## U.S. Agricultural Sector Aggregate Indicators Farm Income, Food Prices, and U.S. Trade Value

Longrun developments for the U.S. farm sector reflect steady domestic and international economic growth, which support gains in consumption, trade, and prices. Although export competition is projected to continue, global economic growth, particularly in developing countries, provides a foundation for gains in world trade and U.S. agricultural exports. Combined with increases in domestic demand, particularly growth in corn used for ethanol production, the results are generally rising market prices and cash receipts. Rising production expenses and lower government payments offset the gains in cash receipts and other sources of farm income, holding net farm income relatively stable from 2006 to 2015, after declining from historically high levels in 2004 and 2005. Consumer food prices are projected to rise more slowly than the general rate of inflation.


Net farm income falls over the next several years from the historically high levels in 2004 and 2005, and then stabilizes over the remainder of the projections.

- Decreases in cash receipts, lower government payments, and higher production expenses push net farm income down in 2006. Growing demand then boosts cash receipts after 2006. Rising farm production expenses and reductions in government payments to farmers largely balance the gains in cash receipts and other farm income, keeping projected net farm income relatively flat near $\$ 54$ billion a year. Nonetheless, net farm income remains higher than the average in the 1990s of about $\$ 48$ billion.


Direct government payments to farmers are projected to fall from $\$ 23$ billion in 2005 to under $\$ 13$ billion in 2011-14, and then to $\$ 11.5$ billion in 2015 when the tobacco quota buyout payments end.

- As projected market prices rise, price-sensitive payments decline toward the end of the projections. Consequently, fixed direct payments under the 2002 Farm Act and conservation payments account for a larger share of direct government payments.
- With government payments declining, the agriculture sector relies increasingly on the market for more of its income and the share of income provided by government payments falls. Government payments, which represented more than 8 percent of gross cash income in 2005, account for less than 5 percent at the end of the projections.
- To account for the possibility of both higher and lower prices than the baseline's deterministic (point estimate) prices, a stochastic estimation process has been adopted to project expected direct government payments. This process captures the asymmetry in farm program outlays due to stochastic (random) shocks (see box, page 62).


## Projected Government Payments Reflect Stochastic Estimation Procedure

To reflect variability in agriculture due to stochastic (random) shocks, projections for government payments for 2007-15 reflect stochastic estimates for price-sensitive payment categories. These payment categories include marketing loan benefits, counter-cyclical payments (CCPs), and dairy market loss payments (2007 only). Commodities covered are corn, barley, sorghum, oats, wheat, rice, cotton, soybeans, and milk. USDA adopted this approach to capture the effects of random shocks on expected budgetary outlays and government payments.

In the stochastic procedure, statistical distributions for projected prices and production (where appropriate) are used to derive weighted average, mean expected estimates for payments. This is done because government payments are asymmetric across a distribution of expected prices. For example, counter-cyclical payments for corn are zero for market prices above $\$ 2.35$ per bushel. However, since there is a distribution of expected prices around any deterministic (point-estimate) price projected in the baseline, with a $\$ 2.35$ projected corn price, there is some probability of lower prices occurring, and thus some likelihood of corn counter-cyclical payments being made. Consequently, mean expected payments calculated across the distribution of prices for any year are different than payments calculated at the deterministic price projected for that year.

The Economic Research Service's Food and Agricultural Policy Simulation (FAPSIM) model was used to generate price distributions for each commodity, with corresponding production distributions calculated that are consistent with those price distributions. FAPSIM is an econometric model of the U.S. crop and livestock sectors that includes cross-commodity linkages and dynamic effects over time.

The major source of stochastic variability in agriculture is yields. Thus, random yield shocks were used in FAPSIM to represent this uncertainty. While there is variability in other supply and demand components, less of that variability is stochastic in nature.

Comparisons of stochastic and deterministic payments for corn are shown in the following two charts. The first chart indicates that stochastic marketing loan benefits for corn are above deterministic benefits and that stochastically derived marketing loan benefits extend into higher price ranges. These results reflect the nonlinearity of marketing loan benefits calculated as a payment rate times production. Lower prices (with higher payment rates) correspond to higher production levels, which give a larger increase in estimated benefits than the reduction in benefits associated with higher prices (with a lower payment rate) and corresponding lower production.

A similar analysis of CCPs for corn is summarized in the second chart. Results indicate that deterministic CCPs are at their maximum level when season average prices are at or below the loan rate of $\$ 1.95$ per bushel. Stochastic CCPs, in contrast, are less than the maximum for a range of prices below $\$ 1.95$ because the probability of prices greater than $\$ 1.95$ is taken into account. Similarly, deterministically derived CCPs are zero for season average prices of $\$ 2.35$ per bushel and above. Stochastic CCP estimates, in contrast, are above zero for a range of prices above $\$ 2.35$ because the distribution-based approach takes into account the probability of lower prices.
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Projected Government Payments Reflect Stochastic Estimation Procedure--continued

Comparison of marketing loan benefit estimates for corn
\$ billion


Comparison of counter-cyclical payment (CCPs) estimates for corn
\$ billion


Farm production expenses


Total production expenses increase at near the general inflation rate in the projections. These expenses are divided into three categories in the chart above: farm-origin (seed, feed, and feeder livestock), manufactured (fuel, fertilizer, pesticides, and electricity), and other (labor, interest, and other expenses).

- The largest percentage increase is for "other expenses," reflecting increases in labor expenses and interest costs. Labor expenses rise as sector output increases and wage rates rise. Projected increases in interest costs reflect higher interest rates, as well as higher debt facilitated by rising gross cash income.
- Increases in manufactured-input expenses reflect continued relatively high oil prices and expansion of crop production. After large increases in 2004-06 due mostly to the rise in oil prices, these expenses increase at about the general rate of inflation through the rest of the projections.
- Farm-origin expenses rise less than the general inflation rate, reflecting moderate increases in most farm-commodity prices. Feed expenses rise the most as demand for corn for use in the production of ethanol competes with feed demand and pushes corn prices higher.
- Cash operating margins tighten over the projection period as expenses rise while decreases in government payments slow gains in gross cash incomes. By 2015, cash expenses represent about 80 percent of gross cash income, compared with an average of 73 percent in 2000-05.


## Debt-to-asset ratios



Stable net farm income projected in the baseline assists in asset accumulation and debt management.

- Gains in farmland values and real estate assets (representing about 80 percent of total farm assets) reflect increases in agricultural revenues, as well as rising demand for nonagricultural land uses, such as housing and recreation.
- There is considerable variation in the growth of farmland prices across the country. This reflects a variety of factors, including differences in land quality and location, demand for urban development and recreational use, credit conditions, nonfarm investment opportunities, and production risks and weather uncertainties unique to each region's agriculture. As the general economy continues to expand, demand for land for nonagricultural uses contributes to rising farmland values. Farmland in areas with recreational amenities also will increase in value as second-home market demand remains strong.
- Farm debt moves up less rapidly than asset values in the projections, resulting in gains in overall farm sector equity. The debt-to-asset ratio declines moderately from 13.4 percent in 2005 to about 12.4 percent at the end of the projections, continuing a decline from over 20 percent in the mid-1980s.


Retail food prices are projected to increase less than the general inflation rate.

- Among foods purchased for consumption at home, projected price increases are generally strongest for more highly processed foods such as cereals and bakery products and fats and oils. For these foods, prices are related more to processing and marketing costs than to farm-level prices and, therefore, rise at a rate near the general inflation rate.
- Prices for food away from home reflect a large service component, with gains held down by competition in the fast-food and foodservice industries.


## U.S. agricultural trade value



The value of U.S. agricultural exports rises in the baseline due to increasing global income and food demand, which raise both export volumes and prices. Strong domestic economic growth and consumer demand also boost imports throughout the projections, continuing to reflect U.S. consumer preferences for a wide variety of foods.

- Strengthening world economic growth, particularly in developing countries, provides a foundation for gains in trade and U.S. agricultural exports. However, competition in global markets remains strong. Overall, the value of U.S. agricultural exports is projected to grow from $\$ 64.5$ billion in fiscal year 2006 to $\$ 84$ billion in 2015.
- High-value product (HVP) exports continue to grow in importance, accounting for almost two-thirds of the value of U.S. exports by the end of the projection period. Much of the growth in HVP exports is for animal products and horticultural products. Most of the growth in the value of bulk commodity exports (grains, oilseeds, cotton, and tobacco) reflects expected price increases and gains in volume for grains.
- U.S. agricultural imports rise to $\$ 84$ billion in 2015, reflecting gains in consumer income and demand for a large variety of foods. Strong growth in horticultural imports is assumed to continue, contributing over half of the overall agricultural import increase. Imports of processed foods are expected to continue growing in importance, accounting for almost half of U.S. agricultural imports by 2015.
- Overall, the U.S. agricultural trade balance is projected to show a moderate surplus through most of the baseline, although it will remain smaller than in the past two decades. Although the trade balance is a closely watched measure, it is not an indicator of export competitiveness or import dependence. Trade is a means of providing for the needs and wants of consumers that are not satisfied domestically (such as bananas and coffee) or are produced more cheaply elsewhere (such as fresh-cut flowers and pineapples). The lower U.S. agricultural trade surplus does not signal reduced competitiveness of the U.S. farm sector, but rather U.S. consumers' preference for a wide variety of foods and beverages.

Table 29. Farm receipts, expenses, and incomes in nominal dollars

|  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Billion dollars |  |  |  |  |  |  |  |  |  |  |  |
| Cash receipts: |  |  |  |  |  |  |  |  |  |  |  |  |
| Crops | 117.8 | 114.1 | 109.4 | 114.6 | 119.5 | 124.4 | 128.0 | 131.0 | 133.5 | 135.6 | 137.8 | 140.4 |
| Livestock and products | 123.5 | 124.9 | 122.3 | 123.0 | 124.1 | 125.7 | 128.3 | 130.5 | 132.8 | 134.3 | 136.8 | 138.5 |
| All commodities | 241.2 | 239.0 | 231.7 | 237.7 | 243.7 | 250.0 | 256.3 | 261.5 | 266.3 | 269.9 | 274.5 | 278.9 |
| Farm-related income | 17.2 | 17.5 | 18.0 | 18.5 | 18.9 | 19.4 | 19.8 | 20.3 | 20.7 | 21.2 | 21.7 | 22.1 |
| Government payments | 13.3 | 23.0 | 18.9 | 17.6 | 16.1 | 14.2 | 13.3 | 12.9 | 12.7 | 12.7 | 12.7 | 11.5 |
| Gross cash income | 271.7 | 279.5 | 268.7 | 273.8 | 278.7 | 283.6 | 289.5 | 294.7 | 299.8 | 303.8 | 308.9 | 312.5 |
| Cash expenses | 186.2 | 196.7 | 203.5 | 209.6 | 216.0 | 222.7 | 227.3 | 232.1 | 236.8 | 241.2 | 245.4 | 250.0 |
| Net cash income | 85.5 | 82.8 | 65.2 | 64.2 | 62.7 | 60.9 | 62.1 | 62.6 | 63.0 | 62.6 | 63.5 | 62.5 |
| Value of inventory change | 7.0 | -0.3 | 1.7 | 1.8 | 0.4 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Non-money income | 13.6 | 14.5 | 15.5 | 15.6 | 16.0 | 16.4 | 16.7 | 17.0 | 17.3 | 17.6 | 17.9 | 18.2 |
| Gross farm income | 292.3 | 293.6 | 285.9 | 291.3 | 295.1 | 301.3 | 307.5 | 313.0 | 318.4 | 322.7 | 328.1 | 332.0 |
| Noncash expenses | 16.5 | 17.3 | 18.1 | 18.2 | 18.3 | 18.4 | 18.6 | 18.8 | 19.0 | 19.2 | 19.4 | 19.6 |
| Operator dwelling expenses | 7.1 | 7.1 | 7.7 | 7.8 | 7.8 | 7.9 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 |
| Total production expenses | 209.8 | 221.1 | 229.2 | 235.6 | 242.2 | 249.1 | 254.0 | 259.0 | 264.0 | 268.7 | 273.2 | 278.1 |
| Net farm income | 82.5 | 72.6 | 56.6 | 55.7 | 53.0 | 52.2 | 53.5 | 54.0 | 54.4 | 54.0 | 54.9 | 53.9 |
| Farm assets | 1,500.8 | 1,589.5 | 1,671.6 | 1,679.8 | 1,715.6 | 1,747.4 | 1,778.8 | 1,814.1 | 1,853.5 | 1,891.9 | 1,929.8 | 1,967.9 |
| Farm debt | 206.9 | 212.6 | 218.7 | 220.4 | 222.5 | 225.4 | 228.3 | 231.2 | 234.2 | 237.2 | 240.2 | 243.3 |
| Farm equity | 1,293.9 | 1,376.9 | 1,452.9 | 1,459.4 | 1,493.1 | 1,522.0 | 1,550.5 | 1,582.9 | 1,619.4 | 1,654.7 | 1,689.6 | 1,724.6 |
|  | Percent |  |  |  |  |  |  |  |  |  |  |  |
| Debt/equity ratio | 16.0 | 15.4 | 15.1 | 15.1 | 14.9 | 14.8 | 14.7 | 14.6 | 14.5 | 14.3 | 14.2 | 14.1 |
| Debt/assets ratio | 13.8 | 13.4 | 13.1 | 13.1 | 13.0 | 12.9 | 12.8 | 12.7 | 12.6 | 12.5 | 12.4 | 12.4 |


|  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Billion 1996 dollars ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |
| Cash receipts: |  |  |  |  |  |  |  |  |  |  |  |  |
| Crops | 101.3 | 95.5 | 89.3 | 91.4 | 93.3 | 95.0 | 95.6 | 95.7 | 95.5 | 94.9 | 94.3 | 94.0 |
| Livestock and products | 106.2 | 104.5 | 99.9 | 98.1 | 96.9 | 95.9 | 95.8 | 95.4 | 95.0 | 94.0 | 93.6 | 92.8 |
| All commodities | 207.5 | 200.0 | 189.2 | 189.5 | 190.1 | 190.9 | 191.5 | 191.2 | 190.5 | 188.9 | 188.0 | 186.8 |
| Farm-related income | 14.8 | 14.7 | 14.7 | 14.7 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 |
| Government payments | 11.4 | 19.3 | 15.5 | 14.1 | 12.6 | 10.8 | 10.0 | 9.4 | 9.1 | 8.9 | 8.7 | 7.7 |
| Gross cash income | 233.8 | 233.9 | 219.4 | 218.3 | 217.5 | 216.5 | 216.2 | 215.4 | 214.4 | 212.6 | 211.5 | 209.4 |
| Cash expenses | 160.2 | 164.6 | 166.1 | 167.1 | 168.5 | 170.0 | 169.8 | 169.6 | 169.4 | 168.8 | 168.0 | 167.5 |
| Net cash income | 73.6 | 69.3 | 53.2 | 51.2 | 49.0 | 46.5 | 46.4 | 45.8 | 45.1 | 43.8 | 43.5 | 41.8 |
| Value of inventory change | 6.0 | -0.3 | 1.4 | 1.5 | 0.3 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 |
| Non-money income | 11.7 | 12.1 | 12.6 | 12.5 | 12.5 | 12.5 | 12.5 | 12.4 | 12.4 | 12.3 | 12.3 | 12.2 |
| Gross farm income | 251.5 | 245.7 | 233.4 | 232.3 | 230.3 | 230.0 | 229.7 | 228.8 | 227.7 | 225.8 | 224.7 | 222.5 |
| Noncash expenses | 14.2 | 14.5 | 14.8 | 14.5 | 14.3 | 14.1 | 13.9 | 13.7 | 13.6 | 13.4 | 13.3 | 13.1 |
| Operator dwelling expenses | 6.1 | 5.9 | 6.2 | 6.2 | 6.1 | 6.1 | 6.0 | 5.9 | 5.9 | 5.8 | 5.8 | 5.7 |
| Total production expenses | 180.5 | 185.0 | 187.1 | 187.9 | 189.0 | 190.1 | 189.7 | 189.3 | 188.8 | 188.0 | 187.1 | 186.3 |
| Net farm income | 71.0 | 60.7 | 46.2 | 44.4 | 41.3 | 39.8 | 40.0 | 39.5 | 38.9 | 37.8 | 37.6 | 36.1 |
| Farm assets | 1,291.1 | 1,330.1 | 1,364.7 | 1,339.5 | 1,338.6 | 1,334.0 | 1,328.8 | 1,325.9 | 1,325.6 | 1,323.9 | 1,321.4 | 1,318.5 |
| Farm debt | 178.0 | 177.9 | 178.6 | 175.8 | 173.6 | 172.1 | 170.5 | 169.0 | 167.5 | 166.0 | 164.5 | 163.0 |
| Farm equity | 1,113.1 | 1,152.2 | 1,186.2 | 1,163.7 | 1,164.9 | 1,161.9 | 1,158.2 | 1,156.9 | 1,158.2 | 1,157.9 | 1,156.9 | 1,155.5 |

1/ Nominal dollar values divided by the GDP chain-type price index.

Table 31. Consumer food price indexes baseline

| CPI category | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | $1982-84=100$ |  |  |  |  |  |  |  |
| Consumer price indexes: | 186.2 | 190.7 | 193.3 | 197.6 | 201.1 | 204.8 | 209.4 | 213.8 | 218.1 | 222.4 | 226.8 | 231.3 |  |
| All food | 187.5 | 193.4 | 198.1 | 202.5 | 206.6 | 210.7 | 214.9 | 219.2 | 223.6 | 228.0 | 232.6 | 237.3 |  |
| Food away from home | 186.2 | 189.8 | 191.2 | 195.4 | 198.6 | 202.0 | 206.9 | 211.4 | 215.7 | 219.9 | 224.3 | 228.5 |  |
| Food at home | 183.2 | 187.5 | 181.2 | 182.7 | 182.2 | 182.1 | 187.6 | 190.7 | 193.8 | 196.5 | 198.2 | 199.7 |  |
| Meats | 195.3 | 200.4 | 189.0 | 191.5 | 189.3 | 188.9 | 193.2 | 196.7 | 200.1 | 202.9 | 204.1 | 205.0 |  |
| $\quad$ Beef and veal | 174.2 | 177.7 | 173.9 | 173.1 | 173.8 | 172.9 | 181.0 | 183.7 | 186.2 | 188.5 | 190.5 | 192.1 |  |
| Pork | 173.4 | 177.5 | 178.6 | 180.4 | 182.8 | 184.7 | 189.2 | 192.2 | 195.2 | 198.1 | 201.0 | 203.9 |  |
| $\quad$ Other meats | 181.7 | 185.3 | 188.0 | 190.6 | 191.8 | 193.4 | 197.7 | 201.9 | 204.2 | 207.0 | 211.5 | 213.5 |  |
| Poultry | 194.3 | 200.1 | 205.1 | 210.2 | 215.5 | 220.9 | 226.4 | 232.1 | 237.9 | 243.8 | 249.9 | 256.1 |  |
| Fish and seafood | 167.0 | 144.1 | 141.0 | 153.3 | 165.1 | 177.0 | 184.6 | 190.0 | 193.2 | 196.4 | 199.6 | 202.9 |  |
| Eggs | 180.2 | 182.4 | 181.5 | 188.0 | 191.5 | 194.5 | 198.5 | 203.0 | 207.5 | 211.5 | 216.5 | 221.5 |  |
| Dairy products | 167.8 | 167.7 | 170.9 | 176.1 | 180.2 | 184.2 | 188.5 | 193.1 | 197.8 | 202.4 | 207.4 | 212.5 |  |
| Fats and oils | 232.7 | 241.4 | 245.9 | 251.0 | 255.8 | 260.6 | 265.6 | 270.8 | 275.9 | 281.2 | 286.7 | 292.3 |  |
| Fruits and vegetables | 163.2 | 165.2 | 171.3 | 173.7 | 175.1 | 179.8 | 184.3 | 187.6 | 191.0 | 194.4 | 197.9 | 201.5 |  |
| Sugar and sweets | 206.0 | 209.0 | 214.3 | 219.1 | 224.1 | 229.6 | 235.3 | 241.2 | 247.2 | 253.1 | 259.2 | 265.5 |  |
| Cereals and bakery products | 140.4 | 144.4 | 147.4 | 150.5 | 153.7 | 156.9 | 160.2 | 163.6 | 167.0 | 170.5 | 174.1 | 177.8 |  |
| Nonalcoholic beverages | 179.7 | 182.5 | 187.8 | 192.8 | 197.5 | 202.2 | 207.0 | 212.0 | 217.1 | 222.3 | 227.6 | 233.1 |  |
| Other foods |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table 32. Changes in consumer food prices, baseline

| CPI category | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percent |  |  |  |  |  |  |  |  |  |  |  |
| All food | 3.4 | 2.4 | 1.4 | 2.2 | 1.8 | 1.8 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 |
| Food away from home | 3.0 | 3.1 | 2.4 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Food at home | 3.8 | 1.9 | 0.7 | 2.2 | 1.6 | 1.7 | 2.4 | 2.2 | 2.0 | 1.9 | 2.0 | 1.9 |
| Meats | 8.4 | 2.3 | -3.4 | 0.8 | -0.3 | -0.1 | 3.0 | 1.7 | 1.6 | 1.4 | 0.9 | 0.8 |
| Beef and veal | 11.5 | 2.6 | -5.7 | 1.3 | -1.1 | -0.2 | 2.3 | 1.8 | 1.7 | 1.4 | 0.6 | 0.4 |
| Pork | 5.6 | 2.0 | -2.1 | -0.5 | 0.4 | -0.5 | 4.7 | 1.5 | 1.4 | 1.2 | 1.1 | 0.8 |
| Other meats | 4.5 | 2.4 | 0.6 | 1.0 | 1.3 | 1.0 | 2.4 | 1.6 | 1.6 | 1.5 | 1.5 | 1.4 |
| Poultry | 7.5 | 2.0 | 1.5 | 1.4 | 0.6 | 0.8 | 2.2 | 2.1 | 1.1 | 1.4 | 2.2 | 0.9 |
| Fish and seafood | 2.3 | 3.0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Eggs | 6.2 | -13.7 | -2.2 | 8.7 | 7.7 | 7.2 | 4.3 | 2.9 | 1.7 | 1.7 | 1.6 | 1.7 |
| Dairy products | 7.3 | 1.2 | -0.5 | 3.6 | 1.9 | 1.6 | 2.1 | 2.3 | 2.2 | 1.9 | 2.4 | 2.3 |
| Fats and oils | 6.6 | -0.1 | 1.9 | 3.0 | 2.3 | 2.2 | 2.3 | 2.4 | 2.4 | 2.3 | 2.5 | 2.5 |
| Fruits and vegetables | 3.0 | 3.7 | 1.9 | 2.1 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 2.0 | 2.0 |
| Sugar and sweets | 0.7 | 1.2 | 3.7 | 1.4 | 0.8 | 2.7 | 2.5 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Cereals and bakery products | 1.6 | 1.5 | 2.5 | 2.2 | 2.3 | 2.5 | 2.5 | 2.5 | 2.5 | 2.4 | 2.4 | 2.4 |
| Nonalcoholic beverages | 0.4 | 2.8 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Other foods | 0.5 | 1.6 | 2.9 | 2.7 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |


|  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Billion dollars |  |  |  |  |  |  |  |  |  |  |  |
| Agricultural exports: |  |  |  |  |  |  |  |  |  |  |  |  |
| Animals and products | 10.8 | 12.1 | 12.5 | 12.5 | 12.9 | 13.3 | 14.1 | 14.8 | 15.6 | 16.3 | 17.2 | 18.2 |
| Meats and products | 5.6 | 6.3 | 6.6 | 7.0 | 7.3 | 7.6 | 8.3 | 8.9 | 9.5 | 10.2 | 11.0 | 11.8 |
| Dairy products | 1.3 | 1.7 | 1.7 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.4 |
| Grain and feed | 18.1 | 16.2 | 16.3 | 16.8 | 17.0 | 18.1 | 19.0 | 19.7 | 20.3 | 20.9 | 21.3 | 22.0 |
| Coarse grains | 6.6 | 5.3 | 5.4 | 6.2 | 6.6 | 7.5 | 7.9 | 8.1 | 8.3 | 8.5 | 8.5 | 8.8 |
| Oilseeds and products | 11.2 | 11.0 | 10.3 | 10.4 | 10.7 | 11.3 | 11.4 | 11.4 | 11.5 | 11.4 | 11.5 | 11.5 |
| Soybeans and products | 8.9 | 8.5 | 8.1 | 7.9 | 8.1 | 8.6 | 8.7 | 8.6 | 8.6 | 8.5 | 8.5 | 8.4 |
| Horticultural products | 13.3 | 14.5 | 15.9 | 16.7 | 17.2 | 17.7 | 18.2 | 18.7 | 19.3 | 19.9 | 20.5 | 21.1 |
| Fruits, juices, and nuts | 5.7 | 6.5 | 7.3 | 7.8 | 8.0 | 8.3 | 8.5 | 8.8 | 9.1 | 9.3 | 9.6 | 9.9 |
| Vegetables and preparations | 5.2 | 5.6 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 |
| Tobacco, unmanufactured | 1.1 | 1.0 | 1.1 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 |
| Cotton and linters | 4.5 | 3.9 | 4.5 | 4.7 | 4.9 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.5 | 5.6 |
| Other exports | 3.4 | 3.6 | 3.9 | 3.6 | 3.8 | 3.9 | 4.0 | 4.1 | 4.3 | 4.4 | 4.5 | 4.6 |
| Total agricultural exports | 62.4 | 62.4 | 64.5 | 65.4 | 67.2 | 70.2 | 72.8 | 75.0 | 77.2 | 79.3 | 81.5 | 84.0 |
| Bulk commodity exports | 26.0 | 22.7 | 23.1 | 23.2 | 23.9 | 25.3 | 26.2 | 26.7 | 27.2 | 27.6 | 27.9 | 28.6 |
| High-value product exports | 36.4 | 39.7 | 41.4 | 42.2 | 43.3 | 44.9 | 46.6 | 48.2 | 50.0 | 51.7 | 53.5 | 55.4 |
| High-value product share | 58.4\% | 63.7\% | 64.2\% | 64.5\% | 64.4\% | 63.9\% | 64.0\% | 64.3\% | 64.8\% | 65.2\% | 65.7\% | 66.0\% |
|  | Million metric tons |  |  |  |  |  |  |  |  |  |  |  |
| Agricultural exports (volume): |  |  |  |  |  |  |  |  |  |  |  |  |
| Bulk commodity exports | 116.3 | 114.2 | 121.2 | 123.4 | 120.0 | 120.8 | 122.0 | 122.5 | 123.9 | 125.6 | 127.7 | 129.4 |
| Agricultural imports: | Billion dollars |  |  |  |  |  |  |  |  |  |  |  |
| Animals and products | 10.4 | 11.1 | 11.7 | 11.8 | 11.9 | 11.9 | 12.1 | 12.3 | 12.6 | 12.8 | 13.1 | 13.4 |
| Meats and products | 5.5 | 5.7 | 5.6 | 5.5 | 5.4 | 5.3 | 5.2 | 5.3 | 5.3 | 5.4 | 5.4 | 5.4 |
| Dairy products | 2.3 | 2.6 | 2.7 | 2.8 | 3.0 | 3.1 | 3.3 | 3.4 | 3.6 | 3.7 | 3.9 | 4.1 |
| Grains, feeds, and products | 4.2 | 4.4 | 4.7 | 4.8 | 5.1 | 5.3 | 5.5 | 5.8 | 6.0 | 6.3 | 6.6 | 6.9 |
| Grain products | 3.0 | 3.3 | 3.5 | 3.6 | 3.8 | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.1 | 5.3 |
| Oilseeds and products | 2.9 | 2.9 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.9 | 4.0 | 4.1 |
| Vegetable oils | 2.2 | 2.4 | 2.6 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 |
| Horticultural products | 22.9 | 25.8 | 28.2 | 29.9 | 31.1 | 32.3 | 33.5 | 34.8 | 36.1 | 37.5 | 39.0 | 40.5 |
| Fruits, juices, and nuts | 6.7 | 7.9 | 8.8 | 9.4 | 9.8 | 10.2 | 10.6 | 11.0 | 11.4 | 11.8 | 12.3 | 12.7 |
| Vegetables and preparations | 6.8 | 7.5 | 8.1 | 8.6 | 8.9 | 9.2 | 9.6 | 10.0 | 10.4 | 10.8 | 11.2 | 11.6 |
| Wine and beer | 6.1 | 6.7 | 7.2 | 7.6 | 7.9 | 8.2 | 8.5 | 8.8 | 9.1 | 9.5 | 9.8 | 10.2 |
| Other horticulture | 3.2 | 3.7 | 4.1 | 4.3 | 4.5 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.7 | 5.9 |
| Sugar and related products | 2.1 | 2.3 | 2.4 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.8 | 2.9 | 3.0 | 3.1 |
| Cocoa, coffee, and products | 4.7 | 5.5 | 5.8 | 5.9 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.3 | 7.5 |
| Natural rubber and gums | 1.3 | 1.5 | 1.6 | 1.6 | 1.7 | 1.8 | 1.8 | 1.9 | 2.0 | 2.1 | 2.1 | 2.2 |
| Other imports | 4.1 | 4.1 | 4.3 | 4.5 | 4.6 | 4.8 | 5.0 | 5.3 | 5.5 | 5.8 | 6.0 | 6.3 |
| Total agricultural imports | 52.7 | 57.7 | 61.5 | 64.1 | 66.1 | 68.2 | 70.5 | 73.0 | 75.6 | 78.3 | 81.0 | 84.0 |
| Processed food imports | 23.5 | 25.4 | 26.6 | 28.0 | 29.4 | 30.8 | 32.4 | 34.0 | 35.7 | 37.5 | 39.3 | 41.3 |
| Share of total imports | 44.7\% | 43.9\% | 43.3\% | 43.6\% | 44.4\% | 45.2\% | 45.9\% | 46.6\% | 47.2\% | 47.9\% | 48.5\% | 49.2\% |
| Net agricultural trade balance | 9.7 | 4.7 | 3.0 | 1.2 | 1.1 | 2.0 | 2.3 | 2.0 | 1.6 | 1.1 | 0.4 | 0.0 |

Sources: U.S. Department of Agriculture and Bureau of Census, U.S. Department of Commerce.
Notes: The projections were completed in November 2005 based on policy decisions and other information known at that time. For updates of the nearby year forecasts, see USDA's Outlook for U.S. Agricultural Trade report, published in February, May, August, and November. Other exports consists of seeds, sugar and tropical products, and beverages and preparations. Bulk commodity exports includes wheat, rice, feed grains, soybeans, cotton, and tobacco. High-value product (HVP) exports is calculated as total exports less the bulk commodities. HVP's includes semi-processed and processed grains and oilseeds, animals and products, horticultural products, and sugar and tropical products. Other horticultural imports includes essential oils, cut flowers, and nursery stock. Other imports includes spices, natural drugs, tea, tobacco, seeds, and other beverages. Processed food imports excludes fish and seafood.

