# The Outlook for U.S. Agriculture

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Welcome to this year's 90th annual Agricultural Outlook Forum. I would like to begin my presentation with a chart I showed at the end of my Outlook presentation a few years back (figure 1). It shows commodity prices for grains and soybeans, adjusted for inflation and normalized to 2005 levels, from 1950 to 2012. Apart from the spike in prices in the early 1970s, prices generally declined in real terms from 1950 to 2000. The decline was tied to the remarkable increase in productivity gains that outpaced the increase in global demand.

Over the past 10 years we have seen a remarkable transition in U.S. agriculture. Buoyed by strong global income growth in the emerging economies, U.S. agricultural trade has more than doubled since the mid-2000s, growing at an average rate of over 8.5 percent per year. At the same time, U.S. corn use for ethanol increased by over 750 million bushels per year between 2005 and 2010. With strong demand and several supply shocks in key growing regions, global stocks for grains and oilseeds fell to the lowest levels since the 1970s, resulting in price spikes for major commodities in 2007/08, 2010/11 and most recently, 2012/13. Nominal prices for grains, oilseeds, meats and dairy have all set record highs and in many cases, for multiple times over the past 10 years.

With record high prices boosting plantings and a return to more normal weather, global production for grains and oilseeds rebounded significantly this past year. Global production for corn, wheat, rice, and soybeans all were at record levels in 2013. As a result, global stocks levels have rebounded and prices for many crops have fallen, with corn prices projected to be down by as much as 35 percent in 2013/14.

While, the outlook for 2014/15 suggests a further rebuilding of global stocks and a further moderation of crop prices, global demand is expected remain strong which will continue to keep pressure on supplies. Despite rebuilding over the past year, current stocks remain tight which means prices will continue to be vulnerable to supply shocks.

In my comments today I will begin first with a discussion of four factors that will have an impact on the agricultural economy over the next year and beyond. These include global demand trends, the Renewable Fuel Standard and biofuel production, the 2014 farm bill and the continuing effects of drought. I will then turn to the outlook for crops and livestock and the implications for food prices in 2014. Lastly, I will discuss the outlook for farm income and the implications for land values and farm finances.

***1. Record global demand is expected to boost exports***

While much focus has been on record grain and oilseed production in 2013, global demands for grains and oilseeds are projected at record levels as well (figure 2). Global grain consumption grew by 2.1 percent per year over the past 10 years, compared to a global population growth rate of only 1.2 percent per year. The growth rate varies by grain. For example, global rice consumption grew at 1.4 percent per year; wheat use grew at 1.8 percent per year and global corn use grew at 3.8 percent per year. Corn use was boosted by industrial use for corn, including ethanol, particularly in the United States and China. Oilseed demand growth over the period was even more impressive, growing at over 3.6 percent annually, with global soybean demand growing at 4.4 percent annually over the past 10 years.

Record global use has boosted world agricultural trade and the United States has benefited. U.S. agricultural exports are estimated at $142.6 billion for fiscal 2014, up $5.6 billion from November's estimate and $1.5 billion higher than the previous record level in FY 2013 (figure 3). The forecast for grain and feed exports is boosted $3.2 billion from November to $31.3 billion on greater volumes of wheat, corn, and feeds and fodders. Oilseed and product exports are forecast at $31.4 billion, up $2.5 billion, driven by record soybean and near-record soybean meal exports. The soybean export forecast is raised $1.8 billion to $21.7 billion as strong demand from China add to both volume and unit value. Higher unit values have increased the cotton export forecast by $100 million to $4.4 billion. The export forecast for livestock, poultry, and dairy is lowered by $100 million to $31.6 billion, with reductions to poultry, pork, and other livestock products outweighing gains to dairy and beef. The horticultural product exports remain unchanged from the record November forecast of $34.5 billion.

U.S. agricultural imports for fiscal year 2014 are forecast at $110 billion, which is up slightly from the November estimate. This forecast is 5.9 percent greater than the fiscal 2013 import total. The estimate is consistent with a relatively weak to moderate recovery of import demand, reflecting the anticipated three percent expansion of the domestic economy this year. The forecast trade balance in fiscal 2014 is up $5.1 billion from November to $32.6 billion, but still trails the fiscal 2013 surplus of $37.1 billion.

Exports to China are forecast up $3.5 billion to a record $25.0 billion. The soybean export value is expected to increase on strong Chinese demand coupled with higher U.S. prices. Greater volumes of distiller's dried grains shipments, combined with strong demand for sorghum, tree nuts, and dairy products, also helped boost the export forecast. First-quarter (October through December) exports to China set a new record and are 23 percent ahead of the same period a year ago. China is once again forecast to be the top U.S. market.

Global trade is expected to increase over the next 10 years by 15 percent for wheat, over 30 percent for corn and almost 40 percent for soybeans (figure 4). Based on projected yield growth, the world will need to allocate 50 million more acres of corn, wheat and soybeans, at U.S. productivity rates, to meet the increase in trade demand (figure 4). U.S. producers can expect stiff competition for those markets from Brazil (soybeans, corn), Black Sea (wheat, corn) and other traditional suppliers; nonetheless, income growth in China and elsewhere is expected to keep export demand strong over the next 10 years.

***2. Despite proposed RFS changes, corn use for ethanol will remain strong in 2014 and will continue to grow over the next 10 years.***

Annual corn use for ethanol has been relatively flat at 5 billion bushels since 2011/12 (figure 5). Much attention has been given to the recent proposed rule for the 2014 volumes for renewable fuels under the Renewable Fuel Standard. While the proposed volumes for total RFS and advanced RFS category would imply smaller conventional (e.g., corn-based ethanol) volumes under the mandates, strong ethanol export demand will likely keep corn use for ethanol at 5 billion bushels for 2014/15. Exports topped 1 billion gallons in 2011, but fell back in 2012 and in the first half of 2013 due to the drought (figure 6). Shipments in the last quarter of 2013 suggest exports in 2014 could approach 750 million to 1 billion gallons if this pace were maintained. This translates into 350-375 million bushels of corn.

Corn use for ethanol is projected to grow gradually over the next 10 years as penetration rates for ethanol increase. Over the long run, corn-based ethanol's attractiveness as an energy fuel will depend ultimately on the price competitiveness of its feedstock (corn) with other fossil fuels.

***3. The new farm bill will present program choices for most row crop farmers but programs should have minimal impact on planting decisions.***

The Agricultural Act of 2014 was passed by Congress and signed by the President in early February (figure 7). Passage of the farm bill provides producers with more certainty regarding the structure of the farm safety net. The Act eliminates and replaces the direct and countercyclical payments program and the Average Crop Revenue Election (ACRE) program with a new revenue-based program (Agricultural Risk Coverage or ARC) and a price-based program (Price Loss Coverage or PLC). Producers of covered commodities will have to make a one-time, irrevocable decision to select either PLC or ARC. If they select ARC, they will be faced with a further decision of whether to base ARC on a county basis by crop or on an individual, whole farm basis. For those selecting PLC, they have the further opportunity to select Supplemental Coverage Option for crop insurance.

Since both the PLC and ARC programs are based on producers' base acres rather than on their actual planted acres, the programs will likely have limited impact on acreage decisions.

***4. Lingering drought in the West could continue to affect crops and livestock, particularly in California.***

Drought continues to persist across much of the Southern Plains and California (figure 8). For many areas of Texas, Oklahoma and Kansas, this would mark the fourth consecutive year of dry conditions. If the drought continues in 2014, it would further stress livestock, limit grazing and forage opportunities and could lead to further declines in cattle inventories. Continued dryness could also increase abandonment rates for cotton.

Parts of California are experiencing the worst drought since the mid-1970s. At the end of 2013, California's 154 intrastate reservoirs contained only 70 percent of their normal water volume. The three-year drought has severely impacted California's rangeland and pasture quality, as well as water supplies for irrigating specialty crops. On January 28, exceptional drought (D4) was declared for part of California for the first time during the nearly 15-year history of the U.S. Drought Monitor. Water availability could have large consequences for fruit, vegetable and tree nut production, particularly in the Central Valley which is potentially the most adversely affected area by the shortage. Water shortages could also reduce short- and medium-grain rice plantings if producers opt to sell their water rights.

***Outlook for Crops***

Tomorrow, our commodity analysts will go through USDA's projected balance sheets in detail; today, I will confine my comments to what I see are the major trends in the current supply and demand outlook for the major field crops.

<u>Despite record production for most grains and oilseeds, 2013/14 global ending stocks remain tight</u>. While stocks as a percent of use have increased for most grains, levels remain low relative to the early 2000s (figure 9). Tight stocks mean prices are likely to remain sensitive to market conditions and prices could increase substantially if a major production shortfall were to occur in 2014. Global soybean stocks have rebuilt over the past two years but a comparison to the early 2000s is less instructive because of the larger share of production coming from South America in 2014 compared with 2000-03. Global cotton stocks continue to increase reflecting the large inventories of cotton held by China. Potential changes in China's cotton support program may end the accumulation of stocks but concerns about how and when government inventories are released on the market hang over the market.

<u>U.S. planted area for the 8 major row crops is expected to decline only slightly in 2014.</u> Total planted acreage to corn, wheat and soybeans is projected to be 227.0 million acres, a decline of 1.1 million acres, mostly reflecting a decline in Soft Red Winter (SRW) wheat seedings last fall (figure 10). Winter wheat seedings were reported at 41.9 million acres, down 1.2 million from last year. Spring wheat seedings are expected to be 13.6 million acres, about 500,000 acres higher than last year due to fewer expected prevented plantings.

Corn and soybean acreage is expected to total 171.5 million acres, about 400,000 less than in 2013. Stronger soybean prices relative to corn should favor soybean plantings this year. The soybean to corn futures price ratio for fall 2014 delivery has been at 2.5, which favors soybeans. We project that corn area will fall to 92 million acres, a decline of 3.4 million acres from 2013 levels. Soybean acreage is projected at 79.5 million acres, up 3 million from 2013. Smaller SRW wheat plantings and lower soybean prices will likely reduce soybean double cropping in 2014.

High rice prices will encourage some expansion. Rice area for 2014 is projected at 2.9 million acres, up 400,000 acres from 2013. Most all of the expansion is expected to occur in the Delta States where producers will expand long grain plantings, as well as plantings of middle- and short-grain varieties to offset potential acreage losses in

California due to the drought.

Cotton prices which are expected to fall less than competing crops will make cotton plantings relatively more attractive, resulting in higher cotton acreage in 2014. Cotton area is projected at 11.5 million acres, an increase of 1.1 million acres.

<u>Prices for most row crops are expected to fall to the lowest levels since 2009/10</u>. A return to normal yields for spring-planted crops could see soybeans and corn set new production records. Larger corn, soybean, rice and cotton crops will result in significant stock building and lower crop prices. Most crop prices are expected to fall to the lowest levels since 2009/10. Wheat prices are estimated at $5.30 per bushel, a decline of 22 percent from last year (figure 11). Corn prices are projected to fall to $3.90 per bushel, a decline of $0.60 per bushel and the lowest season average price for corn since 2009/10. Soybeans prices are forecast at $9.65, per bushel, also the lowest season average price since 2009/10. Rice prices are forecast at $15.90 per hundredweight for 2014/15, basically unchanged from 2013/14. Cotton prices are projected at 68 cents per pound, a decline of 8 cents per pound from 2013/14 and the lowest level since 2009/10. Because of continued tight ending stocks, markets will likely remain sensitive to supply shocks both in the United States and abroad.

<u>Cash receipts for vegetables, fruits and nuts are expected to decline in 2014, but much uncertainty remains because of the potential effects of the California drought</u>. The return to trend after a banner 2013 mostly reflects a decline in the vegetable annual price index from its 2013 spike (figure 12). Declines are also expected in receipts for dry beans and potatoes, both of which are predicted to experience falls in their annual price and quantities sold. Cash receipts from the sale of fruits and nuts are expected to decline in 2014, reflecting a forecast double-digit decline in the all fruit price index. Declines in quantities sold are expected for grapefruit, lemons, and oranges.

California accounts for about one-third of U.S. vegetable production and almost two-thirds of U.S. fruit and nut production. Serious shortfalls in water allocations in the Central Valley could affect specialty crop production, which could sharply increase fruit and vegetable prices.

***Outlook for Livestock, Dairy and Poultry Improves***

Market prospects for the animal sector will be much improved in 2014. After several years of low margins, feed price ratios have improved for all species beginning in the second half of 2013 and are expected to continue to improve as product prices remain high and feed costs decline (figure 13).

Despite high prices, U.S. exports continue to be strong for meat and poultry (figure 14). Broiler exports are expected to reach record levels in 2014, up 1.8 percent from 2013. Pork exports are expected to be up 3 percent from 2013. Only beef exports are expected to decline, forecast down 10 percent in 2014, due to the high beef prices reflecting tight supplies.

Despite a return to profitability for the red meat sector, expansion remains slow. Prospects for the beef sector are constrained by the decline in cattle inventory which as of January 1 was at the lowest cattle and calf inventory since 1951 (figure 15). While cattle numbers have been trending down since the 1970s, the continued drought in the Southern Plains has resulted in large declines in the cattle herd (figure 16). Since 2011, the cattle inventory has declined by almost 1.3 million head. Almost 75 percent of the losses occurred in Texas, Oklahoma, Kansas and Missouri (figure 17). Although returns to cow-calf operators have been at levels which should encourage herd retention, many producers appear to be taking a cautious view, rebuilding capital after a year or more of buying expensive forage and ensuring sufficient supplies of forage and water will be available before expanding in earnest.

Likewise, in the hog sector, positive producer returns and lower feed costs have set the stage for strong expansion. However, the spread of Porcine Epidemic Diarrhea virus (PEDv) through the U.S. herd is expected to sharply limit the supply of hogs compared to earlier expectations. Mortality rates due to PEDv have been highest among young piglets which have curtailed the growth in the number of pigs per litter and will likely slow expansion (figure 18).

Dairy producers have also enjoyed improving margins since July 2013 (figure 19). Margins are expected to stay above $8 per hundredweight for all of 2014. Dairy product prices have been at or near record levels due, in part, to strong demand for U.S. dairy products, particular cheese and butter. Dairy exports have shown remarkable growth over the past 5 years and are expected to growth further over the next 10 years (figure 20).

Steer and milk prices are both forecast at record levels in 2014 while broiler prices are expected to fall only marginally from last year’s record prices (figure 21). Hog prices are expected to fall about 2 percent from 2013 levels to $63 per hundredweight which would be the third highest price on record.

***Food Inflation to Remain Low***

Despite the drought of 2012 and record prices for many commodities, food inflation remained quite low in 2013. Prices for food consumed at home rose, on average, only 0.9 percent (figure 22). Prices rose for beef and veal, poultry, fruit, and other foods in 2013; however, prices fell for pork, eggs, vegetables, and nonalcoholic beverages. For the remaining food categories, prices were mostly unchanged.

Meat and poultry prices will likely increase by an estimated 3 to 4 percent in 2014 which will help push food inflation back towards more historical levels. Food at home and food away from home are expected to increase between 2.5 and 3.5 percent in 2014, in line with more historical levels.

A big uncertainty remains concerning the effect of the drought in California on fruit and vegetable prices. California accounts for about one third of vegetable production and two-thirds of fruit and nut production in the United States. To the degree drought and subsequent water allocation decisions affect specialty crop production, prices for fruits, vegetables and nuts could see higher increases than the currently projected increase of only 2 to 3 percent. Fruit, vegetable and nuts account for about 15 percent of total at-home food expenditures.

***Farm Income and Land Values***

On February 11, the Economic Research Service release its first farm income forecast for 2014 (figure 23). Net cash income for 2014 is forecast at $101.9 billion, down almost 22 percent from 2013 but still more than $5 billion above the previous 10-year average. The decline is largely led by a decrease in crop receipts which are projected to decrease 14 percent in 2014, with an almost $11 billion decline in corn receipts and a decline in soybean receipts of more than $6 billion. Farm expenses are projected to decrease by $3.9 billion in 2014. The decline is led by lower feed costs and, if realized, it would be only the second time expenses declined in the last 10 years.

The elimination of direct payments under the Agricultural Act of 2014 results in a projected 45-percent decline in government payments. Any expected payments under the new ARC and PLC program would not be paid until calendar 2015. However, net indemnities under the crop insurance program have increased in recent years and are expected to exceed $5 billion in 2014.

Farm equity is projected to reach another nominal record, despite the substantial slowdown in asset growth and the expectations of higher debt levels. Since 2006, more than $1 trillion has been added to farm equity, largely through increased land values (figure 24). Reports released last week from the Federal Reserve Banks of Chicago and Kansas City suggest that growth in farmland values slowed in the fourth quarter of 2013. With lower farm income forecast for 2014 and increases in long-term interest rates, growth in farmland values is expected to slow and perhaps decline in some regions over the next year (figure 25).

Overall, the financial health of the agricultural sector is strong as it enters a period of lower crop prices (figure 26). Aggregate farm debt, measured as a percent of total farm assets, is forecast at 10.5 percent, the lowest level since ERS began calculating the measure in 1960 and considerably below the levels experienced during the 1980s farm financial crisis when debt-to-asset ratios were above 20 percent. To put the 1980s' debt level in context, farmland values would have to fall by over 55 percent to raise the debt-to-asset ratio to 20 percent assuming no change in farm debt.

Debt levels vary considerably among regions and type of farm operations. Because of reduced profitability due to high feed costs and tight margins, livestock and dairy producers tend to hold higher debt levels than their crop counterparts. Not surprising, debt as a percent of assets tends to be higher among younger farm operators.

***Conclusions***

Record global crops for grains and oilseeds have contributed to significant prices declines over the past year and it is expected these trends to continue into 2014. Because global stocks continue to be tight, markets will remain sensitive to global production, both in the United States and abroad. Lower commodity prices will mean lower farm income which will, in turn, mean a softening of land values. While lower prices will pressure profits for row crop producers, particularly those in areas where cash rents have seen significant increases, livestock and dairy producers should benefit from lower feed costs. Overall, the financial health of the sector has benefited considerably from the high prices enjoyed by producers over the past 7 years which will ease the adjustment to lower price levels in 2014.