand for meat, fruits and vegetables, processed food, and for restaurant sales. And because of its effect on off-farm income, the domestic economy also affects the ability of many System borrowers to pay back their loans. In fact, the domestic economy can have an even more profound effect than the price of corn or hogs. USDA's late-November update of its forecast for 2017 income indicates that average off-farm income is relatively strong and up slightly. This is important because more than half of farm households have lost money on their farming operations in each of the past several years according to USDA.

Table 1. Change in U.S. personal income and unemployment rate, 2016 to 2018F

	U.S. real disposable personal income (percent change)	Unemployment rate
2016	1.4	4.9
2017F	1.4	4.4
2018F	2.4	4.1

Source: Consensus Economics, Inc.

A risk is that an unexpected reversal in the domestic economy could result in two unfortunate hits, one on farm demand and another on off-farm income used to repay loans. More broadly, other parts of the System portfolio could feel the effects, including rural home loans, forestry, and horticulture because of their dependence on landscaping and the housing market.

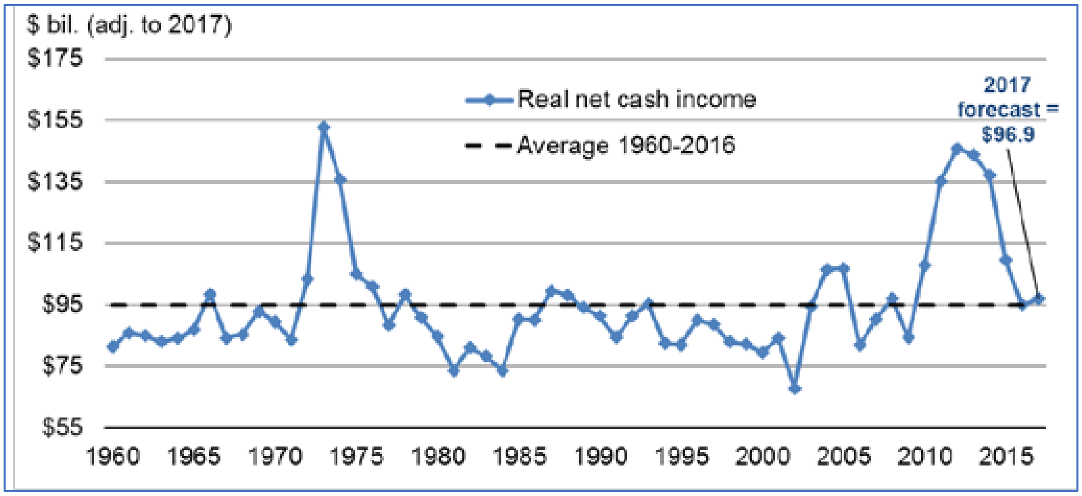
Fitting into the macro story is relatively low but potentially rising input costs for farmers. This year long-term interest rates have moved up a bit from very low levels, and the Federal Reserve just bumped up short-term rates again. Some upward pressure on Treasury debt yields is expected as new debt is issued.

Natural gas and oil prices this year have traded in a favorable range, keeping a lid on prices of fuel, fertilizer, and chemicals. For example, average prices for nitrogen fertilizer are reportedly lower than they have been for nine years, and these lower prices are expected to translate into modest cost savings for the 2018 crop year. Factors that support weak fertilizer prices include weak grain prices (which reduce fertilizer demand) and overcapacity in fertilizer production.

Real net cash farm income is near historical average

For a large part of the farm sector, the high farm income of several years ago is now a distant memory. Global grain supplies have expanded, and prices have returned to historical levels. The November USDA forecast shows inflation-adjusted net cash farm income in 2017 near the historical average for the second consecutive year. (See figure 3.) Net farm income, which focuses on the value of production rather than cash flow, is below its long-term average.

Figure 3. Inflation-adjusted net cash farm income, from 1960 to 2015

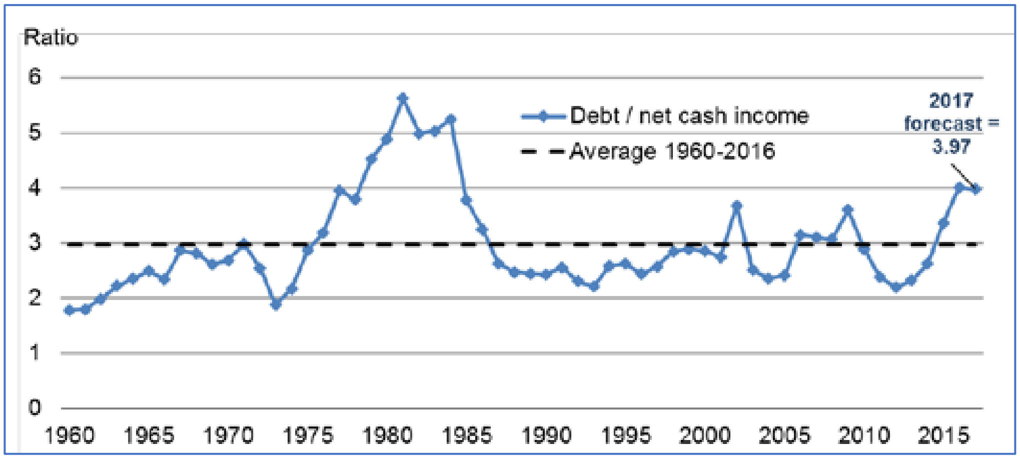


Source: USDA's ERS.

The modest overall improvement in 2017 is driven by stronger cash receipts for cattle/calves, hogs, broilers, and dairy after they posted significant declines in 2016. Cash receipts are forecast down for most crop categories in 2017.

Although farm income is in its historical range, farm debt remains relatively high, at four times the sector income. See figure 4. This compares with the historical average of three times the sector income. As a result, some producers may have difficulty covering expenses and paying back their loans. For example, USDA estimates that producers will have to use 27 percent of their production just to make farm loan payments; this is the highest share since 2002.

Figure 4. Farm debt relative to net cash income from 1960 to 2015



Source: USDA's ERS.

The current level of both farm income and debt illustrate how critical income growth will be moving forward. Also, sector-wide averages hide farm-level problems where individual producers may be highly leveraged and suffering liquidity problems because of current commodity prices. USDA reports that 9.1 percent of crop farms and 7.2 percent of livestock farms are highly leveraged, with debt amounting to more than 40 percent of farm assets.

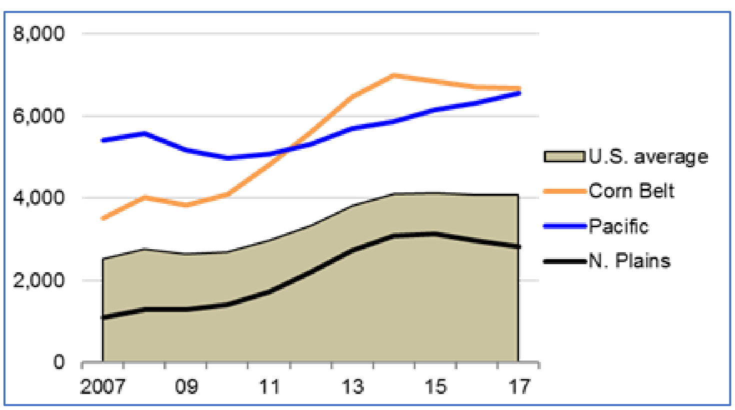
Cropland values continue to decline in the Corn Belt and Northern Plains

Critical to economic conditions in the farm sector is not just the income needed to support the level of debt, but whether land values continue to provide sufficient collateral. As shown in the tan area in figure 5, the U.S. average cropland value is stable. Declines in the Corn Belt and the Northern Plains have been offset by gains in other regions.

The good news here is that the rate of change has been slow enough to support overall equity levels and to avoid alarming lenders. According to USDA, cropland values from mid-2016 to mid-2017 dropped 4.4 percent in the Northern Plains and 0.6 percent in the Corn Belt, with some states in the Corn Belt showing small gains. While some areas are experiencing steeper declines than others, demand for cropland appears to be sufficient to prevent a precipitous drop in values.

Figure 5. Cropland values by region from 2007 to 2017

Dollars per acre

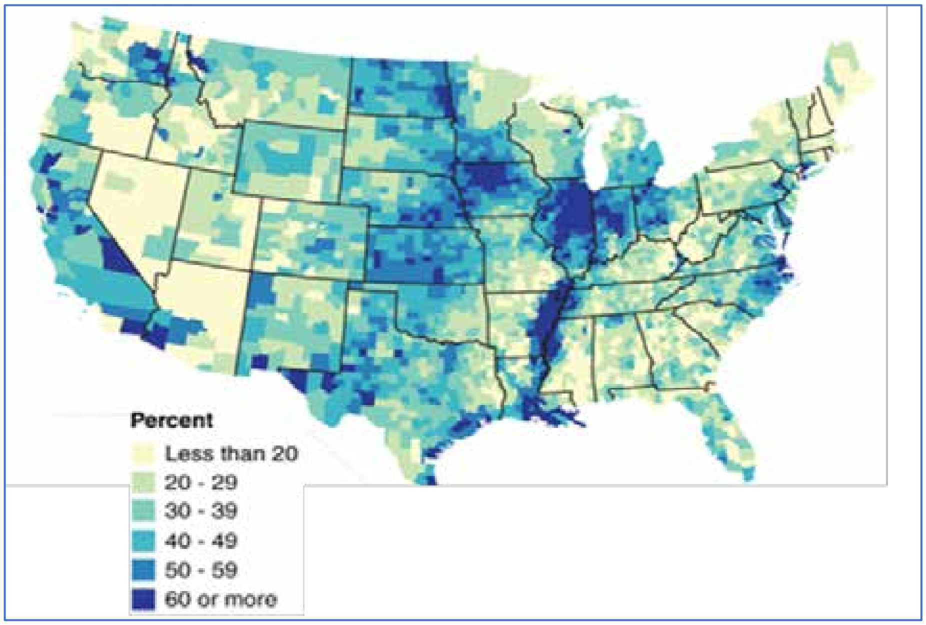


Source: USDA's National Agricultural Statistics Service (NASS).

Outside of these regions of primary concern, average values show mild increases or are little changed. These areas have their own supply-and-demand conditions, and they did not see such a rapid rise during corn and soybean boom time.

Farmers who own their own land have options for dealing with cash flow problems by structuring debt. The same is less true for renters. The map in figure 6 shows that a substantial share of farmland is rented in the Corn Belt, the Great Plains, and elsewhere. It is in these regions that farm stress could be greatest, especially if rents are "sticky" on the way down. In some cases, rent may not decline in areas where farmers with good cash positions are willing to farm the property at current rent levels.

Figure 6. Share of farmland that is rented



Source: USDA's ERS, using data from 2012 Census of Agriculture.

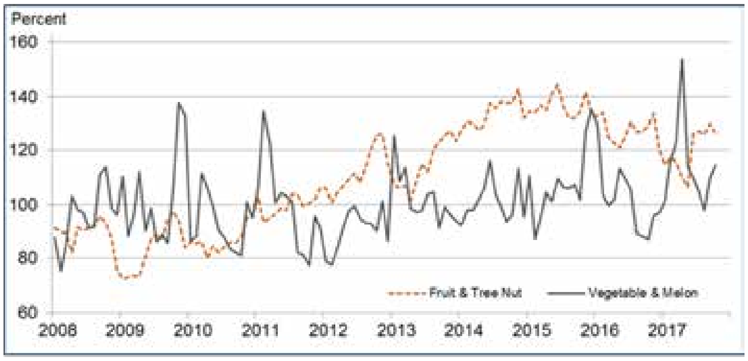
Commodity outlook: Fruit and tree nuts

The commodity category of fruits and nuts has been the unsung hero in farm income statistics. Prices for these commodities, as shown by the dotted line in figure 7, remain well above levels seen in 2011 and prior. This contrasts with the 10-year pattern for major field crops and livestock, where current prices are not elevated relative to the earlier period. Two factors have helped fruit and tree nut prices: strong demand for tree nuts and limited growth in the number of acres for noncitrus fruit.

Labor availability and costs are significant concerns to growers. The industry is trying to control costs by mechanically harvesting crops such as table olives that traditionally have been hand harvested. Also, hurricane damage and long-term issues with disease are affecting Florida citrus crops.

Figure 7. Price index for fruit and tree nuts, and for vegetables and melons, 2008 to 2017

2011 = 100

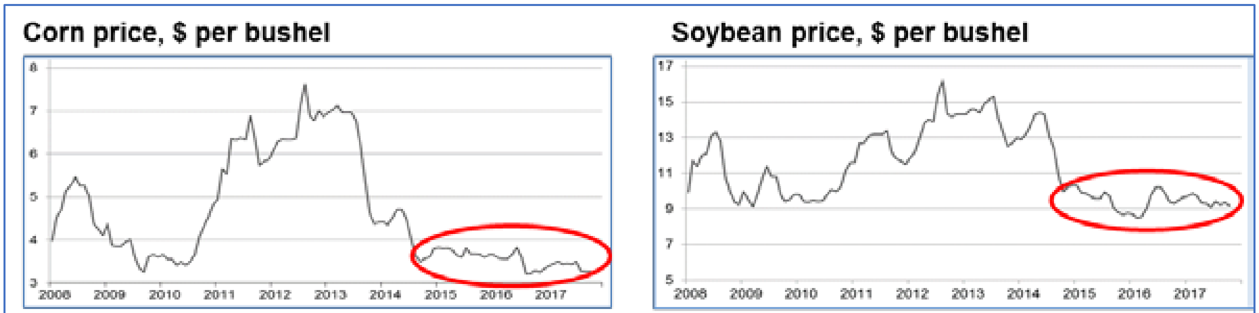


Source: USDA's NASS.

Commodity outlook: Corn, soybeans, and wheat

The corn and soybean markets are moving in a clear sideways pattern at relatively low levels as global production continues uninterrupted. See figure 8. Use is expanding, but not enough to prevent stock buildup that keeps corn in the $3-to-$4-per-bushel range and soybeans in the $9-to-$10 range. Assuming normal weather, USDA expects no significant change for crops in 2018. Returns above variable costs are not sufficient to cover land and other fixed costs for some producers, and farm program payments per acre are declining. Without a jarring crop shortfall somewhere in the world, the corn and soybean markets could just keep grinding along.

Figure 8. Price of corn and soybeans, 2008 to 2017



Corn	2015	2016	2017F	2018F
Price ($/bu.)	3.61	3.36	3.20	**3.30**
Market return above variable cost ($/acre)	271	253	232	**236**

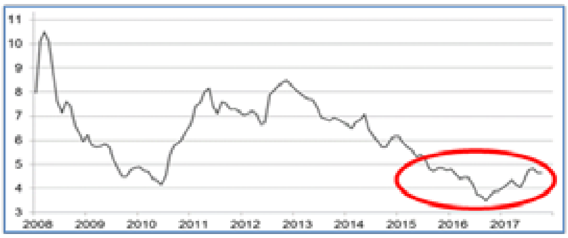
Soybeans	2015	2016	2017F	2018F
Price ($/bu.)	8.95	9.47	9.30	**9.40**
Market return above variable cost ($/acre)	256	320	287	**279**

Sources: USDA's NASS; USDA baseline projections by crop year, released Nov. 28, 2017.

Wheat prices bounced up a bit in 2017 because of a smaller crop and drought in the Northern Plains. (See figure 9.) Still, global supplies are large and international competition is very strong, putting downward pressure on prices. Crop insurance helped farmers in the Northern Plains after drought hit the region. Also, wheat farmers recently received their 2016 farm program payment, which was a timely boost to returns.

Figure 9. Price of wheat, 2008 to 2017

Wheat price, $ per bushel



	2015	2016	2017F	2018F
Price ($/bu.)	4.89	3.89	4.60	**4.60**
Market return above variable cost ($/acre)	96	89	98	**100**

Sources: USDA/NASS; USDA baseline projections (crop year) released 11/28/17.

Sources: USDA's NASS; USDA baseline projections by crop year, released Nov. 28, 2017.

Commodity outlook: Cattle, hogs, and dairy

Livestock and dairy producers have had two important advantages in 2017: strong domestic and export demand for protein products and low feed costs. See figures 10 and 11. An unexpected resurgence in calf prices this year — in the midst of a cattle expansion, no less — has turned cow-calf margins in 2017 from negative to positive. As cattle supplies build next year, however, producers could see negative returns.

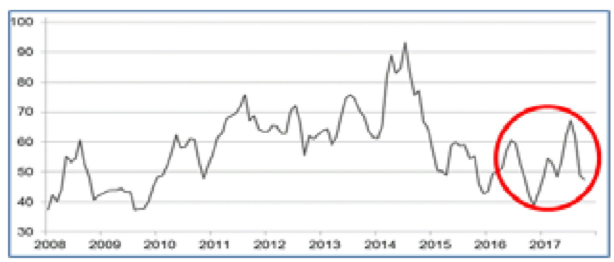
Despite increases in production, hog prices are also relatively strong. Products are moving through distribution channels at a good clip, and exports now take about one-fifth of hog production. Another positive factor has been the increase in pork packer competition, which occurred when two new plants opened. For 2018, futures contracts have already afforded hedging opportunities to lock in profits next year.

Figure 10. Calf and hog prices per hundredweight, 2008 to 2017

Calf price, $ per hundredweight

	2015	2016	2017F	2018F
Price ($/cwt)	263	166	169	**167**
Return above variable cost ($/head)	265	-30	54	**-34**

Hog price, $ per hundredweight

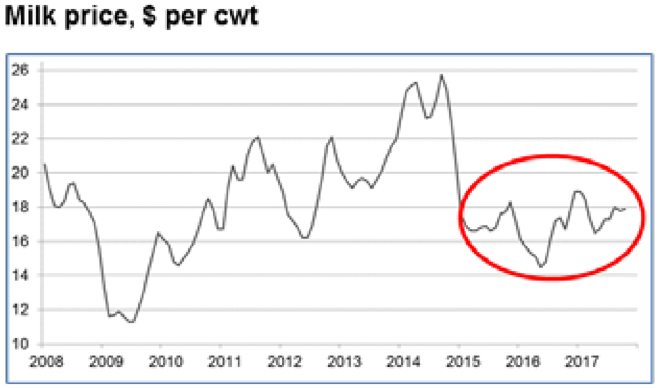


	2015	2016	2017F	2018F
Price ($/cwt)	53.53	49.64	52.31	**48.07**
Return above variable cost ($/head)	7.26	0.10	17.26	**10.96**

Sources: USDA's NASS; USDA baseline projections released Nov. 28, 2017; margins from Informa Economics IEG.

Milk producers are sitting somewhere between the devastating market conditions of 2009 and the euphoric highs of 2014. After registering small profits this year, producer returns in 2018 are projected to be near breakeven, implying stress for higher-cost producers who are already running in the red. Growth in China's demand for dairy products reportedly remains strong, but it may not be enough to keep pace with global production.

Figure 11. Milk prices per hundredweight, 2008 to 2017



	2015	2016	2017F	2018F
Price ($/cwt)	17.12	16.30	17.70	**17.35**
Return above total cost ($/cwt)	0.16	0.04	1.28	**-0.09**

Sources: USDA's NASS; USDA baseline projections released Nov. 28, 2017; margins from Informa Economics IEG.

Managing farm risks: Government assistance following natural disasters

Most of the price risk shown in the previous charts is managed in large part by the producers, with government payments supplementing market returns, depending on the commodity and the program triggers.

For production losses, however, a suite of programs can help farmers affected by natural disasters. The following programs helped farmers and ranchers following the many hurricanes, floods, droughts, and wildfires of 2017:

- Federal crop insurance. (Insurance payments depend on coverage levels selected by producers. The use of federal crop insurance is widespread, but coverage levels vary widely.)
- Noninsured Crop Disaster Assistance Program. (This is generally available where crop insurance is not.)
- Disaster programs for livestock-related losses, trees and vines, and farmland rehabilitation.
- Agriculture Risk Coverage revenue program. (Payments made through this program are based on county yields.)
- Emergency loans in counties that have been declared disasters.

Some of the programs listed above were of particular help to producers who lost livestock and grazing options. USDA programs have been put to the test this year.

A good example is citrus in Florida, where crop and tree losses from this year's hurricane were substantial. Many producers had low insurance coverage levels and had to absorb a 50 percent loss before indemnities started. The financial blow compounded an already difficult situation in the state because of long-term disease and yield loss.

Many growers benefitted from the Tree Assistance Program (TAP), a USDA disaster program that provides funds for tree removal and replanting. Producers received disaster proceeds in addition to crop insurance indemnities.

For lenders in Florida, commodity diversification within their loan portfolios helped them weather this year's storm. For example, lenders whose portfolios included loans from the forestry and cattle sectors were much less affected. This was also true for those lending to vegetable growers because the growing season was not yet underway when the hurricane hit.

Farm policy review is on the horizon

A major review of farm policy, including disaster programs, is getting underway. Most of the discussions surrounding the next farm bill involve making tweaks to existing farm programs. One proposed tweak is to even out revenue payments in counties that are adjacent to each other.

Efforts to raise program parameters to boost payments are limited by budget constraints, so the ability of farm programs to reduce risk may not change much.

Most of the value of the revenue program might be in the rearview mirror for corn and soybean producers. Many are expected to switch to the price loss program, which gives better protection from extremely deep price losses. Since the current farm bill covers crops harvested in 2018, many would like to see the next farm bill passed before farmers start planning for their 2019 crops, the first of which is winter wheat to be planted in the fall of 2018.

Challenges to the federal crop insurance program are a given, and it is worth noting that critics got close to enacting some changes on subsidies during the last farm bill. Cuts would result in farmers paying a greater share of the premium. Some would likely scale back a bit of their coverage to compensate if subsidies are cut.

And finally, during farm bill discussions, there are always calls for more research dollars because research can improve the long-term competitiveness of the agriculture industry, but research funding always has trouble competing with farm subsidies and other farm bill priorities.

U.S. agricultural trade policy in flux

The case for pursuing export markets is clear for agriculture since roughly 20 to 25 percent of farm output is exported. This explains why many U.S. ag groups had high hopes that the 12-member Trans-Pacific Partnership would significantly boost exports for U.S. beef, pork, dairy, soybeans, and other commodities. Earlier this year the Trump Administration halted U.S. participation in the trade deal for reasons unrelated to agriculture.

In its place has been an increased emphasis on bilateral discussions. One recent example of positive news for U.S. exporters is that China plans to remove its 11 percent value-added tax on distillers dried grains, which came after the president's recent visit to China. The question is whether this new emphasis will result in faster trade gains than under the previous multilateral approach.

Another major trade uncertainty is the impact of renegotiating the North American Free Trade Agreement (NAFTA). U.S. agriculture benefits from significantly lower tariffs and improved market access under the existing agreement. For example, Mexico, which accounts for three-quarters of U.S. barley exports, places a zero tariff on that commodity. The previous tariff was 175 percent. Any backsliding on NAFTA could dampen future U.S. exports and test the continent's well-integrated agricultural markets.

Issues that could cause some pain (or gain) in 2018

In summary, several economic and policy issues could affect risk in the Farm Credit System. Continued strong demand for the protein sector will be necessary to prevent steep drops in farm prices amid the expanding supplies of meat. For crops, demand is critical for clearing out grain stocks.

Another major concern would be a geopolitical event that triggers an oil or other economic shock that disrupts global growth. Any export-dependent industry like agriculture is vulnerable to losses. The transition to higher interest rates is another issue. The key will be a gradual rise that can be absorbed by producers and the land market.

On crop insurance and farm policy, departures from the status quo could affect risk mitigation for farmers. Trade policy may be the ultimate wildcard, and the sector is working hard to hold onto gains secured during previous decades.

Finally, for borrowers and their lenders, producers who are low-cost and are successful hedgers tend to prosper when the sector is under competitive pressures. That will likely be the case as we move into 2018. For farmers who are struggling, economic conditions appear to be changing slowly enough to allow them either to adjust or to exit gracefully.