

USDA Agricultural Projections to 2018

Interagency Agricultural Projections Committee

Introduction

This report provides longrun projections for the agricultural sector through 2018. Major forces and uncertainties affecting future agricultural markets are discussed, such as prospects for long-term global economic growth and population trends. Projections cover production and consumption for agricultural commodities, global agricultural trade and U.S. exports, commodity prices, and aggregate indicators of the sector, such as farm income and food prices.

The projections are a conditional scenario with no shocks and are based on specific assumptions regarding the macroeconomy, agricultural and trade policies, the weather, and international developments. The report assumes that provisions of current law remain in effect through the projection period. This would include the Food, Conservation, and Energy Act of 2008 (the 2008 Farm Act), the Energy Independence and Security Act of 2007, and the Energy Improvement and Extension Act of 2008, for example. The projections are not intended to be a Departmental forecast of what the future will be, but instead are a description of what would be expected to happen under a continuation of current farm legislation, with very specific external circumstances. Thus, the projections provide a neutral backdrop, reference scenario that provides a point of departure for discussion of alternative farm sector outcomes that could result under different domestic or international assumptions.

The projections in this report were prepared in October through December 2008 and reflect a composite of model results and judgment-based analyses. Normal weather is assumed. Also, the projections assume no further outbreaks of plant or animal diseases. Short-term projections used as a starting point in this report are from the November 2008 *World Agricultural Supply and Demand Estimates* report. The macroeconomic assumptions were completed in October 2008.

Overview of Assumptions and Implications

Key assumptions underlying the projections and selected implications include:

Economic Growth

- U.S. and world economic growth reflect near-term effects of the current economic crisis followed by a transition back to steady economic gains.
- The global economy is assumed to slow to 1.7-percent growth in 2009 while the U.S. economy declines by 0.5 percent.
- The financial crisis and global economic slowdown will constrain U.S. exports in the short to intermediate term.
- Global economic growth is assumed to rebound to a 3.4-percent average growth rate for 2010-18. The U.S. economy resumes growth in 2010 at 2.5 percent, followed by average rates near 3 percent over the remainder of the projection period.
- The return to broad-based, steady global economic growth supports longer term gains in world food demand, global agricultural trade, and U.S. agricultural exports.
- Economic growth in developing countries is especially important because food consumption and feed use are particularly responsive to income growth in those countries, with movement away from staple foods and increased diversification of diets.
- Growth in export demand contributes to increases in agricultural commodity prices and gains in farm cash receipts after 2009.

Population

- Growth in global population is assumed to continue to slow to an average of about 1.1 percent per year over the projection period compared with average annual rates of 1.7 percent in the 1980s and 1.4 percent in the 1990s.
- Population growth rates in most developing countries remain above those in the rest of the world. As a consequence, the share of world population accounted for by developing countries increases to nearly 84 percent by 2018, up from 78 percent in the 1980s and 80 percent in the 1990s.
- Population gains in developing countries along with increased urbanization and expansion of the middle class are particularly important for the projected growth in global food demand. Population in developing countries, in contrast to that in more developed countries, is dominated by a younger population cohort with larger and increasingly more diverse food consumption.

The Value of the U.S. Dollar

- The U.S. dollar is assumed to strengthen moderately over 2010-18. Nonetheless, the dollar's low level relative to the early 2000s remains a facilitating factor in projected gains in U.S. agricultural exports.
- The United States will remain competitive in global agricultural markets, although trade competition will continue to be strong. Even with the moderate strengthening of the U.S. dollar, export gains contribute to increases in cash receipts for U.S. farmers.

Oil Prices

- Much of the large increases in oil prices from late 2002 into 2008 reflected strong demand for crude oil resulting from world economic gains and rapid manufacturing growth in China, India, and other countries in Asia. The weakening of the U.S. and global economies at the end of 2008 and resulting decline in demand for petroleum and other energy supplies pushed crude oil prices down more than 70 percent from peak values in mid-2008.
- Crude oil prices are assumed to rebound in 2009 and average about \$60 per barrel. Prices are then assumed to increase over the remainder of the projection period as global economic activity picks up, rising somewhat faster than the general inflation rate. By the end of the projection period, the refiner acquisition cost for crude oil imports is assumed to be near \$100 per barrel.
- These increases in crude oil prices influence both the costs of production in the agricultural sector as well as the economics of biofuels.

U.S. Agricultural Policy

- Provisions of current law, particularly the Food, Conservation, and Energy Act of 2008 (2008 Farm Act), are assumed to remain in effect through the projection period. (See box, *2008 Farm Act Overview*, pages 6-7, for further discussion.)
- Under the 2008 Farm Act, the maximum acreage enrolled in the Conservation Reserve Program (CRP) was reduced from 39.2 million acres to 32 million acres, beginning on October 1, 2009. With CRP enrollment at 34.8 million acres on September 30, 2008, this policy change provides some additional cropland for potential use in production rather than tightening cropland availability over the projection period.
- Increased cropland availability, resulting from the reduction in the CRP, combined with sustained high commodity prices keep U.S. cropland use high in the projections.

U.S. Biofuels

- The ethanol tax credit was reduced to 45 cents per gallon under the 2008 Farm Act, starting in calendar 2009.
- The biodiesel tax credit was set at \$1.00 per gallon for all feedstocks under the Energy Improvement and Extension Act of 2008, thus increasing the credit for biodiesel made from recycled vegetable oil or animal fats from 50 cents per gallon.
- The projections assume that these tax credits available to blenders of biofuels (ethanol and biodiesel) as well as the 54-cent-per-gallon tariff on imported ethanol used as fuel are extended beyond their currently legislated expiration dates and remain in effect through the projection period.
- Expansion in the U.S. ethanol industry is projected to continue, although the pace is assumed to slow from the rapid gains of the past several years.
- Corn is expected to remain the primary feedstock for U.S. ethanol production during the projection period. Slower annual growth for corn-based ethanol is projected, however, largely reflecting moderate gains assumed in overall gasoline consumption in the United States. Nonetheless, by the end of the projection period, ethanol production accounts for about 35 percent of corn use, and corn-based ethanol production exceeds 9 percent of annual gasoline consumption.
- Biodiesel production in the United States is assumed to increase to 1 billion gallons by 2012. Less than half this volume is assumed to be from domestic first-use vegetable oils, partly due to the equalization of the biodiesel tax credit across all feedstocks.

Livestock and Meat Trade

- The projections assume a gradual rebuilding of U.S. beef exports to Japan and South Korea. Even with these gains, however, total U.S. beef exports do not return to 2003 levels until 2013.
- The projections assume Canadian cattle and beef from cattle over 30 months of age can be exported to the United States under the conditions that they are age-verifiable and born after March 1, 1999.
- The projections assume implementation of mandatory country of origin labeling (COOL) for beef and veal, pork, lamb, and poultry meat based on the interim final rule published in August 2008. These requirements add costs associated with the tracking of livestock and the labeling of meat. Since August 2008, a final rule has been published and is currently under review.

International Policy

- Trade projections assume that countries comply with existing bilateral and multilateral agreements affecting agriculture and agricultural trade. The report incorporates effects of trade agreements and domestic policies in place in November 2008.
- Domestic agricultural and trade policies in individual foreign countries are assumed to continue to evolve along their current path, based on the consensus judgment of USDA's regional and commodity analysts. In particular, long-term economic and trade reforms in many developing countries are assumed to continue.

International Biofuels

- The production of biofuels has experienced rapid growth in a number of countries. The projections assume that the most significant increases in foreign biofuel production over the next decade will be in the European Union (EU), Brazil, Argentina, and Canada.
- The projections assume that the EU biofuel target of 5.75 percent of total transportation fuel use by 2010 and mandate of 10 percent by 2020 are only partially met. Nonetheless, growth in biodiesel demand in the EU is a key factor underlying gains in global demand for vegetable oils and oilseeds.

Prices

- Long-term growth in global demand for agricultural products, in combination with the continued presence of U.S. ethanol demand in the corn sector and EU biodiesel demand for vegetable oils, holds prices for corn, oilseeds, and many other crops well above their historical levels, although season-average annual prices are not projected to reach the record highs seen in the first half of 2008.
- Continued high grain and oilseed prices raise feed costs in the livestock sector, leading to reduced U.S. production of total meat and poultry production through 2011 and higher meat prices.
- Sustained biofuel demand and strengthening global food demand after the current economic slowdown provide a major impetus for long-term projections of strong farm income.
- Retail food prices rise faster than overall inflation through 2011, partly reflecting higher meat prices (particularly in 2010 and 2011) as the livestock sector adjusts to increased feed costs. Then consumer food prices in the United States return to the longer term relationship of rising less than the general inflation rate over the remainder of the projection period.

2008 Farm Act Overview

The Food, Conservation, and Energy Act of 2008, enacted into law in June 2008, governs the bulk of Federal agriculture and related programs for the next 5 years. Its 15 titles include administrative and funding authorities for programs that cover income and commodity price support, farm credit, and risk management; conservation through land retirement, stewardship of land and water resources, and farmland protection; food assistance and agricultural development efforts abroad and promotion of international access to American farm products; food stamps, domestic food distribution, and nutrition initiatives; rural community and economic development initiatives; and encouraging production and use of agricultural and rural renewable energy sources.

The 2008 Farm Act continues many of the commodity programs from recent farm legislation. The Act provides income support, with new payment and eligibility limits, for wheat, feed grains, cotton, rice, oilseeds, and pulses through direct payments (except pulses), counter-cyclical payments, marketing loan assistance program, and new average crop revenue election (ACRE) payments.

- Direct payment rates are unchanged, but eligible payment acres are reduced from 85 percent of base acres to 83.3 percent for crop years 2009-11.
- Loan rates, specified in the legislation, are unchanged for crop year 2008, but increase for wheat, barley, oats, other oilseeds, and wool for crop years 2010-12. Loan rates for dry peas and lentils are lowered for crop years 2009-12. Large chickpeas become loan eligible in 2009.
- The target price for upland cotton is lowered to 71.25 cents per pound. Target prices increase for wheat, grain sorghum, barley, oats, soybeans, and other oilseeds for crop years 2010-12. Target prices are specified for dry peas, lentils, and small chickpeas and large chickpeas beginning with the 2009 crop year, with these crops becoming eligible for counter-cyclical payments.
- The ACRE program is a new market-based, counter-cyclical revenue program beginning in 2009 which incorporates national prices and state- and farm-level yields. This optional program is an alternative to counter-cyclical payments with the election to receive ACRE payments also requiring a 20 percent reduction in direct payments and a 30 percent reduction in the loan rate.
- Sugar loan rates are raised and a new program is added to use surplus sugar for bioenergy production.
- Dairy price support is revised by specifying mandated purchase prices for manufactured dairy products and allowing purchase prices to decline if purchase levels exceed certain levels.
- The Milk Income Loss Contract (MILC) Program continues, but is modified for the period October 1, 2008 through August 31, 2012. The payment rate percentage applied to the difference between the MILC target price and the Boston milk marketing order Class I price is raised in this period. The quantity of milk eligible for MILC payments for all producers on a single dairy operation is also higher during this period. Additionally, starting in January 2008, the MILC target price is adjusted when the National Average Dairy Feed Ration Cost exceeds designated levels (\$7.35 per hundredweight through August 2012; \$9.50 per hundredweight in subsequent months).
- The Act reduces subsidies to insurance companies for selling and servicing crop insurance policies and increases administrative fees paid by farmers for minimum insurance coverage level.
- A new, whole-farm Supplemental Agricultural Disaster Assistance Program provides revenue-based disaster protection to crop producers and disaster assistance for livestock (including aquaculture and honey bees), forage, and tree and nursery crops.

New titles provide for horticultural crops and organic agriculture and for the livestock and poultry sector.

- The Specialty Crop Block Grant Program continues with increased mandatory funding.

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2008 Farm Act Overview (Continued)

- Livestock mandatory reporting expands and country-of-origin labeling continues, with some additional commodities added.
- New rules governing hog and poultry production contracts and meat and poultry plant food safety are introduced.

Conservation provisions emphasize and expand working land conservation and environmental practices, while continuing land retirement and farmland preservation programs.

- Conservation on working land is emphasized by increasing funding for the Environmental Quality Incentives Program and the new Conservation Stewardship Program (successor to the Conservation Security Program).
- The Conservation Reserve Program acreage cap is reduced to 32 million acres from 39.2 million acres, beginning on October 1, 2009.
- Emphasis on wetland restoration and farmland preservation continues with expansion of Wetland Reserve Program, Farmland Protection Program, and Grassland Reserve Program.

The Trade title repeals several export assistance programs, while continuing and expanding market development programs.

- The Intermediate Export Guarantee Program (GSM-103), Supplier Credit Guarantee Program, and Export Enhancement Program are repealed.
- Required spending on nonemergency food assistance is increased.
- Mandatory funding for McGovern-Dole International Food for Education and Child Nutrition Program is provided.

Support for nutrition programs expands.

- Benefits and eligibility increase for the Food Stamp Program (FSP), renamed the Supplemental Nutrition Assistance Program (SNAP), beginning in 2009. Additional adjustments for inflation are provided.
- The Fresh Fruit and Vegetable Program and farmers' market and food distribution programs also receive increased funding.

Rural development programs funds planning, coordination, and implementation of rural community and economic development programs.

- Programs continue to emphasize business and economic development and enhanced infrastructure, especially for health care and communications systems.
- Value-added agricultural activities, including renewable energy and locally and regionally produced agricultural products also receive greater attention.

The 2008 Farm Act also includes a number of tax provisions, including several related to biofuels.

- A temporary production tax credit for cellulosic biofuels is provided.
- The tax credit for ethanol blending is reduced to 45 cents per gallon from 51 cents per gallon. This reduction took place at the start of 2009 since the ethanol production trigger was met in 2008.

For further information on the 2008 Farm Act, see *2008 Farm Bill Side-By-Side* at <http://www.ers.usda.gov/FarmBill/2008/Overview.htm>