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USDA Agricultural Baseline Projections to 2015

Interagency Agricultural Projections Committee

World Agricultural Outlook Board, Chair
Economic Research Service
Farm Service Agency
Foreign Agricultural Service
Agricultural Marketing Service
Office of the Chief Economist
Office of Budget and Program Analysis
Risk Management Agency
Natural Resources Conservation Service
Cooperative State Research, Education, and Extension
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USDA Baseline →

USDA Agricultural Baseline Projections to 2015. Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture. Prepared by the Interagency Agricultural Projections Committee. Baseline Report OCE-2006-1, 108 pp.

Abstract

This report provides longrun baseline projections for the agricultural sector through 2015. Projections cover agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices. The projections are based on specific assumptions regarding macroeconomic conditions, policy, weather, and international developments. The baseline assumes that there are no shocks due to abnormal weather, further outbreaks of plant or animal diseases, or other factors affecting global supply and demand. The Farm Security and Rural Investment Act of 2002 and The Energy Policy Act of 2005 are assumed to remain in effect through the projection period. Additionally, the Agricultural Reconciliation Act of 2005 is assumed to be in force. The baseline projections are one representative scenario for the agricultural sector for the next decade. As such, the baseline provides a point of departure for discussion of alternative farm sector outcomes that could result under different assumptions. The projections in this report were prepared in October through December 2005, reflecting a composite of model results and judgment-based analysis.

Steady domestic and international economic growth and gains in population strengthen demand for food and agricultural products in the baseline, providing a favorable demand setting for the U.S. agricultural sector. Additionally, strong expansion of corn-based ethanol production is projected, reflecting renewable fuel provisions in the Energy Policy Act of 2005. Although trade competition will continue to be strong, the United States will remain competitive in global agricultural markets. Thus, increases in global consumption and world trade result in gains in U.S. agricultural exports. Combined with growing domestic demand for agricultural products, overall farm cash receipts rise. Rising production expenses and lower government payments, however, offset gains in cash receipts and other sources of farm income, keeping net farm income relatively stable from 2006 to 2015, after declining from historically high levels in 2004 and 2005.

Keywords: Projections, baseline, crops, livestock, ethanol, trade, farm income, food prices.

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Contents

Features in this Report

A Note to Users of USDA Baseline Projections

USDA long-term agricultural baseline projections presented in this report are a Departmental consensus on a longrun scenario for the agricultural sector. These projections provide a starting point for discussion of alternative outcomes for the sector.

The scenario presented in this report is not a USDA forecast about the future. Instead, it is a conditional, longrun scenario about what would be expected to happen under a continuation of current farm legislation and specific assumptions about external conditions. The baseline uses as a starting point the short-term projections from the November 2005 *World Agricultural Supply and Demand Estimates* report.

Critical long-term assumptions are made for U.S. and international macroeconomic conditions, U.S. and foreign agricultural and trade policies, and growth rates of agricultural productivity in the United States and abroad. Normal weather is assumed. The baseline also assumes no further outbreaks of animal or plant diseases. Changes in assumptions for any of these items can significantly affect the baseline projections, and actual conditions that emerge will alter the outcomes.

The baseline projection analysis was conducted by interagency committees in USDA and reflects a composite of model results and judgment-based analysis. The Economic Research Service has the lead role in preparing the Departmental baseline report. The projections and the report were reviewed and cleared by the Interagency Agricultural Projections Committee, chaired by the World Agricultural Outlook Board. USDA participants in the baseline projection analysis and review include the World Agricultural Outlook Board, the Economic Research Service, the Farm Service Agency, the Foreign Agricultural Service, the Agricultural Marketing Service, the Office of the Chief Economist, the Office of Budget and Program Analysis, the Risk Management Agency, the Natural Resources Conservation Service, and the Cooperative State Research, Education, and Extension Service.

USDA Agricultural Baseline Projections to 2015

Interagency Agricultural Projections Committee

Introduction

This report provides longrun baseline projections for the agricultural sector through 2015. Projections cover agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices. The baseline identifies major forces and uncertainties affecting future agricultural markets; prospects for global long-term economic growth, consumption, and trade; and future price trends, trade flows, and U.S. exports of major farm commodities.

The projections are a conditional scenario with no shocks and are based on specific assumptions regarding the macroeconomy, agricultural policy, the weather, and international developments. The baseline assumes that the Farm Security and Rural Investment Act of 2002 (the 2002 Farm Act) and The Energy Policy Act of 2005 remain in effect through the projection period. Additionally, the Agricultural Reconciliation Act of 2005 is assumed to be in force. The projections are not intended to be a Departmental forecast of what the future will be, but instead a description of what would be expected to happen under a continuation of current farm legislation, with very specific external circumstances. Thus, the baseline is 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 2005 in support of the fiscal year 2007 President's Budget Estimates. Projections reflect a composite of model results and judgment-based analysis. Normal weather is assumed. Also, the baseline assumes no further outbreaks of plant or animal diseases. Short-term projections used as a starting point in the baseline are from the November 2005 *World Agricultural Supply and Demand Estimates* report.

Overview of Baseline Assumptions and Projections

Key assumptions underlying the baseline projections include the following:

Economic growth

- World economic growth is projected to increase at a 3.2-percent average annual rate between 2006 and 2015, after averaging 3 percent annually between 2001 and 2005. U.S. gross domestic product (GDP) slows from the high rates in 2004 and 2005 toward a sustainable longrun rate near 3 percent. Strong economic growth in developing countries of about 5 percent annually is projected for 2006-15.

Population

- Growth in global population is assumed to continue to slow in the baseline, to an average of about 1.1 percent per year over the projection period compared with an annual rate of 1.7 percent in the 1980s. Although slowing, population growth rates in 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 over 81 percent by 2015, up from about 80 percent in 2005.

The value of the U.S. dollar

- The U.S. dollar is assumed to appreciate slowly in real terms, remaining relatively high by historical standards. A strengthening U.S. dollar in the baseline assumes that capital moves into the United States to take advantage of well-functioning financial markets and high expected long-term productivity growth.

Oil prices

- Large increases in oil prices from late 2002 through 2005 resulted from strong crude oil demand, largely reflecting world economic recovery and rapid manufacturing growth in China and India. From 2007 to 2010, real oil prices are projected to fall as new crude supplies help offset the rise in demand from Asia. In subsequent years, crude oil prices are projected to rise, but only slightly faster than the general inflation rate. Factors expected to constrain longrun oil price increases include new oil discoveries; new technologies for finding, extracting, and refining oil; the ability to switch to non-petroleum fuels; and the ability to increase energy efficiency by substituting nonenergy inputs for energy.

U.S. agricultural policy
- The 2002 Farm Act, as amended, is assumed to continue through the projection period.

- Area enrolled in the Conservation Reserve Program (CRP) is assumed to rise to 39.2 million acres from about 35 million acres currently enrolled.

- The Agricultural Reconciliation Act of 2005 is assumed to be in force for the baseline projections. As part of this legislation, authority to issue cotton user marketing certificates is repealed following the 2005/06 cotton marketing year, thereby ending the Step-2 cotton program. Also, national dairy market loss payments, administered under the Milk Income Loss Contract Program, are extended, with a reduced payment factor of 34 percent of the difference between $16.94 per hundredweight and the Boston Class I price through August 2007.

Ethanol

- The Renewable Fuel Program of the Energy Policy Act of 2005 mandates renewable fuel use in gasoline (with credits for biodiesel) to reach 7.5 billion gallons by calendar year 2012, nearly double 2005's level. This program largely affects production of ethanol, which is primarily produced from corn. Additionally, relatively high prices for oil contribute to favorable comparative returns for ethanol production, providing further economic incentives for expansion in the production capacity of that industry over the next several years. To reflect this ongoing expansion, the baseline assumes that the legislation's renewable fuel standard is significantly exceeded through 2010. In subsequent years, ethanol production is assumed to be closer to the levels in, or levels based on, the legislation.

Cattle and beef trade

- The baseline assumes a gradual rebuilding of U.S. beef exports to Japan and South Korea. Canada's exports of live cattle to the United States are assumed to remain limited to steers and heifers under 30 months old for immediate slaughter and Canadian feeder cattle that enter U.S. feedlots and are slaughtered before reaching 30 months of age.

International policy

- Baseline trade projections assume that countries comply with existing bilateral and multilateral agreements affecting agriculture and agricultural trade. The baseline incorporates effects of trade agreements and domestic policy reforms in place in November 2005. The Central American and Dominican Republic Free Trade Agreement is assumed for the sugar baseline projections starting in calendar year 2006.

- 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, economic and trade reforms underway in many developing countries are assumed to continue.

Key results in the baseline projections include the following:

U.S. aggregate indicators

- Net farm income is projected to be relatively stable from 2006 to 2015, after declining from historically high levels in 2004 and 2005. Overall farm cash receipts increase through the projections due to growing domestic use and export demand as well as increases in agricultural commodity prices. Rising production expenses and lower government payments, however, offset gains in cash receipts and other sources of farm income. With government payments declining, the agriculture sector relies increasingly on the market for more of its income. Cash receipts represent more than 89 percent of gross cash income at the end of the projections, up from about 85 percent in 2005. Net farm income projections average about $54 billion annually for the next decade, compared with $48 billion in the 1990s. Stable net farm income assists in asset accumulation and debt management. The debt-to-asset ratio falls moderately in the projections, continuing a generally declining trend since the mid-1980s.

- The value of U.S. agricultural exports rises in the baseline as steady global economic growth and stronger world trade lead to gains for U.S. agricultural export volumes and higher commodity prices. High-value product exports continue to grow in importance. Increases in U.S. consumer income and demand for a large variety of foods underlie growth in U.S. agricultural imports. Imports of processed foods are expected to continue growing in importance. Overall, the U.S. agricultural trade balance is projected to show a small surplus through most of the baseline, although it will remain lower than in the past two decades.

- Consumer food prices are projected to rise less than the general inflation rate.

U.S. agricultural commodities

- Corn used to produce ethanol in the United States more than doubles the 2004/05 level by 2015/16. This increase reflects the Renewable Fuel Program of the Energy Policy Act of 2005, large ongoing ethanol plant construction, and economic incentives provided by continued high oil prices. Increased feeding of distillers dried grains, a coproduct of dry mill ethanol production, helps meet growing livestock feed demand. Thus, feed use of corn rises only slowly in the projections.

- Growth in the food use of wheat is projected to be somewhat slower than the rate of population increases, reflecting dietary adjustments by some consumers to smaller overall portions, including lower carbohydrates.

- Growth in domestic soybean crush is largely driven by increasing demand for domestic soybean meal, mostly because of rising feed demand for expanding meat production. Domestic demand for soybean meal is tempered somewhat by a rising volume of coproducts from ethanol production.

- Mill use of upland cotton in the United States falls through the projection period as apparel imports by the United States continue to increase, reducing domestic apparel production and lowering the apparel industry's demand for fabric and yarn produced in the United States.

- Steady expansion of domestic food use of rice is projected over the baseline, largely due to an increasing share of the U.S. population of Asian and Latin American descent. Use of rice in processed foods and pet foods also increases.

- Consumption of horticultural products continues to rise in the baseline. Imports play an important role in domestic supply during the winter and, increasingly, during other times of the year, providing U.S. consumers with increased variety of horticultural products.

- With the end of the U.S. tobacco marketing quota and price support program, tobacco leaf production initially declines as some farmers exit the industry. Production then rises through the rest of the projections, primarily reflecting increases by the remaining growers. Declining cigarette consumption in the United States is an important factor underlying projected decreases in domestic use of tobacco leaf. Exports of tobacco leaf are projected to increase, however, reversing the generally downward trend of recent years, as lower tobacco leaf prices than during the last several years under the tobacco program make U.S. leaf more competitive in global trade.

- Higher grain prices reduce returns to U.S. meat producers and slow production gains. Higher levels of per capita meat consumption are projected, with poultry accounting for a larger share of the total. While consumer expenditures on meat increase, they represent a declining share of disposable income.

- Productivity gains are expected to boost milk output per cow and total milk production throughout the projections. Milk cow numbers are expected to decline after 2006 at a relatively slow pace as increasing specialization of dairy farms over time makes exit rates lower than in past decades.

Agricultural trade

- Population and income are two important factors underlying global demand for food and agricultural products, world trade, and U.S exports. With population growth in the world continuing to slow in the projections compared with previous decades, income growth will become a relatively more important factor underlying strengthening food and agricultural demand. Economic growth in developing countries is especially important because consumption of food and feed are particularly responsive to income growth in those countries, with movement away from staple foods and increased diversification of diets.

- Increases in global demand for food and agricultural products provide the foundation for gains in agricultural trade and U.S. exports. The United States will remain competitive in global agricultural markets, although trade competition will continue to be strong.

Expanding production in a number of countries, such as Brazil, Argentina, Canada, Ukraine, and Kazakhstan, provides competition to U.S. exports for some agricultural commodities. A strengthening U.S. dollar assumed in the baseline also is a constraining factor for U.S. agricultural competitiveness and export growth in the longer run. Nonetheless, increases in exports contribute to gains in cash receipts for U.S. farmers.

- Steady longrun growth in the livestock sectors of developing countries in Asia, Latin America, North Africa, and the Middle East accounts for most of the growth in world coarse grain imports projected during the next decade. The United States is the major corn exporter in the world. However, with increasing use of corn for U.S. ethanol production, particularly over the next several years, U.S. corn exports show very little growth through 2010/11. In response, increased corn production and exports are assumed in this period for Argentina and Brazil. China is also assumed to increase corn production as more U.S. corn is used in the production of ethanol. This changes China's net corn trade by slowing the decline in Chinese exports and the increase in its imports. Nonetheless, China is projected to be a net importer of corn in the longer run, reflecting declining stocks of grain and increasing demand for feed for its growing livestock sector.

- Strong income and population growth in developing countries generates increasing demand for vegetable oils for food consumption and for protein meals used in livestock production. Brazil's rapidly increasing soybean area enables it to gain a larger share of world soybean and soybean meal exports, despite increasing domestic feed use. Argentina is the leading exporter of soybean meal and soybean oil, reflecting the country's large and growing crush capacity, its small domestic market for soybean products, and an export tax structure that favors the exports of products rather than soybeans.

- The United States, Australia, the European Union (EU), Canada, and Argentina have historically been the primary exporters of wheat, although exports from the Black Sea region have grown in the past 10 years. Over the next decade, Kazakhstan and Ukraine are projected to have a growing importance in world wheat trade, reflecting low costs of production and continued investments in their agricultural sectors. However, high year-to-year volatility in these countries' production and trade can be expected due to weather extremes and related yield variation.

- Cotton consumption and textile production are projected to increase in countries where labor costs are low, such as China, India, and Pakistan. China is the largest importer of cotton in the world. Although China's cotton imports are expected to grow more slowly than the rapid gains since 2001, these increases account for the gains in global cotton trade in the projections. The United States continues as the world's leading cotton exporter, reflecting its large production capacity and its reduced domestic mill use of cotton as textile imports continue to grow.

- Long-grain varieties of rice account for around three-fourths of global rice trade and are expected to account for the bulk of trade growth over the next decade. Long-grain rice is imported by a broad spectrum of countries in South and Southeast Asia, much of the Middle East, nearly all of Sub-Saharan Africa, and most of Latin America. Thailand and Vietnam

remain the world's largest rice-exporting countries, while India is projected to surpass the United States as the third largest rice exporter.

- U.S. meat exports benefit from stronger foreign economic growth in the baseline. Although U.S. beef exports to Japan and South Korea are projected to gradually rebuild, total U.S. beef exports do not return to the levels attained prior to the U.S. case of bovine spongiform encephalopathy (BSE) in 2003.

- Canada continues to be a strong competitor with the United States in pork exports to Pacific Rim nations and Mexico. Canada is also the major supplier of live hog imports by the United States. Brazil is a major pork exporter. However, the presence of foot-and-mouth disease limits Brazilian pork exports to some markets, such as Japan and South Korea.

- Avian influenza is assumed to not significantly affect overall consumer demand for poultry. However, poultry exports from countries affected by the disease, such as Thailand, China, and Vietnam, are expected to be limited to fully cooked products. Brazil remains a leading poultry exporter, as low production costs allow their poultry sector to remain competitive in global trade.

Macroeconomic Assumptions

Macroeconomic assumptions underlying the USDA baseline are characterized by steady growth near average historical rates over most of the projection period. The sharp rise in energy and other raw material costs is the main risk to the economic growth outlook. The baseline's macroeconomic assumptions were completed in October 2005.

The U.S. and world economies are highly interdependent through both global trade and financial markets. The United States continues to be the engine of world economic growth, but economic interdependence implies that international macroeconomic conditions have important effects on the U.S. economy as well. While the United States continues to play a large role in determining economic conditions around the world, strong growth in China and India is becoming increasingly important.

U.S. and world gross domestic product (GDP) growth
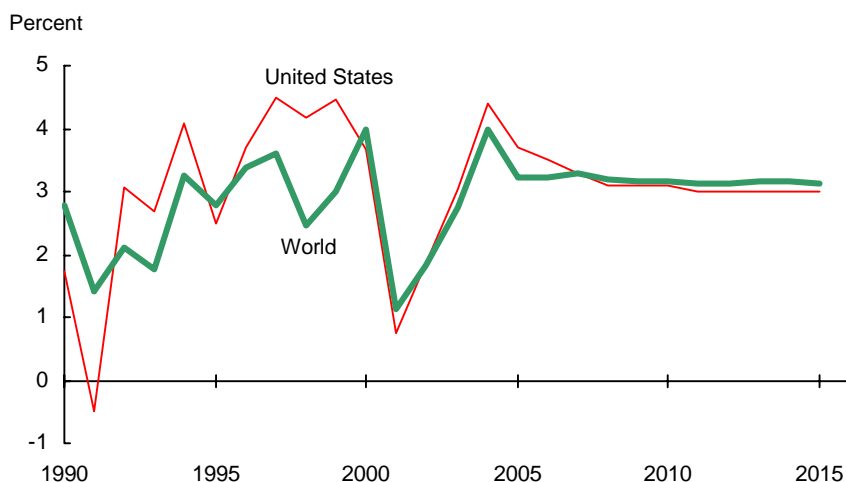
U.S. gross domestic product (GDP) growth moderates over the next several years from 3.7 percent in 2005 toward a sustainable rate of about 3 percent over the longer term after 2007. Nonetheless, the United States continues to maintain its share of global GDP at around 30 percent. World economic growth is projected to increase to a 3.2-percent average between 2006 and 2015, after averaging 3 percent annually between 2001 and 2005.

- Despite moderate European and Japanese growth, most of the world will be moving closer to longrun economic growth, with trend rates in 2006 and beyond. Ongoing computing and telecommunications advances support worldwide productivity gains throughout the baseline projections.

- Continued high oil prices assumed in the baseline modestly constrain Asia and its manufacturing sector, which is far more dependent on energy for GDP growth than more developed economies.

- Improved global economic performance and continued, although slowing, population growth are expected to strengthen food demand in the baseline. Increased global purchasing power and population growth are essential drivers of gains in U.S. agricultural exports.

GDP growth for developed countries, European Union-25, and Japan
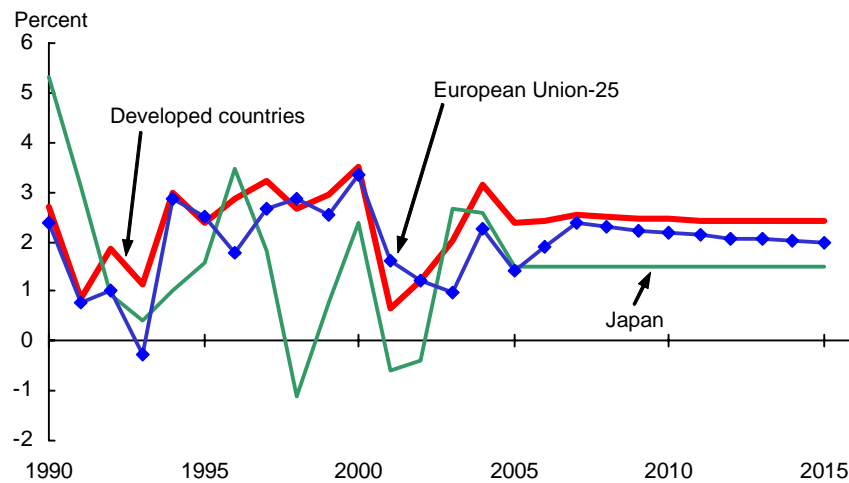
Percent

Developed economies are projected to grow at rates similar to those of the 1990s, averaging 2.5 percent in 2006-15.

- Enlargement of the European Union (EU) to include countries of Central and Eastern Europe implies closer integration of those economies, creating more trade and investment opportunities within the expanded EU.

- The EU does not, however, grow as rapidly as the United States because of lingering structural rigidities, particularly rigid labor laws and a very expensive social security system. Political difficulties also constrain the benefits of economic integration, particularly with continued restrictions on labor mobility between EU countries and a very cumbersome EU decisionmaking process.

- Japan continues to face significant economic problems, largely the result of long-term structural rigidities and a difficult process of economic reform. The projections assume growth at 1.5 percent a year, with Japan's share of world GDP declining to less than 12 percent by 2015, down from almost 18 percent in 1991.

GDP growth for developing economies and the former Soviet Union
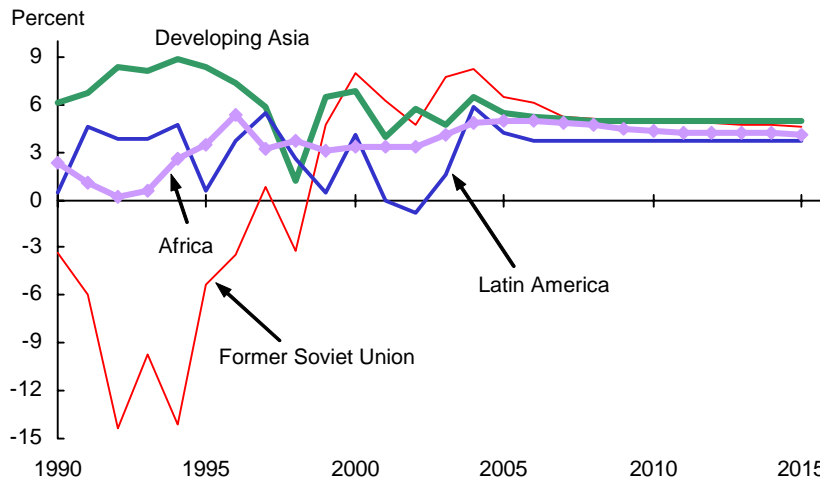
Economic growth in developing countries is projected at about a 5-percent annual rate in 2006-15. Developing countries play an increasingly important role in global growth in food demand and become a more important destination for U.S. exports. Relatively high income growth, along with large food responsiveness to income growth in these countries, underlies this projection. Consumption and imports of food and feed in developing countries are particularly responsive to income changes. As incomes rise in these countries, consumers generally diversify their diets, moving away from staple foods to include more meat, fruits, vegetables, and processed foods (including vegetable oils). These consumption shifts increase import demand for feedstuffs and high-value food products. Historically, this has included increases in U.S. exports of meat and processed foods.

- Long-term growth of 3.7 percent is projected for Latin America. An overall improvement in macroeconomic policies should attract foreign capital inflows and sustain growth.

- Growth rates for Southeast Asia and developing countries of East Asia are projected at about 5 percent for the next decade, but will still be below the very strong average growth of over 7 percent in 1986-95.

- China's economic growth has been consistently the strongest in Asia, exceeding 9 percent between 2003 and 2005. While some moderation is expected, China's growth is expected to average above 7 percent over the next decade.

- India's projected average growth of around 6 percent a year puts it in the first tier of high-growth countries. India is still among the low-income countries, with a per capita income of less than $600 per year. The projected high growth rate is expected to move a significant number of people out of poverty over the next decade.

- Economic growth in the countries of the former Soviet Union (FSU) is projected to average 5 percent for the next decade, continuing strong growth following the economic declines in the transition period of most of the 1990s. Russia, Ukraine, and other FSU countries benefit from their shift to market economies.

Population growth 1/
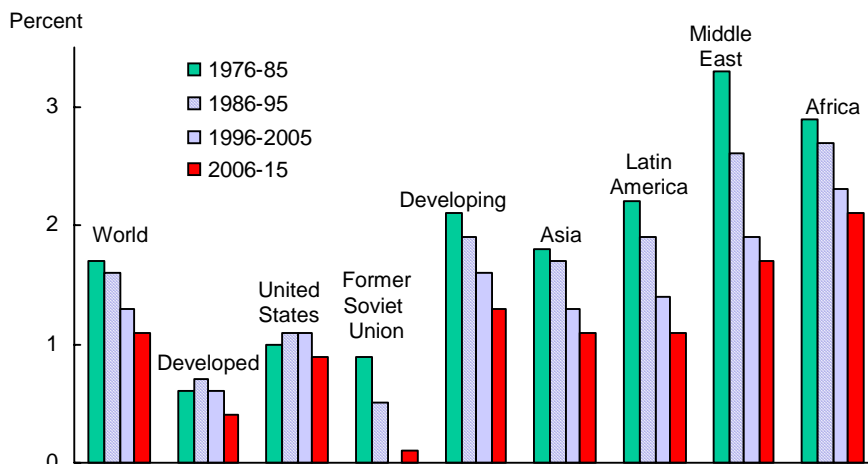
1/ Based on population projections from the Census Bureau, U.S. Department of Commerce.

A continued slowing of population growth around the world is an important factor constraining increases in agricultural demand over the next decade. Historically, about 70 percent of increases in food use have been related to population growth, leaving about 30 percent driven by increasing incomes and other factors. With population growth slowing in the projections, income growth will become a relatively more important factor underlying food and agricultural demand growth.

- World population growth declines from an annual rate of 1.7 percent in the 1980s to an average of about 1.1 percent per year during the projections.

- Developed and FSU countries have very low projected rates of population growth, at 0.4 and 0.1 percent, respectively. The projected annual average population growth rate for the United States is the highest among developed countries, at 0.9 percent, in part reflecting large immigration.

- Population growth rates in developing economies decline by almost half between the 1970s and the end of the projection period, but remain above those in developed countries and the former Soviet Union. As a result, the share of world population accounted for by developing countries increases to 81 percent by 2015.

- China and India together account for around one-third of the world's population. China's population growth rate slows from 1.5 percent per year in 1981-90 to 0.6 percent in 2006-15. The population growth rate in India, the world's second most populous nation, is projected to decline from 2.1 to 1.3 percent per year between the same periods. This growth narrows the gap between India's population and China's.

- Brazil's population growth rate falls from 2.1 percent per year in 1981-90 to 0.9 percent annually in 2006-15, and Sub-Saharan Africa's population growth rate declines from 2.9 to 2.2 percent per year over the same period.

U.S. agricultural trade-weighted dollar projected to strengthen 1/

Index values, 2000=100
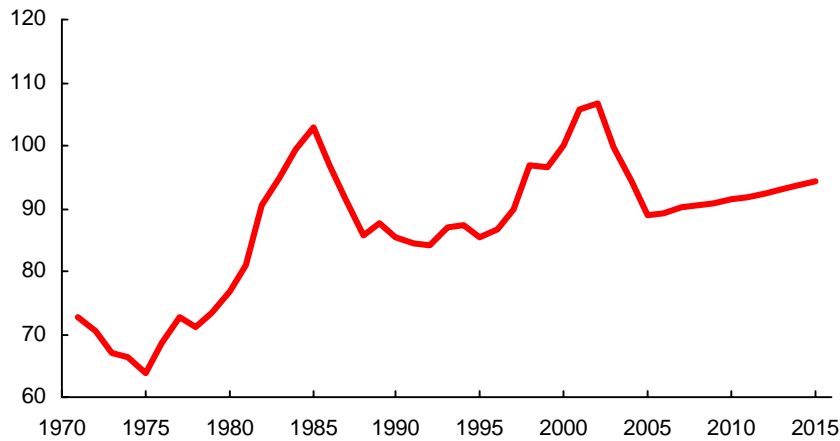
1/ Real U.S. agricultural trade-weighted dollar exchange rate, using U.S. agricultural export weights.

The U.S. dollar is assumed to appreciate slowly in real terms after 2005, remaining relatively high by historical standards. This high real exchange rate—expressed in the baseline as local currency per U.S. dollar, in inflation-adjusted terms—will constrain the growth in U.S. exports. Even so, high long-term economic growth rates, particularly in the developing countries, will increase the demand for U.S. exports.

- Strong relative GDP growth in the United States compared with the EU and Japan strengthens the dollar relative to the euro and offsets much of the trade-driven appreciation of the yen.

- The U.S. dollar stays strong because capital moves into the United States to take advantage of well-functioning financial markets, a relatively risk-free environment, transparent financial accounting standards, and high expected long-term productivity growth and financial returns.

- Due to relatively stronger global trade competition, U.S. exports of bulk commodities and horticultural products tend to be the most sensitive to the strong U.S. dollar among all agricultural products.

- China, after a long period of an undervalued exchange rate and substantial political pressure from its trading partners, has initiated a process for appreciating its currency. To date, the appreciation has been limited to slightly more than 2 percent. This compares with most estimates of undervaluation of at least 30 to 40 percent. The baseline assumes that China holds its real exchange rate constant, implying some appreciation in the nominal exchange rate.

Inflation rates

Percent
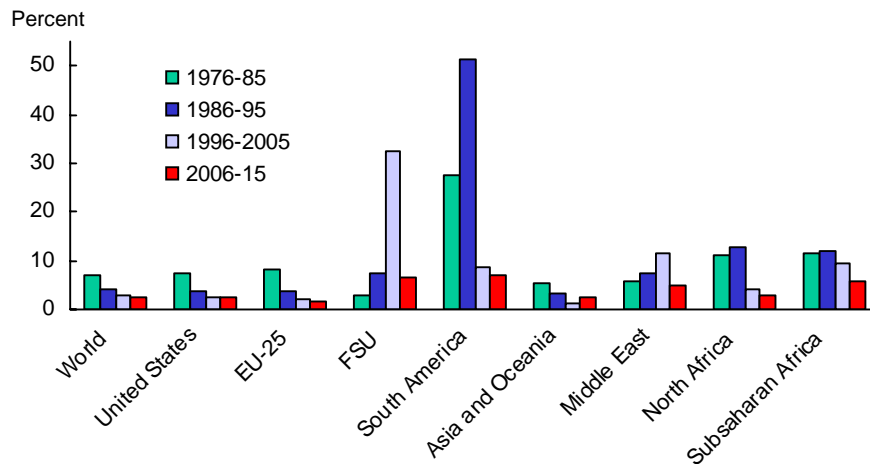
Global inflation rates, which declined in the 1990s (except in the transition economies), are projected to remain relatively low through 2015.

- The U.S. and world economies are moving solidly into an expansion phase. As a result, inflationary pressures have begun. In response, to constrain inflation, the U.S. Federal Reserve Board and central banks in other countries are assumed to further increase short-term interest rates in the initial years of the projections, although less aggressively than in 2005.

- Because of this assumed policy response, inflation is projected to remain below 3 percent in developed countries and the world as a whole.

- Inflation rates in developing countries are projected to fall from over 7 percent to just over 5 percent. Inflation in Asia declines to rates comparable to those in developed countries. Those in Latin America, Africa, and the Middle East, while declining, will remain substantially above inflation rates in the rest of the world.

- In the FSU, inflation rates come down from the high transition rates of the 1990s to an average projected to be below 7 percent.

- Relatively low inflation rates will keep nominal interest rates from moving to the high levels seen in the 1980s. However, as world economies grow more rapidly, demand for credit will rise and further boost interest rates over the longer term. In addition, long-term U.S. interest rates rise in the short run to continue financing the current account deficit.

Crude oil prices

$ per barrel
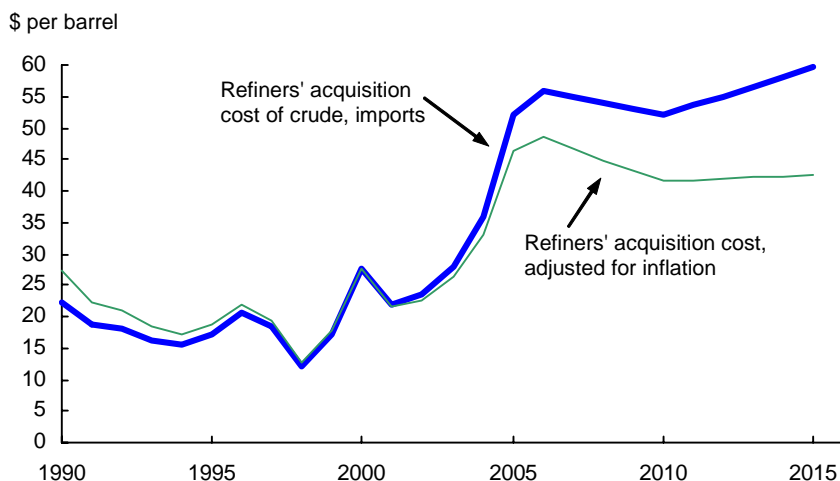
Crude oil prices rose sharply from late 2002 through 2005, largely reflecting world economic recovery and rapid manufacturing growth in China and India, which resulted in sharply increased crude oil demand. Hurricane Katrina put further upward pressure on world oil prices by temporarily reducing supplies of crude oil and refined products in the fall of 2005. The U.S. Government and the International Energy Agency released emergency oil and fuel reserves, keeping this transitory energy supply shock from further boosting oil prices.

Continued growth in Asian economies will keep oil demand strong in 2006. In 2007-10, crude oil prices are expected to drop modestly as new crude supplies help offset the rise in demand from Asia. After 2010, oil prices are projected to rise, but only slightly faster than the general inflation rate. These projections are generally consistent with the U.S. Department of Energy, Energy Information Administration's (EIA) *Annual Long Term Outlook 2006* (released December 2005).

- Underlying these price increases, world oil demand is expected to rise due to strong GDP growth in the relatively high energy-dependent economies in Asia, including China, India, and the rapidly growing economies of East and Southeast Asia.

  − Most of China's energy is from coal, but as consumer incomes and automobile demand grow, an increasing share of its energy use will be from petroleum. China has become increasingly efficient in energy use over the past 25 years, reducing its energy intensity by over 60 percent (using EIA's measure of energy used to produce a dollar's worth of GDP). Nonetheless, even with this improvement, China's energy intensity in the early 21st century is over three times as high as in the United States.

  − India has become more energy intensive over the past 20-25 years compared with the United States. In the early 1980s, India used twice as much energy as the United States to produce a dollar's worth of GDP, while its current energy intensity is more than 2.5 times that in the United States. As India continues to develop its infrastructure, especially the highway system and electric power grid, energy intensity will rise further.

- The newly industrialized East and Southeast Asian economies of Taiwan, South Korea, Malaysia, Hong Kong, Singapore, and Thailand have gone from parity in energy intensity with the United States in the early 1980s to using 50 percent more energy to produce a dollar of GDP currently.

- Several factors are expected to constrain longrun increases in oil prices.

  - New oil discoveries, along with new technologies for finding and extracting oil, are assumed to allow for substantial growth in demand without significant real energy price inflation.

  - The ability to switch to non-petroleum fuels, such as coal and natural gas, especially in industrial uses and electric power generation, is expected to continue restraining increases in oil prices.

  - Further, the ability to substitute non-energy inputs (such as microchip-driven equipment) for energy is an important factor increasing energy efficiency, which is expected to continue to improve through the baseline due to improved energy use technology.

- The net result is that real prices of oil in the baseline are expected to remain higher than over any sustained period historically, largely due to rapid demand growth globally. Nonetheless, higher oil prices are not expected to cause world economic growth to significantly slow (see box, page 16).

Oil prices have historically affected prices of natural gas and nitrogen-based fertilizer. However, the links between the oil and natural gas markets have weakened significantly due to dramatic growth in the demand for natural gas and deregulation throughout the natural gas supply and demand system. Prices for natural gas and nitrogen-based fertilizer have become somewhat more volatile than prices for oil largely because natural gas is less fungible and, as a result, its supply is more inelastic. Nevertheless, over a longer period of time, oil and natural gas prices are expected to move more closely together.

Global Economy Has Not Slowed With Higher Oil Prices

Despite high oil prices, growth in the United States, most of Asia, and the large countries of Latin America is continuing at or above trend levels. Most studies, however, suggest that U.S. and world economic growth should have slowed significantly due to the oil price increases that occurred in 2004 and 2005. What kept a significant global slowdown from occurring?

- In 2004, the world economy realized record growth and the United States had very strong growth. The impact of any macroeconomic shock depends on the state of the economy at the time it occurs. The stronger the economy, the larger a shock must be to have a near-term impact.

- Oil prices, which rose to around $67 per barrel (nominal) in early September 2005, did not reach the record high inflation-adjusted levels of 1981. Nominal oil prices would have to reach $90 per barrel to be at the same inflation-adjusted level reached in the supply-shock-driven price spike that year.

- Oil-surplus countries are boosting global economic growth through financial and direct business investment, lowering the cost of capital and offsetting some of the oil-induced upward boost in production costs. This investment is also helping keep interest rates relatively low.

- Because of low inflation and prudent monetary policy, higher energy prices are not being fully passed on to final consumers. This cost pass-through impact is significantly weaker now than in the 1970s and 1980s, when higher fuel prices were fully reflected in higher prices for other inputs, which were largely passed on to consumers. In the current competitive environment, higher fuel costs are only partially passed on. Lower profit margins and reduced spending on other inputs are now largely offsetting the impact of higher fuel costs. Productivity growth has also partly offset higher energy prices in the business bottom line. The net impact of the recent runup in energy costs is a 1-percent increase in the consumer price index (CPI) spread over 2 years. The result of a similar oil price increase in the 1970s on the CPI would have been several times as large.

- Industrial economies and the rapidly growing economies of Asia are increasingly energy efficient. Moreover, these economies have growing service sectors that are not energy intensive.

- In a number of emerging markets, energy subsidies are cushioning the effects of higher oil prices. In Brazil, for example, the widespread use of ethanol, which benefits from government support, has largely sheltered that economy from higher oil prices.

- The liberalization of the world economy has increased the ability of businesses to substitute other inputs, such as fertilizer imports, for domestic energy on a broader scale than in the 1980s.

Some sectors of the world economy, such as manufacturing and agriculture, are more highly affected by high energy prices than are others. High energy costs are a likely contributor to the decline in U.S. manufacturing jobs since 2002, with employers finding it too costly to operate with as many workers.

Despite the muted impact to date of higher energy prices across the global economy, a large and persistent rise in crude oil prices could cause a world slowdown and represents an important risk to the solid world growth assumptions in the baseline.

Table 1. U.S. macroeconomic assumptions

Item	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP, billion dollars												
Nominal	11,734	12,509	13,271	14,035	14,789	15,583	16,419	17,284	18,194	19,152	20,161	21,202
Real 2006 chained dollars	10,756	11,154	11,544	11,925	12,295	12,676	13,069	13,461	13,865	14,281	14,709	15,136
percent change	4.2	3.7	3.5	3.3	3.1	3.1	3.1	3.0	3.0	3.0	3.0	2.9
Disposable personal income												
Nominal (billions)	8,664	9,167	9,735	10,319	10,881	11,480	12,111	12,778	13,480	14,222	15,004	15,829
percent change	6.1	5.8	6.2	6.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Nominal per capita, dollars	29,475	30,886	32,492	34,121	35,649	37,267	38,962	40,738	42,600	44,551	46,595	48,739
percent change	5.0	4.8	5.2	5.0	4.5	4.5	4.5	4.6	4.6	4.6	4.6	4.6
Real (billion 2000 chained)	8,004	8,268	8,574	8,866	9,141	9,424	9,716	10,017	10,328	10,648	10,978	11,318
percent change	3.4	3.3	3.7	3.4	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Real per capita, 2000 dollars	27,229	27,859	28,618	29,315	29,945	30,592	31,256	31,938	32,637	33,355	34,093	34,850
percent change	2.4	2.3	2.7	2.4	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Consumer spending												
Real (billion 2000 chained)	7,589	7,869	8,129	8,382	8,625	8,875	9,132	9,397	9,669	9,950	10,238	10,525
percent change	3.9	3.7	3.3	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8
Inflation measures												
GDP price index, chained	109.1	112.2	115.0	117.7	120.3	122.9	125.6	128.4	131.2	134.1	137.1	140.1
percent change	2.6	2.8	2.5	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
CPI-U, 1982-84=100	188.9	195.3	201.2	206.8	212.0	217.3	222.7	228.3	234.0	239.8	245.8	252.0
percent change	2.7	3.4	3.0	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PPI, finished goods 1982=100	148.5	154.9	158.8	162.4	164.7	167.0	169.3	171.7	174.1	176.6	179.0	181.5
percent change	3.6	4.3	2.5	2.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
PPI, crude goods 1982=100	159.0	176.5	186.2	188.1	189.9	191.8	193.8	195.7	197.7	199.6	201.6	203.7
percent change	17.5	11.0	5.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Crude oil price, $/barrel												
Refiner acq. cost, imports	35.9	52.0	56.0	55.0	54.0	53.1	52.1	53.5	55.0	56.4	58.0	59.5
percent change	28.9	44.9	7.7	-1.8	-1.8	-1.8	-1.8	2.7	2.7	2.7	2.7	2.7
Real 2000 chained dollars	32.9	46.4	48.7	46.7	44.9	43.2	41.5	41.7	41.9	42.1	42.3	42.5
percent change	25.6	40.9	5.1	-4.1	-3.9	-3.9	-3.9	0.5	0.5	0.5	0.5	0.5
Labor compensation per hour												
nonfarm business, 92=100	156.7	164.5	172.1	179.3	185.4	191.7	198.3	205.0	212.0	219.2	226.6	234.3
percent change	4.5	5.0	4.6	4.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Interest rates, percent												
3-month T-bills	1.4	3.2	4.3	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
3-month commercial paper	1.6	3.4	4.6	4.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Bank prime rate	4.3	6.3	7.2	7.4	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
Treasury bonds (10-year)	5.3	4.4	5.1	5.4	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Moody's Aaa bonds	5.6	5.3	6.0	6.4	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Civilian unemployment												
rate, percent	5.5	5.1	4.8	4.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Nonfarm payroll emp., millions	131.5	133.6	135.7	137.8	139.3	140.8	142.2	143.7	145.1	146.5	148.0	149.5
percent change	1.1	1.6	1.6	1.5	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
Total population, million	294.0	296.8	299.6	302.4	305.2	308.0	310.9	313.6	316.4	319.2	322.0	324.8
percent change	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Domestic macroeconomic assumptions were completed in October 2005.

Table 2. Global real GDP growth assumptions

Region/country	Share of world GDP 2001-2005	Per capita income, 2005	2003	2004	2005	2006	2007	2008	2009	Average 1991-2000	Average 2001-2005	Average 2006-2015
	Percent						*Percent change*					
World	100.0	5,562	2.7	4.0	3.2	3.2	3.3	3.2	3.2	2.8	3.0	3.2
less United States	69.2	4,021	2.7	3.8	3.0	3.1	3.3	3.2	3.2	2.6	3.1	3.2
North America	33.1	36,483	2.7	4.3	3.7	3.5	3.3	3.1	3.1	3.3	2.6	3.1
Canada	2.3	24,777	2.0	2.9	3.1	3.0	3.0	3.0	3.0	3.1	2.6	3.0
United States	30.8	37,648	2.7	4.4	3.7	3.5	3.3	3.1	3.1	3.3	2.6	3.1
Latin America	6.3	4,104	1.6	5.8	4.2	3.7	3.7	3.7	3.7	3.5	2.2	3.7
Caribbean & Central America	0.6	2,035	3.0	3.1	3.3	3.2	2.5	2.8	3.4	3.7	2.8	3.3
Mexico	1.8	8,270	1.3	4.4	3.8	3.8	3.8	3.8	3.8	3.7	2.0	3.8
South America	3.9	3,825	1.5	6.9	4.6	3.8	3.8	3.8	3.8	3.3	2.3	3.7
Argentina	0.8	7,699	8.8	9.0	6.0	3.6	3.5	3.4	3.4	4.7	1.7	3.4
Brazil	1.9	3,620	-0.2	4.9	3.6	3.6	3.6	3.6	3.6	2.8	2.3	3.6
Other	1.2	3,035	-0.3	8.7	5.1	4.3	4.2	4.2	4.3	3.3	2.7	4.1
Europe	27.1	17,995	1.0	2.3	1.5	1.9	2.4	2.3	2.2	2.1	1.5	2.2
European Union-25	25.5	19,427	1.0	2.3	1.4	1.9	2.4	2.3	2.2	2.1	1.5	2.1
Other Europe	1.6	8,372	0.8	2.4	2.5	2.4	2.5	2.5	2.5	1.6	1.8	2.5
Former Soviet Union	1.3	1,744	7.7	8.2	6.4	6.1	5.2	5.1	5.0	-4.1	6.7	5.0
Russia	0.9	2,430	7.3	7.2	6.0	5.5	4.5	4.5	4.5	-3.6	6.1	4.6
Ukraine	0.1	989	9.4	12.1	5.5	6.5	6.1	5.3	4.6	-7.7	8.3	4.8
Other	0.2	1,043	8.5	10.1	8.5	8.2	7.5	7.1	6.8	-3.6	8.7	6.5
Asia and Oceania	27.2	2,751	4.3	4.5	3.7	3.6	3.6	3.7	3.7	3.2	3.3	3.7
East Asia	21.8	5,145	3.9	4.3	3.3	3.3	3.3	3.3	3.3	2.9	3.0	3.4
China	4.1	1,256	9.3	9.5	9.0	7.7	7.3	7.3	7.2	10.2	8.7	7.2
Hong Kong	0.5	28,676	3.2	8.1	4.7	4.4	4.6	4.9	5.0	4.5	3.7	4.4
Japan	14.5	39,853	2.7	2.6	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.5
Korea	1.7	12,982	3.1	4.0	3.6	5.2	5.2	5.1	5.0	6.0	4.3	5.0
Taiwan	1.0	15,479	3.3	5.7	3.7	4.0	4.2	4.2	4.2	6.4	2.9	4.2
Southeast Asia	1.9	1,262	4.6	6.0	5.4	5.4	5.3	5.3	5.2	5.2	4.4	5.2
Indonesia	0.5	771	4.1	5.1	5.8	5.8	5.5	5.4	5.3	4.4	4.4	5.2
Malaysia	0.3	4,688	5.3	7.1	5.5	5.5	5.4	5.3	5.3	7.3	4.5	5.3
Philippines	0.3	1,077	4.5	6.1	4.5	4.2	4.0	4.0	4.0	3.0	4.5	4.0
Thailand	0.4	2,441	6.9	6.1	4.6	4.9	5.2	5.1	5.1	4.6	5.0	5.1
Vietnam	0.1	532	7.2	7.7	7.9	7.5	7.2	7.0	6.8	7.4	7.4	6.8
South Asia	1.9	503	8.0	6.8	6.5	6.2	6.1	5.8	5.8	5.3	6.0	5.8
Bangladesh	0.2	381	2.1	5.5	5.2	5.1	5.0	4.8	4.8	4.4	3.9	4.9
India	1.6	575	8.6	6.9	6.8	6.5	6.3	6.0	6.0	5.5	6.3	6.1
Pakistan	0.2	561	5.1	6.4	5.6	5.0	4.8	4.5	4.2	4.1	4.4	4.4
Oceania	1.6	16,380	4.2	3.4	2.4	3.1	3.2	3.3	3.4	3.5	3.4	3.3
Australia	1.3	22,659	3.8	3.2	2.3	3.2	3.3	3.4	3.4	3.7	3.2	3.4
New Zealand	0.2	20,557	3.6	4.8	2.6	2.6	2.8	3.0	3.2	2.8	3.7	3.1
Other Asia and Oceania	0.5	1,019	3.6	7.4	4.1	4.3	4.5	4.4	4.4	6.1	3.6	4.2
Middle East	3.3	4,743	5.3	6.4	5.3	4.9	4.6	4.4	4.3	3.9	4.2	4.4
Iran	1.0	5,723	6.6	4.8	4.5	4.5	4.5	4.5	4.5	4.1	5.1	4.5
Iraq	0.1	1,633	0.0	33.0	20.0	15.0	10.0	5.6	5.5	4.1	12.5	6.9
Saudi Arabia	0.6	8,562	7.2	5.2	5.6	4.8	4.3	4.1	4.1	2.6	3.7	4.2
Turkey	0.6	3,442	5.8	8.9	4.6	4.9	5.1	5.0	4.6	3.6	3.9	4.7
Other	1.0	4,798	3.0	5.3	4.9	4.2	4.0	4.0	4.0	5.0	3.0	3.9
Africa	1.7	726	4.1	4.9	4.9	4.9	4.9	4.7	4.5	2.7	4.1	4.4
North Africa	0.7	1,659	4.7	4.8	4.7	4.9	4.8	4.7	4.7	3.3	4.3	4.7
Algeria	0.2	2,094	6.8	5.0	6.4	6.3	6.0	5.8	5.6	1.8	5.0	5.6
Egypt	0.3	1,552	3.2	5.0	4.5	4.2	4.2	4.2	4.2	4.3	3.9	4.2
Morocco	0.1	1,250	5.2	3.7	2.5	4.2	4.0	4.0	4.0	2.4	4.2	4.0
Tunisia	0.1	2,417	5.6	5.6	5.2	5.4	5.3	5.5	5.4	4.8	4.6	5.3
Sub-Saharan Africa	1.1	531	3.7	4.9	5.1	4.9	5.0	4.7	4.3	2.3	4.0	4.3
Republic of South Africa	0.6	5,397	5.0	5.7	5.8	5.6	5.8	5.3	5.0	2.7	4.6	4.9
Other Sub-Saharan Africa	0.4	217	1.9	3.7	4.0	3.9	3.7	3.5	3.2	1.8	3.2	3.3

International macroeconomic assumptions were completed in October 2005.

Table 3. Population growth assumptions

Region/country	Population in 2003	2003	2004	2005	2006	2007	2008	2009	Average 1991-2000	Average 2001-2005	Average 2006-2015
	Millions						*Percent change*				
World[1]	6,329	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.4	1.3	1.1
less United States	6,038	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.4	1.3	1.1
North America	323	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.2	0.9	0.9
Canada	32	1.0	0.9	0.9	0.9	0.9	0.9	0.9	1.2	1.0	0.8
United States	291	1.2	1.0	1.0	1.0	0.9	0.9	0.9	1.2	1.0	0.9
Latin America	541	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.6	1.3	1.1
Caribbean & Central America	104	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.6	1.2	1.1
Mexico	75	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.8	1.6	1.4
South America	362	1.3	1.2	1.2	1.2	1.2	1.1	1.1	1.6	1.3	1.1
Argentina	39	1.1	1.0	1.0	1.0	1.0	0.9	0.9	1.3	1.1	0.9
Brazil	182	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.5	1.2	0.9
Other	142	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.9	1.5	1.3
Europe	523	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1
European Union-25	455	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.3	0.2	0.1
Other Europe	68	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0
Former Soviet Union	280	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	0.1
Russia	145	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.1	-0.5	-0.4
Ukraine	48	-0.8	-0.8	-0.7	-0.6	-0.6	-0.6	-0.6	-0.5	-0.8	-0.6
Other	88	0.8	0.9	0.9	0.9	1.0	1.0	1.1	0.6	0.8	1.1
Asia and Oceania	3,533	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.3	1.0
East Asia	1,522	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.9	0.9	0.6
China	1,291	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.0	0.6	0.6
Hong Kong	7	0.7	0.7	0.6	0.6	0.6	0.5	0.5	1.6	0.7	0.5
Japan	127	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	0.3	0.1	-0.1
Korea	48	0.5	0.5	0.4	0.4	0.4	0.4	0.4	1.0	0.5	0.3
Taiwan	23	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.9	0.7	0.5
Southeast Asia	557	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.7	1.4	1.2
Indonesia	235	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.8	1.5	1.3
Malaysia	23	1.9	1.9	1.8	1.8	1.8	1.8	1.7	2.2	1.9	1.7
Philippines	85	2.0	1.9	1.9	1.8	1.8	1.8	1.7	2.2	2.0	1.7
Thailand	63	0.7	0.7	0.7	0.7	0.7	0.7	0.6	1.1	0.7	0.6
Vietnam	82	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.6	1.1	1.0
South Asia	1,420	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.9	1.7	1.5
Bangladesh	138	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.7	2.0	2.0
India	1,050	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.8	1.5	1.3
Pakistan	156	1.8	2.0	2.0	2.1	2.1	2.0	2.0	2.5	2.1	1.9
Oceania	33	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.5	1.4	1.1
Australia	20	0.9	0.9	0.9	0.9	0.8	0.8	0.8	1.2	0.9	0.8
New Zealand	4	1.1	1.1	1.0	1.0	1.0	0.9	0.9	1.3	1.1	0.9
Other Asia and Oceania	181	2.3	2.1	2.0	1.7	1.5	1.5	1.5	2.1	1.9	1.5
Middle East	256	1.7	1.7	1.7	1.8	1.8	1.8	1.7	2.1	1.8	1.7
Iran	67	0.4	0.5	0.8	1.0	1.1	1.1	1.1	1.4	0.7	1.1
Iraq	25	2.8	2.8	2.8	2.7	2.7	2.6	2.6	2.3	2.8	2.5
Saudi Arabia	25	2.7	2.5	2.4	2.3	2.2	2.0	1.9	3.7	2.7	1.8
Turkey	68	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.6	1.2	1.0
Other	70	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.9	2.7	2.5
Africa	847	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.5	2.2	2.1
North Africa	148	1.7	1.6	1.6	1.6	1.5	1.5	1.5	2.1	1.7	1.4
Algeria	32	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.9	1.4	1.2
Egypt	75	1.9	1.9	1.8	1.8	1.7	1.7	1.7	2.2	1.9	1.6
Morocco	32	1.7	1.6	1.6	1.6	1.6	1.5	1.5	2.0	1.7	1.5
Tunisia	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.0
Sub-Saharan Africa	699	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.6	2.4	2.2
Republic of South Africa	44	0.1	-0.1	-0.2	-0.4	-0.4	-0.5	-0.5	1.4	0.1	-0.5
Other Sub-Saharan Africa	655	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.7	2.5	2.4

1/ Totals for the world and world less United States include countries not otherwise listed in the table.
Source: U.S. Department of Commerce, Bureau of the Census and U.S. Department of Agriculture, Economic Research Service. The population assumptions were completed in August 2005.

*USDA Baseline Projections, February 2006*   **19**

Crops

Steady U.S. and global economic growth assumed in the baseline provides a favorable demand setting for field crops, supporting longer run increases in consumption, trade, and prices. Additionally, the Energy Policy Act of 2005 mandates renewable fuel use in gasoline (with credits for biodiesel) to reach 7.5 billion gallons by calendar year 2012 (nearly double 2005's level), which underlies strong expansion of corn-based ethanol production in the projections.

Global livestock production rises in the baseline in response to growing incomes and demand for meats, which supports gains in world feedgrain trade. Despite a depreciation of the U.S. dollar relative to many currencies in the last several years, the recent strengthening of the dollar (U.S. agricultural export-weighted basis) is projected to continue. The stronger dollar, combined with trade competition from Brazil, Argentina, and the Black Sea region, constrains U.S. exports for some crops. Additionally, strong domestic use of corn due to increased ethanol production limits U.S. export gains.

Baseline assumptions for field crops reflect the Farm Security and Rural Investment Act of 2002 (2002 Farm Act), which is assumed to continue through the projection period. Income support to field crop producers is provided by marketing assistance loans, loan deficiency payments, counter-cyclical payments, and fixed direct payments. During the baseline period, area enrolled in the Conservation Reserve Program (CRP) is assumed to rise to 39.2 million acres from about 35 million acres currently enrolled. About two-thirds of the land in the reserve is allocated to the eight major field crops (corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans), based on historical plantings.

Projected plantings for the eight major field crops in the United States increase from 2005's level of about 243 million acres, remaining near 245 million acres throughout the projections, as higher producer net returns keep land in production. Yield increases also contribute to production gains.

Planted area: Eight major crops 1/

Million acres
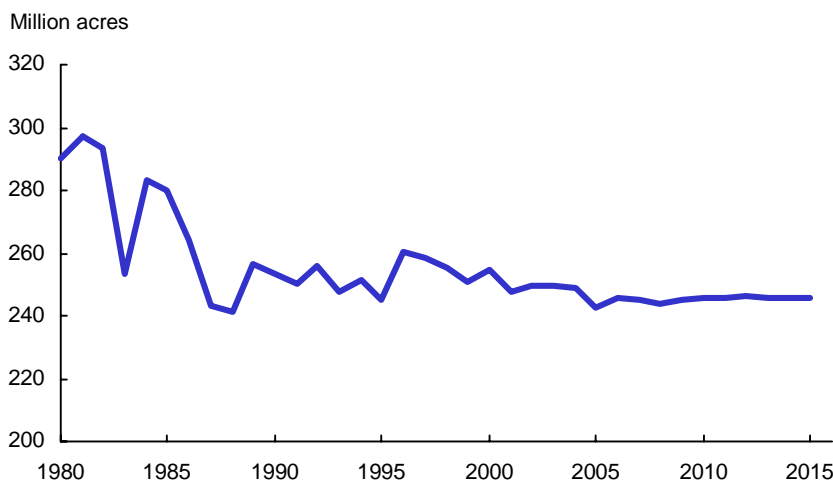
1/ The eight major crops are corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans.

Planted area: Corn, wheat, and soybeans

Million acres
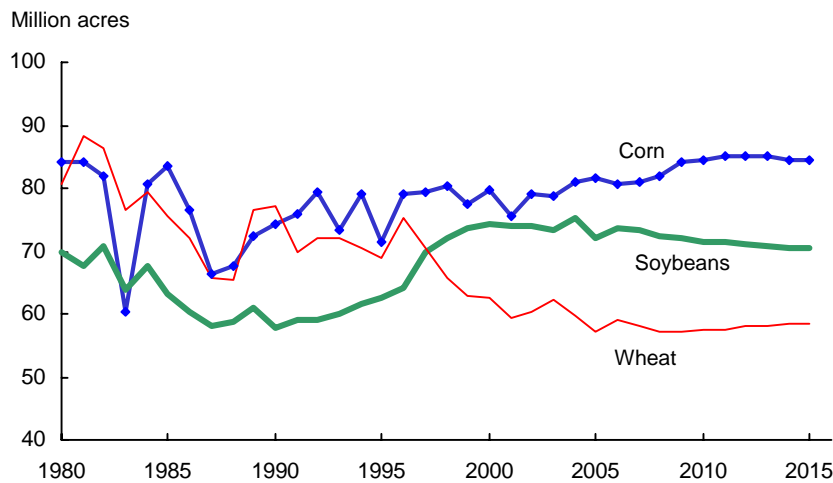
Plantings of different crops are influenced by expected net returns. Net returns are determined by market prices, yields, and production costs, with returns augmented by marketing loan benefits when prices are low. Some benefits to growing crops may not be fully reflected in a single year's net returns, such as agronomic benefits of crop rotations. Nonetheless, while consideration of these multiyear factors can also affect planting choices, measures of farmers' response to net returns based on historical data implicitly include these effects.

- Corn, wheat, and soybeans account for about 87 percent of acreage for the eight major field crops. The cropping mix shifts more to corn and away from soybeans as growth in global supply and demand is reflected in prices and net returns. In particular, growth in domestic ethanol production from corn increases demand, raising corn prices and returns.

- Corn acreage rises significantly in the initial years of the projections, as larger domestic ethanol production from corn increases demand, raising corn prices and net returns. In the longer run, increasing exports also underlie higher corn acreage. The increase in corn plantings is facilitated, in part, by a reduction in soybean area.

- Wheat plantings range between 57 million and 59 million acres. Moderate growth in domestic and export demand is partly met by rising yields, thus limiting price increases and incentives to plant.

- Relatively higher energy-related production costs for corn in 2006 are expected to provide an initial boost to soybean plantings. However, acreage planted to soybeans then declines through the remainder of the projections as more favorable returns to corn production draw land from soybeans.

Corn: Domestic use and exports

Billion bushels
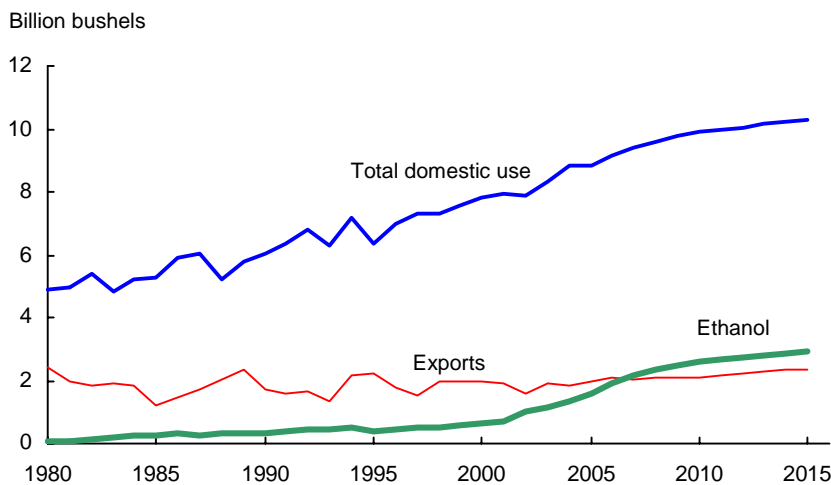
Domestic corn use grows throughout the projection period, primarily reflecting increases in corn used in the production of ethanol. Global economic growth underlies increases in U.S. corn exports after 2010/11.

- Large increases are projected in corn used for ethanol production over the next several years. The Renewable Fuel Program of the Energy Policy Act of 2005 mandates the volume of renewable fuel to be included in gasoline (with biodiesel credits) for each calendar year through 2012, reaching almost double current levels. This program predominantly affects ethanol production, which is primarily produced from corn. Additionally, relatively high prices for oil contribute to favorable comparative returns for ethanol production, providing further economic incentives for expansion in production capacity over the next several years.

- Feed and residual use of corn rises only slowly in the baseline as increased feeding of distillers dried grains (DDG), a coproduct of dry mill ethanol production, helps meet growing livestock feed demand. (Note: When a bushel of corn is used in the production of ethanol, the entire bushel is accounted for in the fuel alcohol use category, because the DDG coproduct, even though used in livestock feeding, is no longer corn.)

- Gains in food and industrial components of domestic corn use (other than for ethanol production) are projected to be smaller than increases in population. For example, consumer dietary concerns limit increases in the combined use of corn for high-fructose corn syrup, glucose, and dextrose to about half the rate of population gain.

- As incomes grow in the rest of the world, especially in developing economies, consumers shift to more meat in their diets, which requires more feed grains for meat production. To support this growth in meat production, global trade in feed grains expands in the baseline. U.S. corn exports show very little growth over the next several years as more corn is used domestically in the production of ethanol. However, increased production and exports from Argentina, Brazil, and China are assumed during this period.

- In the longer run, after growth in ethanol production in the United States slows, U.S. corn exports rise in line with global trade to support growth in global meat production. Additionally, U.S. corn exports to Mexico are boosted because of the phase-down and elimination of the tariff rate on over-quota corn imports from the United States, shifting some U.S. exports to corn from sorghum, which already has tariff-free status. As a result, U.S. market share of global corn trade stabilizes in the latter years of the projections.

Wheat: Domestic use and exports

Billion bushels
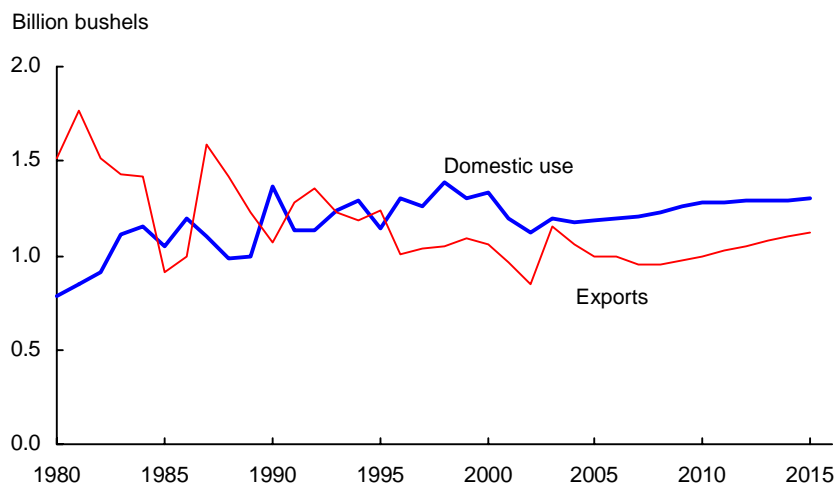
Demand in the U.S. wheat sector grows throughout the projection period, with moderate gains for exports and small increases in domestic food and feed uses.

- Domestic demand for wheat in the United States reflects a relatively mature market. After declining from 2000 to 2004, food use of wheat resumes moderate gains. Growth is somewhat slower than population increases, reflecting dietary adjustments by some consumers to smaller overall portions, including lower carbohydrates.

- Feed use of wheat, a low-value use of the crop, shows only small increases in the baseline. Projected gains in wheat feed and residual use are driven by growth in the livestock sector, relatively lower wheat prices compared with corn, and increases in production.

- U.S. wheat exports increase after 2008/09 as income and population in developing countries grow, raising global wheat consumption and trade. Competition from the European Union (EU), Canada, Argentina, Australia, and exporters from the Black Sea region continues, holding the U.S. market share relatively constant near 23 percent for most of the projections. Market shares for Australia, Argentina, and the Black Sea region increase, while shares for Canada and the EU decline.

Soybeans: Domestic use and exports

Billion bushels
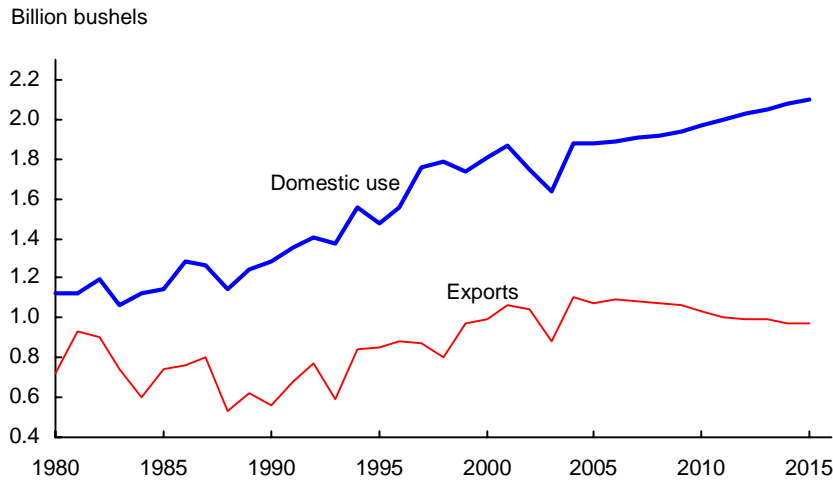
Domestic use of soybeans continues to rise slowly, but U.S. soybean exports decline due to moderate production gains and increased global competition.

- Growth in domestic soybean crush is largely driven by increasing demand for domestic soybean meal, mostly because of rising feed demand for expanding meat production. Domestic demand for soybean meal is tempered somewhat by a rising volume of corn coproducts from the production of ethanol.

- With initially large stocks, low prices help U.S. soybean exports approach 1.1 billion bushels in the next several years. Exports then decline to under 1.0 billion bushels as U.S. acreage is shifted to corn to support ethanol production and competition from Brazil strengthens. Consequently, the U.S. market share of global soybean trade declines.

- U.S. exports of soybean meal and soybean oil also face strengthening competition from South American producers, limiting gains in U.S. soybean meal exports and reducing soybean oil exports.

USDA Baseline Projections, February 2006

Upland cotton: Domestic mill use and exports

Million bales
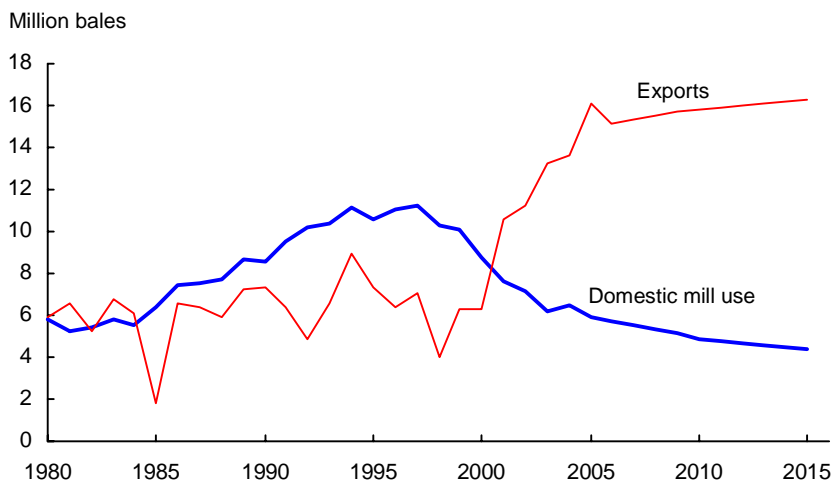
Mill use of upland cotton in the United States continues to fall through the projection period from its peak in 1997/98. Upland cotton exports rise after 2006 as more cotton processing occurs in developing countries with lower labor costs.

- Textile and apparel import quotas that had been established under the Multi-Fiber Arrangement were eliminated at the start of calendar year 2005. As a result of this and other factors, apparel imports by the United States continue to increase through the projections, reducing domestic apparel production and lowering the apparel industry's demand for fabric and yarn produced in the United States. Some increase in U.S. yarn and fabric exports is projected due to trade liberalization, but the net effect is for declining domestic mill use, which is projected at less than 40 percent of its 1997/98 level at the end of the projection period.

- The baseline assumes that the upland cotton user marketing certificate program (Step 2) ends after the 2005/06 cotton marketing year. U.S. upland cotton exports initially decline in 2006/07, but then grow moderately throughout the remainder of the projections.

- Growth in the textile industry in China slows from the rapid expansion of recent years, reducing growth in China's cotton import demand. As a result, world cotton consumption and trade slow as well. With global trade growth slowing, gains in U.S. cotton exports after 2006/07 allow the United States to maintain a cotton trade share of about 37-38 percent, down from over 40 percent recently.

Rice: Domestic use and exports

Million hundredweight
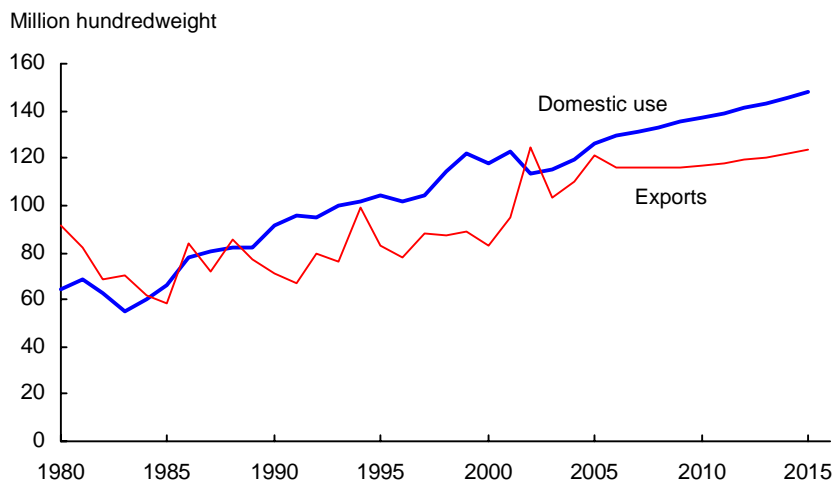
Steady expansion in domestic food use of rice is projected over the baseline, although the rate of expansion is well below rates in the 1980s and 1990s. U.S. rice exports are projected to expand moderately in the latter part of the projection period.

- Growth in domestic use of rice is largely due to an increasing share of the U.S. population of Asian and Latin American descent, with imports of specialty rices from Asia accounting for a growing share of domestic use. Use of rice in processed foods and pet foods also increases. Overall, these factors result in a small, but steady, rise in per capita rice use in the United States.

- U.S. rice exports are projected to decline in 2006/07 and then remain flat through 2009/10 as a relatively tight domestic market keeps the U.S. price premium over Asian competitors high. In the later years of the projections, U.S. production growth exceeds gains in domestic use, reducing the price premium, which increases U.S. competitiveness in global markets and raises U.S. rice exports.

- Global rice prices are projected to increase about 3 percent per year, exceeding $8 per hundredweight (rough basis) by the end of the baseline. Slower production growth in Asia and growing worldwide import demand for rice are behind the steady increase in global prices.

Stocks-to-use ratios: Corn, wheat, and soybeans

Percent
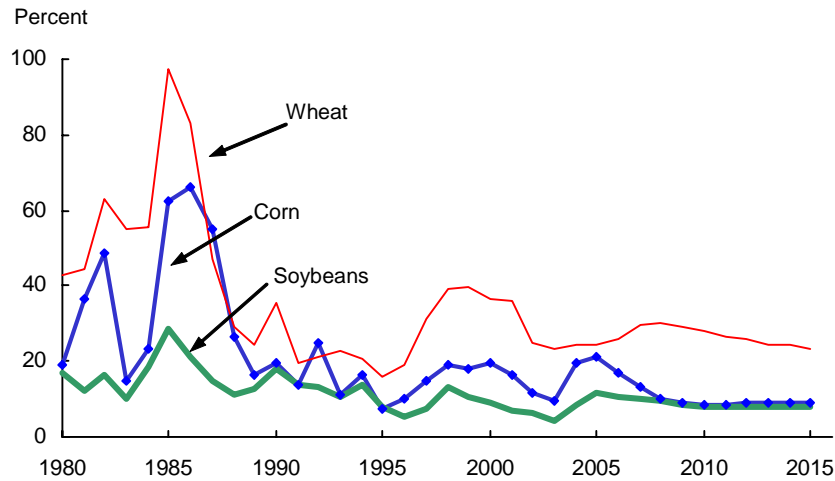
U.S. stocks-to-use ratios for corn and soybeans are up sharply at the start of the projections after 2 consecutive years of large production. Large corn and soybean stocks are reduced early in the projections and stocks-to-use ratios for those crops decline from their initial high levels. Later in the projections, prices rise and encourage additional production, resulting in a leveling of stocks-to-use ratios for these crops. The stocks-to-use ratio for wheat rises through 2008/09, largely reflecting weak exports, but declines in subsequent years as exports strengthen.

Stocks-to-use ratios: Cotton and rice

Percent
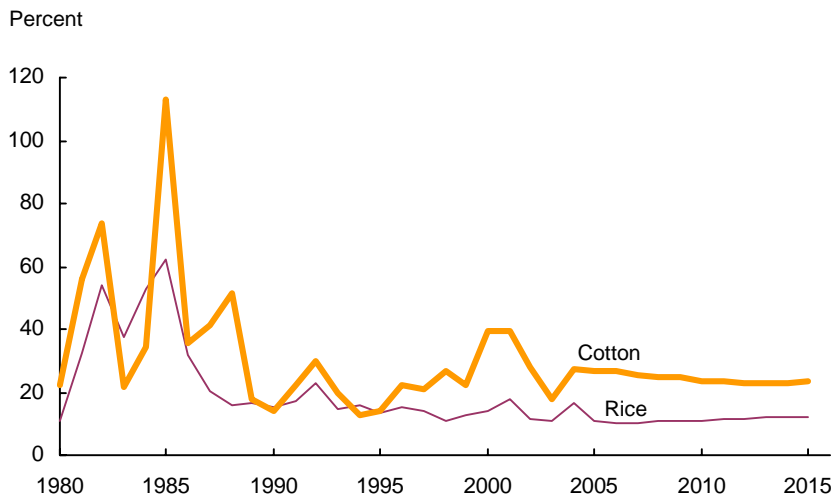
As with corn and soybeans, the stocks-to-use ratio for cotton is initially high due to large 2004 and 2005 production. Again, similar to corn and soybeans, the cotton stocks-to-use ratio declines and then flattens in the later years of the projections. In contrast, reduced 2005 yields lower the rice stocks-to-use ratio, with rice stocks and the stocks-to-use ratio gradually increasing over the projection period.

Corn, wheat, and soybean prices

$ per bushel
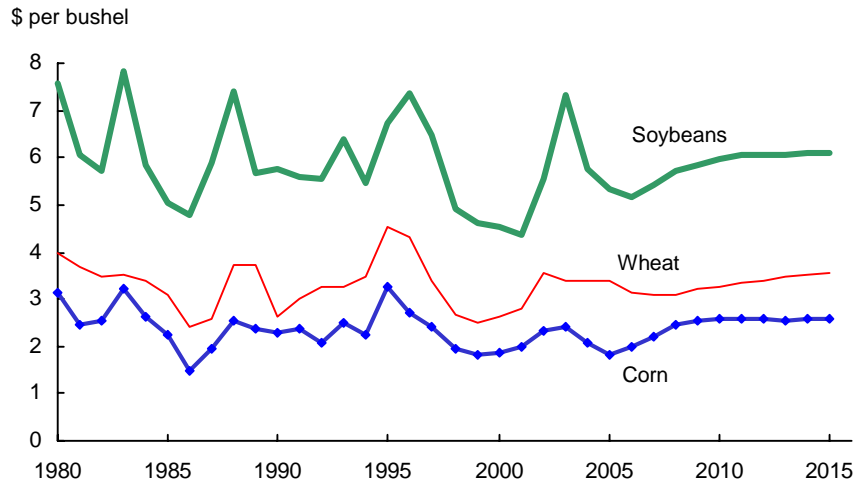
Projected farm-level prices for corn, wheat, and soybeans reflect, in part, movements in U.S. stocks-to-use ratios.

- Over the next couple of years, corn prices rise from the lows of 2005/06 as a return to trend yields and lower acreage reduce production and overall supplies, while increases in ethanol production strengthen corn demand. In the longer run, yield growth is sufficient to meet slower ethanol production gains and moderate export growth, resulting in stable stocks-to-use ratios and prices for corn.

- Similarly, soybean stocks decline from initial large levels and prices rise through the early years of the projections. In the longer run, soybean prices level off as the stocks-to-use ratio stabilizes near 8 percent, reflecting lower exports and reduced soybean acreage as land shifts to corn.

- Greater foreign competition and weaker U.S. wheat exports initially reduce wheat prices. Prices then rise through the remainder of the projection period as domestic demand and exports increase moderately and the stocks-to-use ratio declines.

Sugar: Domestic production, use, and imports

Million short tons
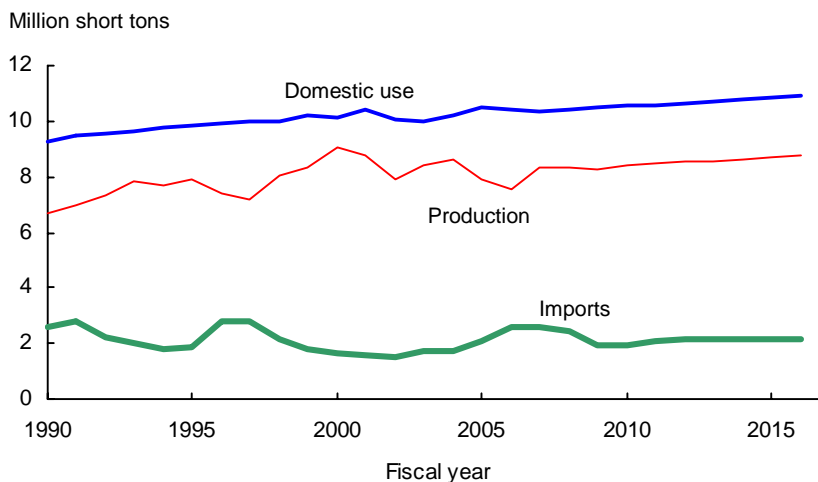
Note: Sugar supply and use projections for fiscal year (FY) 2006 are based on those in the November 2005 *World Agricultural Supply and Demand Estimates* (WASDE) report, adjusted for an increase in the FY 2006 tariff-rate quota (TRQ) of 450,000 short tons, raw value (STRV) that USDA announced on December 2, 2005.

The U.S. sugar baseline projections are highly integrated with projections for Mexico. A continuation of current sugar policies is assumed for both countries.

- U.S. sugar policies are set out in the 2002 Farm Act; Chapter 17 of the U.S. Harmonized Tariff Schedule that includes commitments made by the United States under Uruguay Round Agreement on Agriculture; the North American Free Trade Agreement (NAFTA); and the Central American and Dominican Republic Free Trade Agreement. The sugar price support program includes the loan rate program and domestic marketing allotments. The loan rate for raw sugar is 18 cents per pound and the rate for refined beet sugar is 22.9 cents per pound. After 2006, as part of the sugar marketing allotment program, the Overall Allotment Quantity (OAQ) is calculated by the formula set out in the 2002 Farm Act. The OAQ is the sum of desired ending stocks and deliveries for domestic food and beverage use less the sum of 1.532 million STRV and beginning stocks, including any stocks owned by the Commodity Credit Corporation (CCC). Desired ending stocks are assumed at 14.5 percent of total use (all sugar deliveries and exports).

- Mexican sugar policies are bound by the NAFTA. Additionally, the 20-percent tax that the Mexican Government levies on the consumption of beverages that use high-fructose corn syrup is assumed to continue in the projections despite being ruled inconsistent with international trade rules by a World Trade Organization panel. This tax limits the amount of Mexican sugar available for export to the United States.

Growth of sugar consumption in the United States exceeds growth in production in the baseline. U.S. sugar consumption is assumed to grow at the same rate as does population, implying constant

per capita sugar consumption after 2006. With sugar prices nearly constant in a range of 21-22 cents a pound for most of the baseline, there is no appreciable growth in area planted to sugar crops. Projected increases in production come from growth in yields.

On January 1, 2007, the U.S. high-tier NAFTA tariff falls to 1.51 cents a pound for raw sugar imports and 1.60 cents a pound for refined sugar imports, with each falling to zero in 2008. Because U.S. sugar prices are substantially higher than world levels, the destination of all Mexican sugar exports is the United States. With increased stocks in Mexico following large 2005 and 2006 production, Mexican exports of sugar are high in 2007 and 2008, but then fall back to more moderate levels after Mexican stocks are reduced.

In the United States, high levels of sugar imports from Mexico in FY 2007 and FY 2008 result in a domestic surplus of sugar and market-clearing sugar prices below the minimum to avoid forfeiture in 2008 without CCC removals. CCC is projected to own a modest 95,000 STRV at the end of fiscal year 2008.

Starting in FY 2010, additional tariff-rate quota (TRQ) sugar is needed to supplement domestic production and NAFTA imports in meeting domestic consumption requirements. TRQ imports grow from 1.373 million STRV in FY 2010 to 1.639 million STRV in FY 2016. Because these imports are needed to meet the OAQ, sugar imports above 1.532 million STRV do not cause the OAQ to be suspended. (Technically, unfilled OAQ from insufficient production is reassigned to imports, as per the 2002 Farm Act.)

U.S. flue-cured and burley tobacco: Domestic use and exports

Million pounds
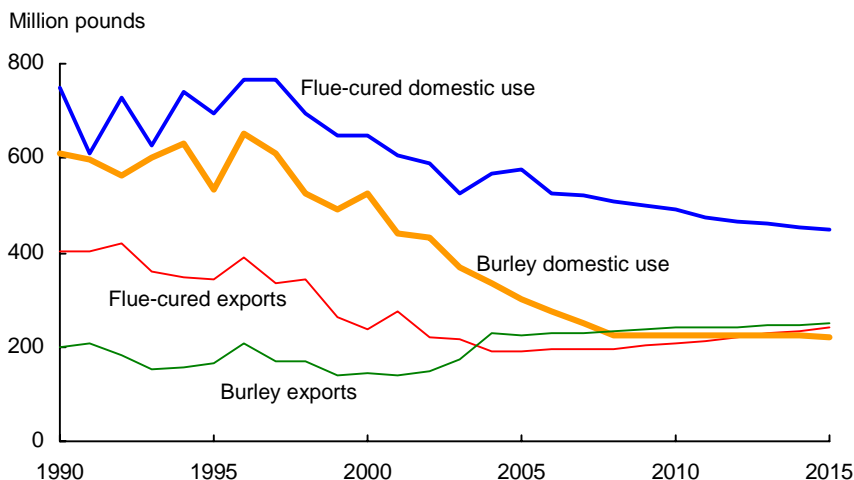
Legislation enacted in October 2004 ended the U.S. tobacco marketing quota and price support program beginning with the 2005 crop year. A buyout of tobacco quotas accompanied the termination of the program. With the elimination of tobacco programs, which had been in effect since 1938, producers are no longer restricted in the location or quantity of tobacco they produce, nor do they receive price support for the tobacco they sell. As part of the quota buyout, stocks of tobacco currently held by grower-owned cooperatives will be sold in a manner that does not destabilize tobacco markets.

- With the end of the tobacco program, leaf production in the baseline initially declines as some farmers exit the industry. Starting in 2006, expansion by the remaining growers causes production to recover slowly in the projections as production costs decline due to the elimination of costs associated with acquiring quota and as economies of scale are achieved on fewer, larger farms. Additionally, production shifts to areas such as the Coastal Plain of North Carolina and western Kentucky, where producers can achieve more economically viable scales of operation.

- Leaf prices fell in 2005/06 and are projected to remain lower than during the last several years under the tobacco program, making U.S. leaf more competitive in global trade. Exports of tobacco leaf are projected to increase, reversing the generally downward trend of recent years. Nonetheless, the tobacco industry will continue to face competition from foreign producers, particularly Brazil.

- Declining cigarette consumption in the United States is an important factor underlying projected decreases in domestic use of tobacco leaf. Cigarette sales in the United States are expected to continue to fall 2-3 percent per year for the baseline period. Per capita consumption declines as those who smoke find fewer opportunities to smoke in public places and the cost of cigarettes increases due to higher prices and taxes. Exports of cigarettes will likely stabilize near current levels.

Value of horticultural trade
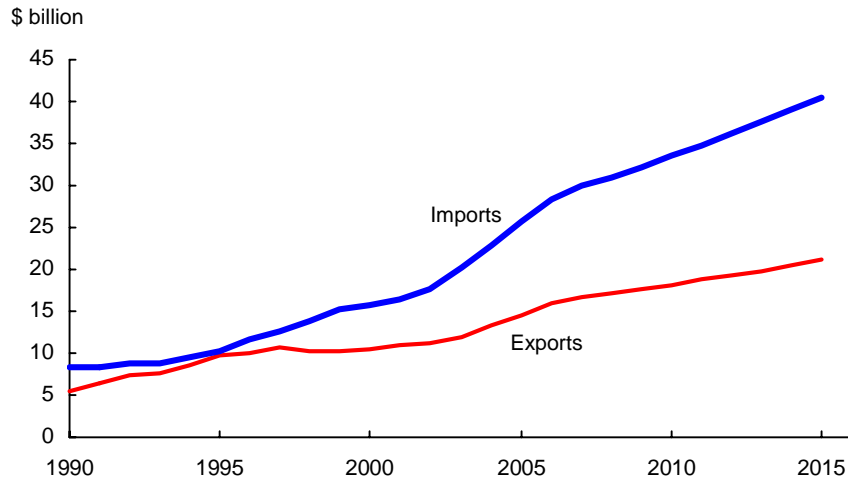
$ billion

U.S. imports of horticultural products (fruit and nuts, vegetables, greenhouse and nursery products, essential oils, beer, and wine) are forecast to continue outpacing exports, with net imports expected to increase about $8 billion from 2005 to 2015. Imports play an important role in domestic supply during the winter and, increasingly, during other times of the year. Reduced trade barriers offer U.S. consumers increased variety, with freer trade also enhancing global competition.

- The exchange value of the U.S. dollar vis-à-vis currencies of other countries is an important factor affecting trade. The dollar's overall appreciation during the next 10 years slows export demand for U.S. horticultural products and raises U.S. import demand.

- U.S. horticulture imports are expected to grow by about 4 percent annually through 2015. The European Union is the top source of U.S. horticulture imports, accounting for $7.4 billion out of a total $25.8 billion in 2005. Mexico is the second biggest source of U.S. horticulture imports, which amounted to $6 billion in 2005. Chile, Canada, and Brazil are also large sources of horticultural product imports by the United States. Key import commodities include potatoes, tomatoes, bananas, grapes, frozen concentrated orange juice, apple juice, melons, tree nuts (especially cashews), wine, beer, and essential oils.

- U.S. horticulture exports are expected to grow by 3 percent a year through 2015. Exports of almonds and other tree nuts as well as noncitrus fruits will lead export growth of fruit and nuts. Exports of fresh and processed vegetables will be stronger than nursery and greenhouse crops. Exports of wine, beer, and essential oils are also expected to increase. Major export markets for U.S. horticultural products include Canada, Japan, and Southeast Asia.

- The production value of U.S. horticulture crops is forecast to grow by 2.3 percent annually over the next decade. The total farmgate production value in 2005 is estimated at $47.5 billion, with about a third of the total accruing to each of the following three categories: fruits and nuts; vegetables and melons; and nursery, greenhouse, and other crops.

Table 4. Summary policy variables for major field crops, 2004-2015

	Direct payment rate	Marketing assistance loan rate	Target price
	Dollars [1]		
Corn	0.28	1.95	2.63
Sorghum	0.35	1.95	2.57
Barley	0.24	1.85	2.24
Oats	0.024	1.33	1.44
Wheat	0.52	2.75	3.92
Rice	2.35	6.50	10.50
Upland cotton	0.0667	0.52	0.724
Soybeans	0.44	5.00	5.80

1/ Units are dollars per bushel except for upland cotton (per pound) and rice (per hundredweight).

Table 5. Conservation Reserve Program acreage assumptions

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Million acres											
Crop allocation												
Corn	5.7	6.0	6.2	6.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Sorghum	1.0	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Barley	1.0	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Oats	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Wheat	8.8	8.4	8.7	9.3	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Upland cotton	1.5	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Soybeans	5.3	5.5	5.7	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Subtotal	23.8	23.6	24.5	26.3	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4
Other	10.9	11.4	11.8	12.7	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Total	34.7	35.0	36.3	38.9	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2

Table 6. Planted and harvested acreage for major field crops, baseline projections

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
						Million acres						
Planted acreage, eight major crops												
Corn	80.9	81.6	80.5	81.0	82.0	84.0	84.5	85.0	85.0	85.0	84.5	84.5
Sorghum	7.5	6.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Barley	4.5	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Oats	4.1	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Wheat	59.7	57.1	59.0	58.0	57.0	57.0	57.5	57.5	58.0	58.0	58.5	58.5
Rice	3.3	3.4	3.4	3.4	3.4	3.3	3.3	3.4	3.4	3.4	3.4	3.4
Upland cotton	13.4	13.9	14.0	14.0	14.0	13.9	13.7	13.7	13.6	13.6	13.5	13.5
Soybeans	75.2	72.2	73.5	73.3	72.5	72.0	71.5	71.3	71.0	70.8	70.5	70.5
Total	248.6	242.8	245.5	244.8	244.0	245.3	245.6	246.0	246.1	245.9	245.5	245.5
Harvested acreage, eight major crops												
Corn	73.6	74.3	73.2	73.7	74.7	76.7	77.2	77.7	77.7	77.7	77.2	77.2
Sorghum	6.5	5.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Barley	4.0	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Oats	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Wheat	50.0	50.0	50.2	49.3	48.5	48.5	48.9	48.9	49.3	49.3	49.7	49.7
Rice	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4
Upland cotton	12.8	13.4	12.9	12.9	12.9	12.8	12.6	12.6	12.5	12.5	12.4	12.4
Soybeans	74.0	71.3	72.4	72.1	71.4	70.9	70.4	70.1	69.9	69.7	69.4	69.4
Total	226.0	223.1	223.6	222.9	222.4	223.8	224.0	224.2	224.3	224.2	223.7	223.7

Table 7. Selected supply, use, and price variables for major field crops, baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Yields[1]												
Corn	160.4	148.4	147.7	149.5	151.3	153.1	154.9	156.7	158.5	160.3	162.1	163.9
Sorghum	69.8	68.2	65.0	65.4	65.9	66.3	66.8	67.2	67.7	68.1	68.6	69.0
Barley	69.6	64.8	64.4	65.0	65.6	66.2	66.8	67.4	68.0	68.6	69.2	69.8
Oats	64.7	63.1	62.8	63.2	63.6	64.0	64.4	64.8	65.2	65.6	66.0	66.4
Wheat	43.2	42.0	42.7	43.1	43.5	43.9	44.3	44.7	45.1	45.5	45.9	46.3
Rice	6,942	6,603	6,917	6,986	7,056	7,121	7,184	7,248	7,305	7,362	7,419	7,477
Upland cotton	843	806	760	765	770	775	780	785	790	795	800	805
Soybeans	42.2	42.7	40.7	41.1	41.5	41.9	42.3	42.7	43.1	43.5	43.9	44.3
Production[2]												
Corn	11,807	11,032	10,810	11,020	11,300	11,745	11,960	12,175	12,315	12,455	12,515	12,655
Sorghum	455	388	390	390	395	400	400	405	405	410	410	415
Barley	280	212	230	235	235	240	240	245	245	245	250	250
Oats	116	115	125	125	125	130	130	130	130	130	130	135
Wheat	2,158	2,098	2,145	2,125	2,110	2,130	2,165	2,185	2,225	2,245	2,280	2,300
Rice	230.8	220.7	230.0	232.3	234.6	236.1	238.5	241.4	244.0	247.0	250.0	253.0
Upland cotton	22,505	22,517	20,400	20,600	20,700	20,700	20,500	20,600	20,600	20,700	20,700	20,800
Soybeans	3,124	3,043	2,945	2,965	2,965	2,970	2,980	2,995	3,015	3,030	3,045	3,075
Exports[2]												
Corn	1,814	2,000	2,100	2,025	2,075	2,100	2,125	2,175	2,225	2,275	2,325	2,375
Sorghum	184	180	175	170	155	155	155	155	160	160	165	165
Barley	23	25	20	20	20	20	20	20	20	20	20	20
Oats	3	3	3	3	3	3	3	3	3	3	3	3
Wheat	1,063	1,000	1,000	950	950	975	1,000	1,025	1,050	1,075	1,100	1,125
Rice	110.4	121.0	116.0	116.0	116.0	116.0	117.0	118.0	119.0	120.5	122.0	123.5
Upland cotton	13,618	16,130	15,100	15,300	15,500	15,700	15,800	15,900	16,000	16,100	16,200	16,300
Soybeans	1,103	1,075	1,095	1,080	1,070	1,060	1,030	1,005	990	990	975	975
Soybean meal	7,300	6,700	6,600	6,600	6,650	6,800	6,900	7,000	7,050	7,050	7,150	7,150
Ending stocks[2]												
Corn	2,112	2,319	1,894	1,494	1,164	1,064	1,019	1,039	1,084	1,129	1,114	1,124
Sorghum	57	50	51	54	55	53	54	57	53	56	52	55
Barley	128	111	112	114	112	111	111	112	109	107	111	111
Oats	58	56	59	57	60	63	61	59	57	55	58	61
Wheat	540	530	571	633	660	651	637	613	604	584	579	564
Rice	37.7	26.2	25.6	25.7	26.6	27.5	28.2	29.2	30.2	31.2	32.0	32.6
Upland cotton	5,525	5,938	5,500	5,300	5,200	5,100	4,900	4,800	4,700	4,700	4,700	4,800
Soybeans	256	350	320	305	286	259	242	240	245	245	245	249
Prices[3]												
Corn	2.06	1.80	2.00	2.20	2.45	2.55	2.60	2.60	2.60	2.55	2.60	2.60
Sorghum	1.79	1.65	1.80	2.00	2.20	2.30	2.35	2.35	2.35	2.30	2.35	2.35
Barley	2.48	2.45	2.40	2.55	2.70	2.75	2.75	2.75	2.75	2.70	2.75	2.75
Oats	1.48	1.55	1.40	1.45	1.50	1.55	1.55	1.55	1.55	1.55	1.55	1.55
Wheat	3.40	3.40	3.15	3.10	3.10	3.20	3.25	3.35	3.40	3.45	3.50	3.55
Rice	7.33	7.90	7.75	7.87	7.98	8.10	8.26	8.44	8.64	8.86	9.10	9.36
Soybeans	5.74	5.35	5.15	5.40	5.70	5.85	5.95	6.05	6.05	6.05	6.10	6.10
Soybean oil	0.230	0.235	0.225	0.235	0.238	0.240	0.243	0.245	0.248	0.253	0.258	0.263
Soybean meal	182.9	167.5	162.5	168.5	179.0	184.0	186.5	189.0	188.0	185.0	185.0	182.5

1/ Bushels per acre except for upland cotton and rice (pounds per acre).
2/ Million bushels except for upland cotton (thousand bales), rice (million hundredweight), and soybean meal (thousand tons).
3/ Dollars per bushel except for soybean oil (per pound), rice (per hundredweight), and soybean meal (per ton).

USDA Baseline Projections, February 2006   **35**

Table 8. U.S. corn baseline

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area (million acres):												
Planted acres	80.9	81.6	80.5	81.0	82.0	84.0	84.5	85.0	85.0	85.0	84.5	84.5
Harvested acres	73.6	74.3	73.2	73.7	74.7	76.7	77.2	77.7	77.7	77.7	77.2	77.2
Yields (bushels per acre):												
Yield/harvested acre	160.4	148.4	147.7	149.5	151.3	153.1	154.9	156.7	158.5	160.3	162.1	163.9
Supply and use (million bushels):												
Beginning stocks	958	2,112	2,319	1,894	1,494	1,164	1,064	1,019	1,039	1,084	1,129	1,114
Production	11,807	11,032	10,810	11,020	11,300	11,745	11,960	12,175	12,315	12,455	12,515	12,655
Imports	11	10	10	10	10	10	10	10	10	10	10	10
Supply	12,776	13,154	13,139	12,924	12,804	12,919	13,034	13,204	13,364	13,549	13,654	13,779
Feed & residual	6,164	5,875	5,850	5,850	5,800	5,825	5,850	5,850	5,850	5,875	5,875	5,875
Food, seed, & industrial	2,686	2,960	3,295	3,555	3,765	3,930	4,040	4,140	4,205	4,270	4,340	4,405
Fuel alcohol use	1,323	1,575	1,900	2,150	2,350	2,500	2,600	2,690	2,745	2,800	2,860	2,915
Domestic use	8,850	8,835	9,145	9,405	9,565	9,755	9,890	9,990	10,055	10,145	10,215	10,280
Exports	1,814	2,000	2,100	2,025	2,075	2,100	2,125	2,175	2,225	2,275	2,325	2,375
Total use	10,664	10,835	11,245	11,430	11,640	11,855	12,015	12,165	12,280	12,420	12,540	12,655
Ending stocks	2,112	2,319	1,894	1,494	1,164	1,064	1,019	1,039	1,084	1,129	1,114	1,124
Stocks/use ratio, percent	19.8	21.4	16.8	13.1	10.0	9.0	8.5	8.5	8.8	9.1	8.9	8.9
Prices (dollars per bushel):												
Farm price	2.06	1.80	2.00	2.20	2.45	2.55	2.60	2.60	2.60	2.55	2.60	2.60
Loan rate	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Variable costs of production (dollars):												
Per acre	172.67	191.08	200.50	203.53	205.90	208.24	210.59	212.91	215.09	217.23	219.31	221.41
Per bushel	1.08	1.29	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.35	1.35
Returns over variable costs (dollars per acre):												
Net returns[1]	197.05	135.40	124.44	125.37	164.79	182.16	192.15	194.51	197.01	191.54	202.15	204.73

1/ Net returns include estimates of marketing loan benefits.

Table 9. U.S. sorghum baseline

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area (million acres):												
Planted acres	7.5	6.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Harvested acres	6.5	5.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Yields (bushels per acre):												
Yield/harvested acre	69.8	68.2	65.0	65.4	65.9	66.3	66.8	67.2	67.7	68.1	68.6	69.0
Supply and use (million bushels):												
Beginning stocks	34	57	50	51	54	55	53	54	57	53	56	52
Production	455	388	390	390	395	400	400	405	405	410	410	415
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Supply	488	445	440	441	449	455	453	459	462	463	466	467
Feed & residual	192	160	155	155	175	180	175	175	175	170	170	165
Food, seed, & industrial	55	55	59	62	64	67	69	72	74	77	79	82
Domestic	247	215	214	217	239	247	244	247	249	247	249	247
Exports	184	180	175	170	155	155	155	155	160	160	165	165
Total use	431	395	389	387	394	402	399	402	409	407	414	412
Ending stocks	57	50	51	54	55	53	54	57	53	56	52	55
Stocks/use ratio, percent	13.2	12.7	13.1	14.0	14.0	13.2	13.5	14.2	13.0	13.8	12.6	13.3
Prices (dollars per bushel):												
Farm price	1.79	1.65	1.80	2.00	2.20	2.30	2.35	2.35	2.35	2.30	2.35	2.35
Loan rate	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Variable costs of production (dollars):												
Per acre	109.21	122.05	128.42	130.32	131.98	133.61	135.27	136.91	138.47	140.01	141.54	143.07
Per bushel	1.56	1.79	1.98	1.99	2.00	2.02	2.03	2.04	2.05	2.06	2.06	2.07
Returns over variable costs (dollars per acre):												
Net returns[1]	34.86	24.58	11.33	10.29	13.00	18.88	21.71	21.01	20.63	16.62	19.67	19.08

1/ Net returns include estimates of marketing loan benefits.

USDA Baseline Projections, February 2006

Table 10. U.S. barley baseline

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area (million acres):												
Planted acres	4.5	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Harvested acres	4.0	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Yields (bushels per acre):												
Yield/harvested acre	69.6	64.8	64.4	65.0	65.6	66.2	66.8	67.4	68.0	68.6	69.2	69.8
Supply and use (million bushels):												
Beginning stocks	120	128	111	112	114	112	111	111	112	109	107	111
Production	280	212	230	235	235	240	240	245	245	245	250	250
Imports	12	15	15	15	15	15	15	15	15	15	15	15
Supply	412	356	356	362	364	367	366	371	372	369	372	376
Feed & residual	116	80	85	90	95	100	100	105	110	110	110	115
Food, seed, & industrial	145	140	139	138	137	136	135	134	133	132	131	130
Domestic	261	220	224	228	232	236	235	239	243	242	241	245
Exports	23	25	20	20	20	20	20	20	20	20	20	20
Total use	284	245	244	248	252	256	255	259	263	262	261	265
Ending stocks	128	111	112	114	112	111	111	112	109	107	111	111
Stocks/use ratio, percent	45.1	45.3	45.9	46.0	44.4	43.4	43.5	43.2	41.4	40.8	42.5	41.9
Prices (dollars per bushel):												
Farm price	2.48	2.45	2.40	2.55	2.70	2.75	2.75	2.75	2.75	2.70	2.75	2.75
Loan rate	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
Variable costs of production (dollars):												
Per acre	84.69	92.94	97.31	98.78	99.96	101.10	102.26	103.40	104.47	105.52	106.56	107.60
Per bushel	1.22	1.43	1.51	1.52	1.52	1.53	1.53	1.53	1.54	1.54	1.54	1.54
Returns over variable costs (dollars per acre):												
Net returns[1]	108.45	72.30	66.91	66.97	77.16	80.95	81.44	81.95	82.53	79.70	83.74	84.35

1/ Net returns include estimates of marketing loan benefits.

Table 11. U.S. oats baseline

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area (million acres):												
Planted acres	4.1	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Harvested acres	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Yields (bushels per acre):												
Yield/harvested acre	64.7	63.1	62.8	63.2	63.6	64.0	64.4	64.8	65.2	65.6	66.0	66.4
Supply and use (million bushels):												
Beginning stocks	65	58	56	59	57	60	63	61	59	57	55	58
Production	116	115	125	125	125	130	130	130	130	130	130	135
Imports	88	85	85	85	90	90	90	90	90	90	95	95
Supply	269	258	266	269	272	280	283	281	279	277	280	288
Feed & residual	134	125	130	135	135	140	145	145	145	145	145	150
Food, seed, & industrial	74	74	74	74	74	74	74	74	74	74	74	74
Domestic	208	199	204	209	209	214	219	219	219	219	219	224
Exports	3	3	3	3	3	3	3	3	3	3	3	3
Total use	211	202	207	212	212	217	222	222	222	222	222	227
Ending stocks	58	56	59	57	60	63	61	59	57	55	58	61
Stocks/use ratio, percent	27.5	27.7	28.5	26.9	28.3	29.0	27.5	26.6	25.7	24.8	26.1	26.9
Prices (dollars per bushel):												
Farm price	1.48	1.55	1.40	1.45	1.50	1.55	1.55	1.55	1.55	1.55	1.55	1.55
Loan rate	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Variable costs of production (dollars):												
Per acre	58.31	64.71	67.95	69.00	69.89	70.72	71.56	72.37	73.15	73.92	74.68	75.44
Per bushel	0.90	1.03	1.08	1.09	1.10	1.11	1.11	1.12	1.12	1.13	1.13	1.14
Returns over variable costs (dollars per acre):												
Net returns[1]	38.74	33.09	28.14	27.69	27.42	28.48	28.26	28.07	27.91	27.76	27.62	27.48

1/ Net returns include estimates of marketing loan benefits.

Table 12. U.S. wheat baseline

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area (million acres):												
Planted acres	59.7	57.1	59.0	58.0	57.0	57.0	57.5	57.5	58.0	58.0	58.5	58.5
Harvested acres	50.0	50.0	50.2	49.3	48.5	48.5	48.9	48.9	49.3	49.3	49.7	49.7
Yields (bushels per acre):												
Yield/harvested acre	43.2	42.0	42.7	43.1	43.5	43.9	44.3	44.7	45.1	45.5	45.9	46.3
Supply and use (million bushels):												
Beginning stocks	546	540	530	571	633	660	651	637	613	604	584	579
Production	2,158	2,098	2,145	2,125	2,110	2,130	2,165	2,185	2,225	2,245	2,280	2,300
Imports	71	80	90	90	95	95	100	100	105	105	110	110
Supply	2,775	2,718	2,765	2,786	2,838	2,885	2,916	2,922	2,943	2,954	2,974	2,989
Food	907	910	915	920	925	930	935	940	945	950	955	960
Seed	79	78	79	78	78	79	79	79	79	80	80	80
Feed & residual	187	200	200	205	225	250	265	265	265	265	260	260
Domestic	1,172	1,188	1,194	1,203	1,228	1,259	1,279	1,284	1,289	1,295	1,295	1,300
Exports	1,063	1,000	1,000	950	950	975	1,000	1,025	1,050	1,075	1,100	1,125
Total use	2,235	2,188	2,194	2,153	2,178	2,234	2,279	2,309	2,339	2,370	2,395	2,425
Ending stocks	540	530	571	633	660	651	637	613	604	584	579	564
Stocks/use ratio, percent	24.2	24.2	26.0	29.4	30.3	29.1	28.0	26.5	25.8	24.6	24.2	23.3
Prices (dollars per bushel):												
Farm price	3.40	3.40	3.15	3.10	3.10	3.20	3.25	3.35	3.40	3.45	3.50	3.55
Loan rate	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Variable costs of production (dollars):												
Per acre	71.52	79.26	83.19	84.67	85.68	86.57	87.33	88.27	89.19	90.13	91.03	91.93
Per bushel	1.66	1.89	1.95	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.99
Returns over variable costs (dollars per acre):												
Net returns[1]	76.92	63.54	51.31	48.94	49.17	53.91	56.64	61.48	64.15	66.85	69.62	72.43

1/ Net returns include estimates of marketing loan benefits.

Table 13. U.S. soybean and products baseline

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Soybeans												
Area (million acres):												
Planted	75.2	72.2	73.5	73.3	72.5	72.0	71.5	71.3	71.0	70.8	70.5	70.5
Harvested	74.0	71.3	72.4	72.1	71.4	70.9	70.4	70.1	69.9	69.7	69.4	69.4
Yield/harvested acre (bushels)	42.2	42.7	40.7	41.1	41.5	41.9	42.3	42.7	43.1	43.5	43.9	44.3
Supply (million bushels)												
Beginning stocks, Sep. 1	112	256	350	320	305	286	259	242	240	245	245	245
Production	3,124	3,043	2,945	2,965	2,965	2,970	2,980	2,995	3,015	3,030	3,045	3,075
Imports	5	4	4	4	4	4	4	4	4	4	4	4
Total supply	3,241	3,303	3,299	3,289	3,274	3,260	3,243	3,241	3,259	3,279	3,294	3,324
Disposition (million bushels)												
Crush	1,696	1,720	1,735	1,755	1,770	1,790	1,820	1,845	1,870	1,890	1,920	1,945
Seed and residual	186	158	149	149	148	151	151	151	154	154	154	155
Exports	1,103	1,075	1,095	1,080	1,070	1,060	1,030	1,005	990	990	975	975
Total disposition	2,985	2,953	2,979	2,984	2,988	3,001	3,001	3,001	3,014	3,034	3,049	3,075
Carryover stocks, Aug. 31												
Total ending stocks	256	350	320	305	286	259	242	240	245	245	245	249
Stocks/use ratio, percent	8.6	11.9	10.7	10.2	9.6	8.6	8.1	8.0	8.1	8.1	8.0	8.1
Prices (dollars per bushel)												
Loan rate	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Soybean price, farm	5.74	5.35	5.15	5.40	5.70	5.85	5.95	6.05	6.05	6.05	6.10	6.10
Variable costs of production (dollars):												
Per acre	83.17	89.75	93.34	94.50	95.20	95.91	96.64	97.37	98.05	98.74	99.39	100.06
Per bushel	1.97	2.10	2.29	2.30	2.29	2.29	2.28	2.28	2.28	2.27	2.26	2.26
Returns over variable costs (dollars per acre):												
Net returns[1]	163.07	138.69	118.30	127.44	141.35	149.21	155.04	160.96	162.70	164.43	168.40	170.17
Soybean oil (million pounds)												
Beginning stocks, Oct. 1	1,076	1,691	1,891	1,941	1,936	1,826	1,686	1,611	1,541	1,476	1,366	1,316
Production	19,360	19,435	19,555	19,795	19,985	20,225	20,585	20,885	21,185	21,435	21,790	22,095
Imports	22	65	70	75	80	85	90	95	100	105	110	115
Total supply	20,457	21,191	21,516	21,811	22,001	22,136	22,361	22,591	22,826	23,016	23,266	23,526
Domestic disappearance	17,416	17,950	18,250	18,575	18,900	19,225	19,575	19,925	20,275	20,625	20,975	21,325
Exports	1,350	1,350	1,325	1,300	1,275	1,225	1,175	1,125	1,075	1,025	975	925
Total demand	18,766	19,300	19,575	19,875	20,175	20,450	20,750	21,050	21,350	21,650	21,950	22,250
Ending stocks, Sep. 30	1,691	1,891	1,941	1,936	1,826	1,686	1,611	1,541	1,476	1,366	1,316	1,276
Soybean oil price (dollars per lb)	0.230	0.235	0.225	0.235	0.238	0.240	0.243	0.245	0.248	0.253	0.258	0.263
Soybean meal (thousand short tons)												
Beginning stocks, Oct. 1	211	172	250	250	250	250	250	250	250	250	250	250
Production	40,717	40,913	41,235	41,735	42,085	42,635	43,285	43,935	44,485	44,985	45,685	46,285
Imports	145	165	165	165	165	165	165	165	165	165	165	165
Total supply	41,073	41,250	41,650	42,150	42,500	43,050	43,700	44,350	44,900	45,400	46,100	46,700
Domestic disappearance	33,601	34,300	34,800	35,300	35,600	36,000	36,550	37,100	37,600	38,100	38,700	39,300
Exports	7,300	6,700	6,600	6,600	6,650	6,800	6,900	7,000	7,050	7,050	7,150	7,150
Total demand	40,901	41,000	41,400	41,900	42,250	42,800	43,450	44,100	44,650	45,150	45,850	46,450
Ending stocks, Sep. 30	172	250	250	250	250	250	250	250	250	250	250	250
Soybean meal price (dollars per ton)	182.89	167.50	162.50	168.50	179.00	184.00	186.50	189.00	188.00	185.00	185.00	182.50
Crushing yields (pounds per bushel)												
Soybean oil	11.42	11.30	11.27	11.28	11.29	11.30	11.31	11.32	11.33	11.34	11.35	11.36
Soybean meal	48.02	47.56	47.60	47.60	47.60	47.60	47.60	47.60	47.60	47.60	47.60	47.60
Crush margin (dollars per bushel)	1.28	1.29	1.25	1.26	1.25	1.24	1.24	1.22	1.23	1.22	1.23	1.23

1/ Net returns include estimates of marketing loan benefits.

Table 14. U.S. rice baseline, rough basis

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area (thousand acres):												
Planted	3,347	3,365	3,350	3,350	3,350	3,340	3,345	3,355	3,365	3,380	3,395	3,410
Harvested	3,325	3,343	3,325	3,325	3,325	3,315	3,320	3,330	3,340	3,355	3,370	3,384
Yields (pounds per acre):												
Yield/harvested acre	6,942	6,603	6,917	6,986	7,056	7,121	7,184	7,248	7,305	7,362	7,419	7,477
Supply and use (million cwt):												
Beginning stocks	23.7	37.7	26.2	25.6	25.7	26.6	27.5	28.2	29.2	30.2	31.2	32.0
Production	230.8	220.7	230.0	232.3	234.6	236.1	238.5	241.4	244.0	247.0	250.0	253.0
Imports	13.2	15.0	14.5	14.9	15.4	15.9	16.3	16.8	17.3	17.8	18.4	18.9
Total supply	267.7	273.4	270.7	272.8	275.7	278.6	282.3	286.4	290.5	295.1	299.6	303.9
Domestic use and residual	119.7	126.2	129.1	131.1	133.1	135.1	137.1	139.2	141.3	143.4	145.6	147.8
Exports	110.4	121.0	116.0	116.0	116.0	116.0	117.0	118.0	119.0	120.5	122.0	123.5
Total use	230.0	247.2	245.1	247.1	249.1	251.1	254.1	257.2	260.3	263.9	267.6	271.3
Ending stocks (million cwt.)	37.7	26.2	25.6	25.7	26.6	27.5	28.2	29.2	30.2	31.2	32.0	32.6
Stocks/use ratio, percent	16.4	10.6	10.4	10.4	10.7	10.9	11.1	11.4	11.6	11.8	11.9	12.0
Milling rate, percent	70.5	70.7	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Prices (dollars per cwt.):												
Premium	1.31	1.80	1.45	1.38	1.30	1.22	1.17	1.14	1.12	1.11	1.12	1.14
World price	6.02	6.10	6.30	6.49	6.68	6.88	7.09	7.30	7.52	7.75	7.98	8.22
Average market price	7.33	7.90	7.75	7.87	7.98	8.10	8.26	8.44	8.64	8.86	9.10	9.36
Loan rate	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Variable costs of production (dollars):												
Per acre	356	394	414	419	424	429	433	438	443	448	452	457
Per cwt.	5.13	5.97	5.98	6.00	6.01	6.02	6.03	6.05	6.06	6.08	6.10	6.12
Returns over variable costs (dollars per acre):												
Net returns[1]	186	154	136	131	139	148	160	173	188	205	223	243

1/ Net returns include estimates of marketing loan benefits.

Table 15. U.S. upland cotton baseline

Item	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area (million acres):												
Planted acres	13.4	13.9	14.0	14.0	14.0	13.9	13.7	13.7	13.6	13.6	13.5	13.5
Harvested acres	12.8	13.4	12.9	12.9	12.9	12.8	12.6	12.6	12.5	12.5	12.4	12.4
Yields (pounds per acre):												
Yield/harvested acre	843	806	760	765	770	775	780	785	790	795	800	805
Supply and use (thousand bales):												
Beginning stocks	3,428	5,525	5,938	5,500	5,300	5,200	5,100	4,900	4,800	4,700	4,700	4,700
Production	22,505	22,517	20,400	20,600	20,700	20,700	20,500	20,600	20,600	20,700	20,700	20,800
Imports	8	15	10	10	10	10	10	10	10	10	10	10
Supply	25,941	28,057	26,348	26,110	26,010	25,910	25,610	25,510	25,410	25,410	25,410	25,510
Domestic use	6,461	5,940	5,700	5,500	5,300	5,100	4,900	4,800	4,700	4,600	4,500	4,400
Exports	13,618	16,130	15,100	15,300	15,500	15,700	15,800	15,900	16,000	16,100	16,200	16,300
Total use	20,079	22,070	20,800	20,800	20,800	20,800	20,700	20,700	20,700	20,700	20,700	20,700
Ending stocks	5,525	5,938	5,500	5,300	5,200	5,100	4,900	4,800	4,700	4,700	4,700	4,800
Stocks/use ratio, percent	27.5	26.9	26.4	25.5	25.0	24.5	23.7	23.2	22.7	22.7	22.7	23.2
Prices (dollars per pound):												
Farm price[1]	0.416	---	---	---	---	---	---	---	---	---	---	---
Loan rate	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Variable costs of production (dollars):												
Per acre	328.84	343.47	351.57	356.50	359.61	362.95	366.45	370.07	373.54	377.03	380.53	384.13
Per pound	0.39	0.43	0.46	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.48	0.48
Returns over variable costs (dollars per acre):												
Net returns[2]	230.83	192.03	149.12	150.16	145.28	152.74	162.23	162.64	163.82	165.08	166.27	167.37

1/ USDA is prohibited from publishing cotton price projections.
2/ Net returns include estimates of marketing loan benefits.

Table 16. U.S. sugar baseline 1/

Item	Units	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Sugarbeets													
Planted area	1,000 acres	1,346	1,299	1,304	1,273	1,266	1,279	1,279	1,269	1,262	1,259	1,257	1,254
Harvested area	1,000 acres	1,307	1,239	1,277	1,247	1,240	1,253	1,253	1,243	1,236	1,234	1,232	1,229
Yield	Tons/acre	22.9	22.0	22.6	22.8	22.9	23.1	23.3	23.5	23.7	23.8	24.0	24.2
Production	Mil. s. tons	30.0	27.3	28.9	28.4	28.4	28.9	29.2	29.2	29.2	29.4	29.6	29.8
Sugarcane													
Harvested area	1,000 acres	880	895	902	874	864	851	857	853	849	847	845	842
Yield	Tons/acre	31.2	29.6	33.3	34.9	34.5	35.0	35.0	35.0	35.0	35.1	35.1	35.1
Production	Mil. s. tons	27.4	26.5	30.1	30.5	29.8	29.7	30.0	29.9	29.7	29.7	29.6	29.5
Supply:													
Beginning stocks	1,000 s. tons	1,897	1,355	1,102	1,658	2,039	1,704	1,507	1,516	1,526	1,535	1,544	1,553
Production	1,000 s. tons	7,877	7,522	8,333	8,327	8,229	8,397	8,509	8,536	8,576	8,635	8,700	8,754
Beet sugar	1,000 s. tons	4,611	4,356	4,480	4,424	4,392	4,551	4,608	4,629	4,661	4,707	4,757	4,800
Cane sugar	1,000 s. tons	3,266	3,166	3,854	3,903	3,837	3,846	3,900	3,907	3,915	3,928	3,943	3,954
Total imports	1,000 s. tons	2,061	2,615	2,587	2,467	1,906	1,938	2,096	2,132	2,156	2,162	2,161	2,180
Total supply	1,000 s. tons	11,835	11,492	12,022	12,452	12,174	12,039	12,112	12,184	12,258	12,331	12,405	12,488
Use:													
Exports	1,000 s. tons	263	175	100	100	100	100	100	100	100	100	100	100
Domestic deliveries	1,000 s. tons	10,213	10,215	10,264	10,313	10,369	10,432	10,495	10,559	10,623	10,687	10,752	10,824
Miscellaneous	1,000 s. tons	4	0	0	0	0	0	0	0	0	0	0	0
Total use	1,000 s. tons	10,480	10,390	10,364	10,413	10,469	10,532	10,595	10,659	10,723	10,787	10,852	10,924
Ending stocks	1,000 s. tons	1,355	1,102	1,658	2,039	1,704	1,507	1,516	1,526	1,535	1,544	1,553	1,564
Stocks/use ratio	Percent	12.9	10.6	16.0	19.6	16.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Raw sugar price:													
New York (No. 14)	Cents/lb.	20.94	23.35	21.24	20.17	21.04	21.75	21.70	21.65	21.61	21.56	21.51	21.46
Raw sugar loan rate	Cents/lb.	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Beet sugar loan rate	Cents/lb.	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90
Grower prices:													
Sugarbeets	Dol./ton	39.35	43.05	39.80	38.18	39.49	40.57	40.50	40.43	40.35	40.28	40.20	40.13
Sugarcane	Dol./ton	25.88	26.30	26.90	25.80	26.60	27.24	27.16	27.09	27.01	26.93	26.85	26.77

1/ Fiscal years, October 1 through September 30.

Table 17. Flue-cured tobacco baseline

Item	Unit	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area, yield, and production:													
Planted area	1,000 acres	228	179	180	200	202	204	206	208	210	212	214	217
Harvested area	1,000 acres	228	179	180	200	202	204	206	208	210	212	214	217
Yield	lbs./acre	2,272	2,150	2,200	2,200	2,250	2,250	2,300	2,300	2,400	2,400	2,400	2,400
Production	Mil. lbs.	519	384	396	440	440	459	474	479	504	510	515	520
Supply:													
Beginning stocks	Mil. lbs.	1,093	1,050	914	792	717	651	608	580	563	568	571	571
Marketings	Mil. lbs.	499	404	396	440	440	459	474	479	504	510	515	520
Imports	Mil. lbs.	215	225	200	200	200	200	195	190	185	180	175	170
Total[1]	Mil. lbs.	1,807	1,679	1,510	1,432	1,357	1,310	1,277	1,249	1,252	1,257	1,260	1,261
Use:													
Domestic	Mil. lbs.	569	575	525	520	510	500	490	475	465	460	455	450
Exports	Mil. lbs.	189	191	193	195	197	202	207	212	219	227	234	242
Total[1]	Mil. lbs.	758	766	718	715	707	702	697	687	684	687	689	692
Ending stocks:													
Total	Mil. lbs.	1,050	914	792	717	651	608	580	563	568	571	571	569
Price:													
Avg. to growers	$/cwt	185	145	145	150	150	155	155	160	160	170	170	170
Support	$/cwt	168	na	na	na	na	na	na	na	na	na	na	na

1/ Includes both domestically grown and imported tobacco leaf.
na: not applicable.

Table 18. Burley tobacco baseline

Item	Unit	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Area, yield, and production:													
Planted area	1,000 acres	153	105	110	120	125	130	135	140	145	150	153	155
Harvested area	1,000 acres	153	105	110	120	125	130	135	140	145	150	153	155
Yield	lbs./acre	1,908	1,826	2,150	2,200	2,250	2,300	2,300	2,300	2,300	2,300	2,300	2,300
Production	Mil. lbs.	292	192	237	264	281	299	311	322	334	345	351	357
Supply:													
Beginning stocks	Mil. lbs.	776	653	497	396	345	334	338	339	336	334	339	340
Marketings	Mil. lbs.	280	204	237	264	281	299	311	322	334	345	351	357
Imports	Mil. lbs.	160	165	165	165	165	165	155	140	130	130	120	110
Total[1]	Mil. lbs.	1,216	1,022	899	825	791	798	804	801	799	809	810	806
Use:													
Domestic	Mil. lbs.	336	300	275	250	225	225	225	225	225	225	225	220
Exports	Mil. lbs.	228	225	228	230	233	235	240	240	240	245	245	250
Total[1]	Mil. lbs.	563	525	503	480	457	460	465	465	465	470	470	470
Ending stocks:													
Total	Mil. lbs.	653	497	396	345	334	338	339	336	334	339	340	336
Price:													
Avg. to growers	$/cwt	199	150	150	155	160	160	165	165	170	170	172	172
Support	$/cwt	186	na	na	na	na	na	na	na	na	na	na	na

1/ Includes both domestically grown and imported tobacco leaf.
na: not applicable.

Table 19. Horticultural crops baseline: Production, values, and prices, calendar years

Item	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Production, farm value:													
Fruit and nuts													
Citrus	$ Mil.	2,501	2,389	2,413	2,437	2,462	2,486	2,511	2,536	2,562	2,587	2,613	2,639
Noncitrus[1]	$ Mil.	8,941	9,209	9,476	9,751	10,034	10,325	10,624	10,932	11,249	11,576	11,911	12,257
Tree nuts	$ Mil.	3,503	3,500	3,612	3,728	3,847	3,970	4,097	4,228	4,363	4,503	4,647	4,796
Total	$ Mil.	14,944	15,098	15,501	15,916	16,342	16,781	17,232	17,697	18,174	18,666	19,171	19,692
Vegetables and melons													
Fresh market[2]	$ Mil.	9,737	9,840	10,150	10,434	10,726	11,027	11,335	11,653	11,979	12,315	12,659	13,014
Processing	$ Mil.	1,471	1,398	1,509	1,529	1,548	1,569	1,589	1,610	1,631	1,652	1,673	1,695
Potatoes	$ Mil.	2,575	2,776	2,804	2,832	2,860	2,889	2,918	2,947	2,976	3,006	3,036	3,067
Sweet potatoes	$ Mil.	287	296	304	313	322	332	341	351	361	372	383	394
Pulses[3]	$ Mil.	593	640	660	680	700	721	743	754	765	777	788	800
Mushrooms	$ Mil.	919	908	917	927	936	945	955	964	974	984	993	1,003
Total	$ Mil.	15,582	15,858	16,345	16,714	17,093	17,482	17,881	18,279	18,687	19,105	19,533	19,973
Nursery/greenhouse	$ Mil.	15,697	16,011	16,347	16,690	17,041	17,399	17,764	18,137	18,518	18,907	19,304	19,710
Floriculture	$ Mil.	5,180	5,300	5,422	5,547	5,674	5,805	5,938	6,075	6,215	6,358	6,504	6,653
Nursery and other	$ Mil.	10,517	10,711	10,925	11,144	11,367	11,594	11,826	12,062	12,304	12,550	12,801	13,057
Other crops[4]	$ Mil.	482	489	497	505	512	520	529	537	545	554	563	571
Total, horticultural crops	$ Mil.	46,705	47,457	48,690	49,825	50,989	52,182	53,406	54,649	55,924	57,231	58,572	59,946
Production, farm weight:													
Fruit and nuts													
Citrus	Mil. lbs.	32,720	22,726	22,942	23,158	23,373	23,588	23,803	24,017	24,231	24,444	24,656	24,869
Fresh	Mil. lbs.	8,158	7,366	7,436	7,506	7,576	7,645	7,715	7,784	7,854	7,923	7,992	8,060
Processed	Mil. lbs.	24,562	15,360	15,506	15,652	15,797	15,943	16,088	16,232	16,377	16,521	16,665	16,808
Noncitrus	Mil. lbs.	33,654	33,977	34,300	34,622	34,944	35,266	35,587	35,907	36,227	36,545	36,863	37,180
Fresh	Mil. lbs.	14,312	14,449	14,587	14,724	14,861	14,997	15,134	15,270	15,406	15,542	15,677	15,812
Processed	Mil. lbs.	19,342	19,528	19,713	19,899	20,084	20,268	20,453	20,637	20,821	21,004	21,186	21,369
Tree nuts	Mil. lbs.	3,048	3,000	3,029	3,057	3,085	3,114	3,142	3,170	3,199	3,227	3,255	3,283
Total	Mil. lbs.	69,422	59,703	60,270	60,837	61,403	61,967	62,531	63,094	63,656	64,216	64,775	65,332
Vegetables and melons													
Fresh market[2]	Mil. lbs.	48,393	48,276	48,900	49,360	49,819	50,277	50,735	51,191	51,647	52,101	52,555	53,007
Processing	Mil. lbs.	35,587	31,607	34,462	34,786	35,109	35,432	35,755	36,077	36,398	36,718	37,038	37,356
Potatoes	Mil. lbs.	45,604	42,133	42,533	42,933	43,332	43,731	44,129	44,526	44,922	45,317	45,712	46,105
Sweet potatoes	Mil. lbs.	1,611	1,522	1,536	1,550	1,565	1,579	1,594	1,608	1,622	1,637	1,651	1,665
Pulses[3]	Mil. lbs.	3,459	4,625	5,040	5,544	6,098	6,708	7,379	7,445	7,512	7,578	7,644	7,710
Mushrooms	Mil. lbs.	855	853	861	869	877	885	894	902	910	918	926	934
Total	Mil. lbs.	135,509	129,015	133,332	135,042	136,801	138,613	140,484	141,749	143,010	144,269	145,524	146,775
Other crops[4]	Mil. lbs.	280	279	282	284	287	290	292	295	298	300	303	305
Total, horticultural crops	Mil. lbs.	205,211	188,997	193,884	196,163	198,490	200,870	203,308	205,138	206,963	208,785	210,601	212,412
Producer prices[5]													
Fruit and nuts													
Citrus	2000=100	105.1	144.5	144.6	144.7	144.8	144.9	145.0	145.2	145.3	145.5	145.7	145.9
Noncitrus	2000=100	127.1	129.7	132.2	134.7	137.4	140.0	142.8	145.6	148.5	151.5	154.6	157.7
Tree nuts	2000=100	166.8	169.4	173.1	177.0	181.0	185.1	189.3	193.6	198.0	202.6	207.3	212.1
Total	2000=100	134.7	158.3	161.0	163.7	166.6	169.5	172.5	175.5	178.7	181.9	185.2	188.6
Vegetables													
Fresh market[2]	2000=100	105.4	106.8	108.7	110.8	112.8	114.9	117.1	119.3	121.5	123.8	126.2	128.6
Processing	2000=100	98.1	105.0	103.9	104.3	104.7	105.0	105.5	105.9	106.3	106.7	107.2	107.7
Potatoes	2000=100	112.0	130.6	130.7	130.8	130.9	131.0	131.1	131.2	131.4	131.5	131.7	131.9
Sweet potatoes	2000=100	116.9	127.3	129.8	132.3	134.9	137.6	140.3	143.0	145.9	148.8	151.8	154.9
Pulses	2000=100	121.7	98.4	93.1	87.1	81.6	76.4	71.5	72.0	72.4	72.9	73.3	73.8
Mushrooms	2000=100	107.5	106.4	106.5	106.6	106.6	106.7	106.8	106.9	107.0	107.2	107.3	107.5
Total	2000=100	109.3	116.9	116.5	117.7	118.8	119.9	121.0	122.6	124.2	125.9	127.6	129.4
All fruit, nuts, vegetables	2000=100	120.0	132.1	132.5	134.1	135.8	137.5	139.2	141.3	143.5	145.7	148.0	150.4

1/ Includes olives; excludes melons.
2/ Includes melons and processing totals for dual-use crops which do not separate fresh from processing markets. Some fresh-market vegetables, such as tomatoes, cucumbers, and colored peppers, are part of greenhouse production value.
3/ Includes dry edible beans and peas, lentils, Austrian winter peas, and wrinkled seed peas.
4/ Includes hops, peppermint and spearmint oils, maple syrup, and Hawaiian tropical crops.
5/ Computed from unit values of production, or production value divided into production volume.
Data source: NASS, USDA.

Table 20. Horticultural crops baseline: Exports and imports, fiscal years

Item	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Exports													
Fruit and nuts													
Fresh fruits	$ Mil.	2,364	2,556	2,755	2,910	2,984	3,061	3,140	3,221	3,304	3,390	3,478	3,568
Citrus	$ Mil.	705	627	633	639	646	652	659	665	672	679	685	692
Noncitrus	$ Mil.	1,659	1,929	2,122	2,270	2,338	2,409	2,481	2,555	2,632	2,711	2,792	2,876
Processed fruits	$ Mil.	765	760	771	783	795	807	819	831	844	856	869	882
Dried fruits	$ Mil.	402	378	383	387	392	397	402	406	411	416	421	426
Fruit juices	$ Mil.	705	765	811	835	860	886	913	940	968	997	1,027	1,058
Tree nuts	$ Mil.	1,887	2,418	3,000	3,240	3,370	3,504	3,645	3,790	3,942	4,100	4,264	4,434
Almonds	$ Mil.	1,298	1,626	1,821	1,939	2,027	2,118	2,213	2,313	2,417	2,525	2,639	2,758
Total	$ Mil.	5,721	6,498	7,337	7,768	8,009	8,258	8,516	8,782	9,058	9,343	9,638	9,943
Vegetables[1]													
Fresh	$ Mil.	1,178	1,390	1,571	1,681	1,731	1,783	1,836	1,892	1,948	2,007	2,067	2,129
Processed	$ Mil.	3,015	3,092	3,200	3,296	3,395	3,497	3,602	3,710	3,821	3,936	4,054	4,176
Potatoes	$ Mil.	726	812	881	920	943	967	991	1,016	1,041	1,067	1,094	1,121
Frozen fries	$ Mil.	352	328	334	341	348	355	362	369	377	384	392	400
Sweet potatoes	$ Mil.	22	23	24	25	26	27	27	28	29	30	31	32
Pulses	$ Mil.	230	257	272	281	283	286	289	291	293	294	296	298
Mushrooms	$ Mil.	42	32	32	32	33	33	33	34	34	34	35	35
Total	$ Mil.	5,213	5,606	5,981	6,236	6,412	6,593	6,780	6,970	7,167	7,369	7,577	7,791
Nursery/greenhouse	$ Mil.	287	316	341	353	362	371	380	390	400	410	420	430
Essential oils	$ Mil.	939	970	1,009	1,039	1,071	1,103	1,136	1,170	1,205	1,241	1,278	1,317
Wine	$ Mil.	674	675	702	730	759	790	821	854	888	924	961	999
Beer	$ Mil.	177	199	217	228	235	242	249	257	264	272	280	289
Other horticulture	$ Mil.	299	259	266	272	279	286	293	301	308	316	324	332
Total horticulture	$ Mil.	13,310	14,524	15,853	16,627	17,127	17,643	18,175	18,724	19,290	19,874	20,478	21,100
Imports													
Fruit and nuts													
Fresh or frozen	$ Mil.	3,964	4,486	4,923	5,239	5,450	5,670	5,899	6,137	6,385	6,643	6,911	7,190
Citrus	$ Mil.	315	335	357	376	393	410	429	448	468	489	511	534
Noncitrus	$ Mil.	3,649	4,151	4,566	4,863	5,057	5,260	5,470	5,689	5,917	6,153	6,399	6,655
Bananas	$ Mil.	1,088	1,145	1,162	1,168	1,173	1,179	1,185	1,191	1,197	1,203	1,209	1,215
Processed fruits	$ Mil.	1,043	1,166	1,271	1,341	1,388	1,437	1,487	1,539	1,593	1,649	1,706	1,766
Fruit juices	$ Mil.	783	1,003	1,154	1,234	1,271	1,310	1,349	1,389	1,431	1,474	1,518	1,564
Tree nuts	$ Mil.	952	1,194	1,469	1,616	1,681	1,748	1,818	1,891	1,966	2,045	2,127	2,212
Cashew nuts	$ Mil.	520	636	731	797	837	878	922	968	1,017	1,068	1,121	1,177
Total	$ Mil.	6,741	7,850	8,818	9,431	9,791	10,164	10,553	10,956	11,375	11,810	12,262	12,731
Vegetables[1]													
Fresh or frozen	$ Mil.	3,381	3,805	4,135	4,395	4,559	4,728	4,904	5,086	5,275	5,471	5,674	5,884
Tomatoes	$ Mil.	952	1,113	1,214	1,286	1,351	1,418	1,489	1,564	1,642	1,724	1,810	1,901
Peppers	$ Mil.	597	687	745	783	822	863	906	951	999	1,049	1,101	1,156
Processed	$ Mil.	2,377	2,640	2,835	2,983	3,104	3,229	3,360	3,496	3,638	3,785	3,938	4,097
Potatoes	$ Mil.	788	779	813	848	884	922	961	1,002	1,045	1,090	1,136	1,185
Frozen fries	$ Mil.	517	481	499	518	537	558	579	601	624	648	672	698
Sweet potatoes	$ Mil.	3	5	5	5	5	5	6	6	6	6	6	6
Pulses	$ Mil.	75	103	109	114	118	123	128	133	139	144	150	156
Mushrooms	$ Mil.	222	212	219	226	234	241	249	258	266	275	285	295
Total	$ Mil.	6,846	7,544	8,117	8,571	8,904	9,249	9,608	9,981	10,368	10,770	11,188	11,623
Nursery/greenhouse	$ Mil.	1,363	1,380	1,453	1,500	1,549	1,599	1,651	1,705	1,761	1,818	1,877	1,938
Cut flowers	$ Mil.	702	702	734	756	779	802	827	851	877	903	930	958
Nursery stock	$ Mil.	661	678	719	744	770	797	825	854	884	915	947	980
Essential oils	$ Mil.	1,825	2,335	2,615	2,785	2,910	3,041	3,178	3,321	3,470	3,626	3,790	3,960
Wine	$ Mil.	3,316	3,691	4,042	4,296	4,472	4,656	4,847	5,045	5,252	5,467	5,692	5,925
Beer	$ Mil.	2,805	2,994	3,188	3,328	3,435	3,545	3,658	3,775	3,896	4,021	4,150	4,282
Total horticulture	$ Mil.	22,895	25,794	28,232	29,912	31,061	32,255	33,495	34,784	36,122	37,513	38,958	40,459

1/ Fresh vegetables exclude fresh potatoes, sweet potatoes, and fresh mushrooms. Processed vegetables exclude processed potatoes, pulses, and processed mushrooms, but include hops.
Data source: U.S. Census Bureau.

Livestock

Livestock sector projections over the baseline period reflect increasing production, strong domestic demand, and strengthening exports for meat. Meat exports grow through the projection period as global incomes rise and meat demand increases. The baseline assumes a gradual rebuilding of U.S. beef exports to Japan and South Korea. While overall meat exports benefit from stronger foreign economic growth in the baseline, U.S. beef exports do not return to levels attained prior to the December 2003 discovery of bovine spongiform encephalopathy (BSE) in Washington State.

With rising grain prices, due largely to expansion of corn-based ethanol production, returns to U.S. red meat production are generally lower than in recent years, slowing beef and pork production gains, particularly in 2010-15. Larger increases in poultry output result in poultry becoming a larger proportion of total U.S. meat consumption. Overall, annual per capita consumption of red meats and poultry grows from 220 pounds in 2005 to 231 pounds in 2015.

U.S. beef exports

Billion pounds
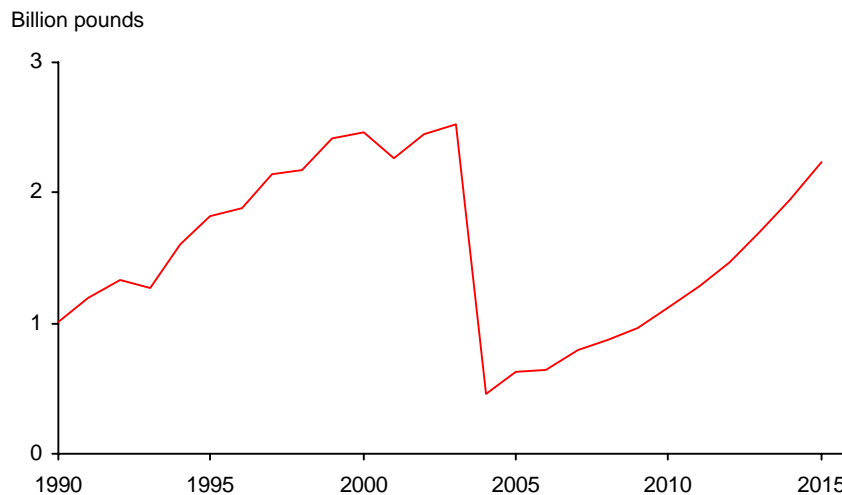
Livestock inventories and broiler production

Cattle and hogs, million head

Broilers, billion pounds
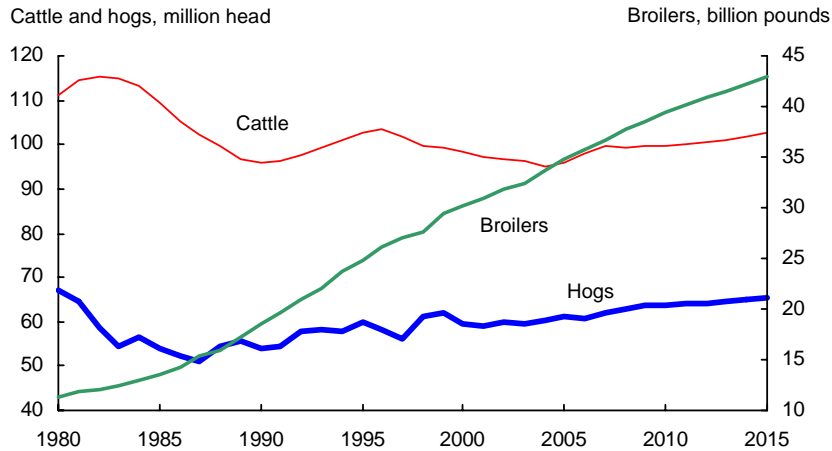
U.S. beef production increases from the sharp declines of 2003 and 2004. Despite the loss of export markets following the case of BSE in late 2003, strong domestic demand for beef and restrictions on imports of Canadian beef and cattle pushed producer returns higher. Together with favorable forage and feedgrain supplies, this led to the retention of cows and heifers for future expansion. Cattle herds are expected to increase from cyclical lows near 95 million head in 2004 to near 103 million head at the end of the projections, with much of the gain occurring in the next several years. Rising slaughter weights augment the herd expansion, leading to strong beef production gains through 2009, with more moderate increases over the remainder of the projections. Pork production grows slowly as the coordinated/integrated industrial structure continues to dampen the traditional U.S. hog cycle. Poultry production continues to rise, but less rapidly than during the 1990s due to the maturity of domestic demand and slower export growth.

The trend toward larger livestock systems continues throughout the baseline period. Efficiency gains allow production to expand while real prices generally decline. Production of all meats slows in the second half of the projections, reflecting higher feed costs as more corn is used in the production of ethanol.

- Strong demand for consistent, higher quality beef continues in the domestic hotel and restaurant market, and increasingly in the retail market. Also, the rebuilding of beef export markets is primarily for high-quality beef. Increasing movement toward transparent animal identification in international trade will strengthen quality assurance and the shift toward Prime/Choice beef.

- Increased efficiency of the U.S. hog breeding herd is reflected in a continued shift to larger, specialized, more efficient operations and in the decline of smaller, less efficient operations. For the baseline, the increase in efficiency slows since larger, more efficient operations already account for a large share of the U.S. pig crop.

- Production coordination and market integration between the United States and Canada continues in the hog sector. Canada is the major supplier of live swine imports by the United States. Imported feeder pigs produced in Canada are finished and processed in the United States, where processing costs are lower.

- The poultry sector has benefited from gains in efficiency at both the production and processing levels that reflect economies of scale associated with the industry's horizontal and vertical integration. Projected gains in efficiency over the next decade are smaller than in the past 25 years.

Nominal livestock prices

$ per hundredweight

Beef cattle: Choice steers, Nebraska

Broilers: 12-city market price

Hogs: National base
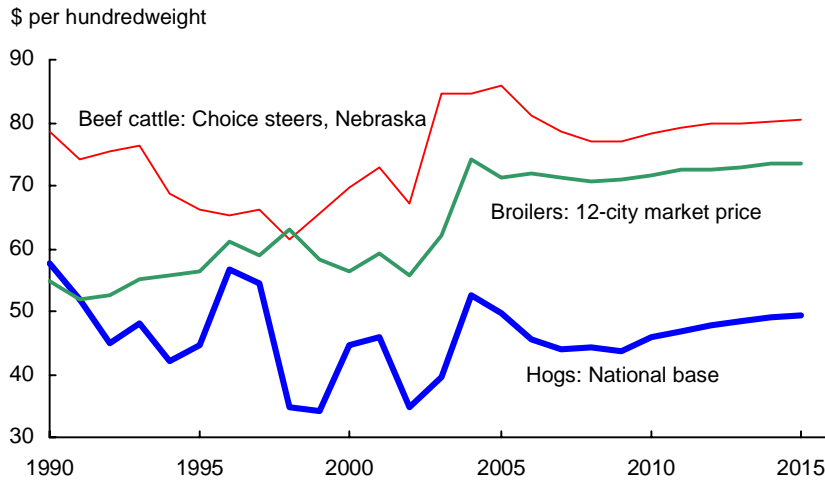
Livestock prices are projected to average somewhat lower than the high levels of 2004, with producer returns generally lower as well.

Percent of U.S. income spent on meat

Percent

- Poultry
- Pork
- Beef
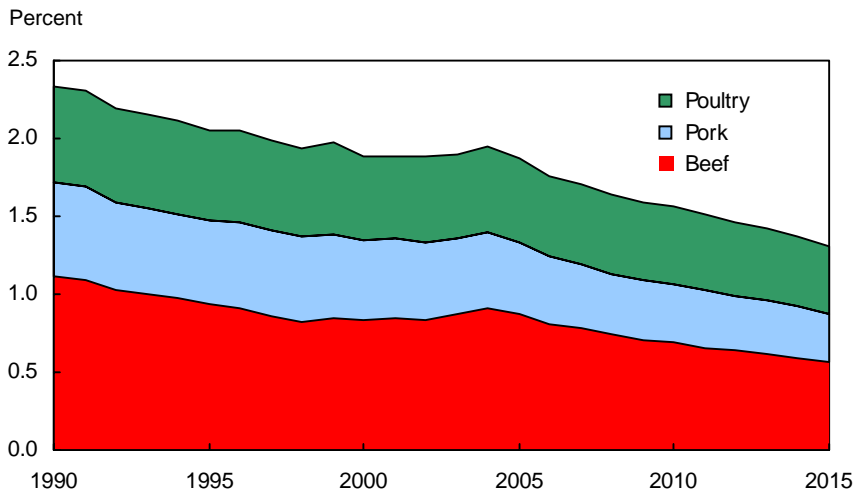
U.S. consumers buy more meat, but spend a smaller proportion of disposable income for these purchases, continuing a long-term trend. Over the next 10 years, consumer meat expenditures decline from about 2 percent to 1.3 percent of disposable income. Poultry expenditures continue to increase as a share of consumer spending on meats.

Per capita meat consumption

Retail weight, pounds per capita
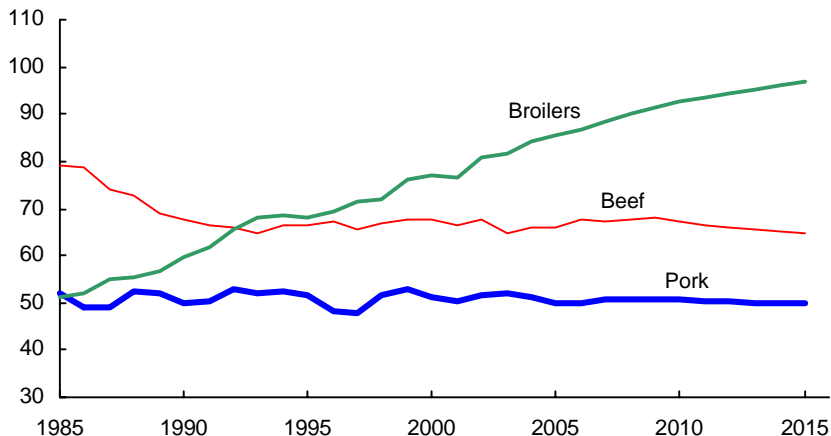
Higher levels of total per capita meat consumption are projected over the next decade, largely reflecting continued increases in poultry consumption. On a retail-weight basis, per capita consumption rises to 231 pounds from the 2005 level of 220 pounds.

- Although declining toward the end of the projections, per capita consumption of beef remains at relatively high levels through the baseline because of strong domestic demand for high-quality beef. Additionally, although beef exports grow, they do not return to 2003 levels in the projections, thereby limiting price increases seen by U.S. consumers.

- Pork consumption remains stable at about 50-51 pounds per person throughout the projections.

- Per capita consumption of relatively lower priced poultry increases throughout the baseline, allowing poultry to gain a larger share of total meat consumption and meat expenditures.

U.S. meat exports

Billion pounds
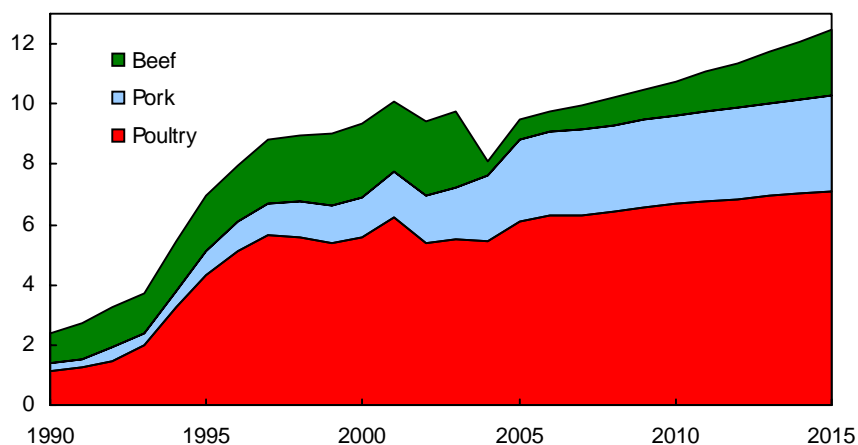
U.S. meat exports rise throughout the baseline period as global economic growth increases demand for meats. A gradual recovery in beef exports to markets such as Japan and South Korea is also critical to the projections. The baseline assumes that Brazil and Argentina will not be recognized as free of foot-and-mouth disease (FMD) by key importing countries, such as Japan, which limits trade competition in those markets.

Beef

- U.S. beef exports primarily reflect demand for high-quality fed beef, with most U.S. beef exports typically going to markets in Pacific Rim nations. The loss of those markets following the BSE case in the United States in late December 2003 caused U.S. beef exports to be sharply reduced. However, with a gradual recovery in U.S. beef exports to Japan and South Korea assumed in the baseline, U.S. beef exports are projected to rise slowly.

- U.S. imports of processing beef from Australia and New Zealand decline in the baseline as more, lower quality processing beef comes from domestic sources with the rebuilding of the cattle herd. The United States is a net beef importer by volume throughout the projections as the recovery of high-quality fed beef exports does not reach prior levels.
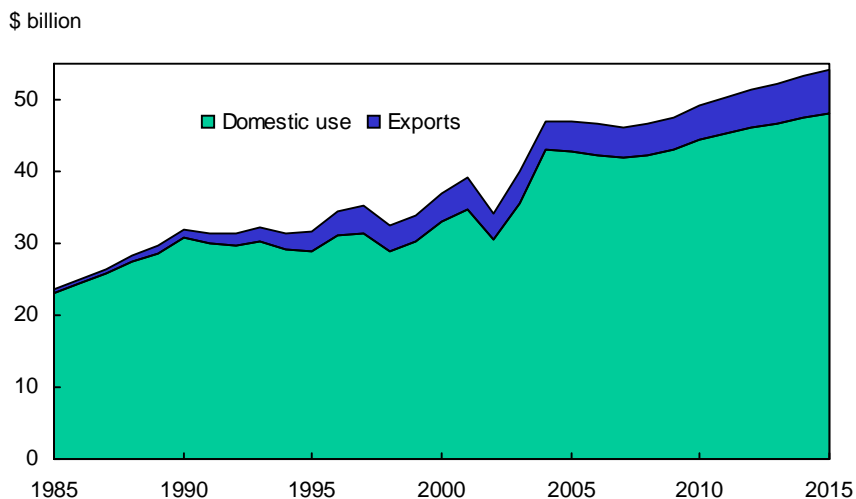
Pork

- U.S. pork exports benefit from reduced beef exports as import demand shifts among competing meats. Pacific Rim nations and Mexico remain key markets for long-term growth of U.S. pork exports. Canada continues to be a strong competitor in these markets. Brazil also is a major pork exporter. However, without nationwide FMD-free status, Brazil focuses its pork exports on Russia, Argentina, and Asian markets other than Japan and South Korea.

- While increased efficiency in U.S. pork production limits production-cost increases and enhances the competitiveness of U.S. pork products, longer term gains in U.S. pork exports will be determined by costs of production and environmental regulations relative to competitors. Such costs tend to be lower in countries with growing pork industries, such as Brazil.

Poultry

- U.S. broiler export growth is expected to slow from the rate of the 1990s. Major U.S. export markets include Asia, Russia, and Mexico. Gains in these markets reflect strong economic growth and rising consumer demand for meat, with much of the higher demand being for poultry due to its lower cost relative to beef and pork. U.S. producers will face strong competition from other major broiler exporting countries, particularly Brazil. Poultry exports from countries affected by avian influenza, such as Thailand, China, and Vietnam, are expected to be limited to fully cooked products.

Farm value of domestically produced meat

$ billion

The sharp decline in beef exports in 2004 lowered the overall meat export share of the total value of domestically produced meat from about 11 percent in 2003 to under 8 percent, based on a measure that weights exports of beef, pork, and chicken by farm-level prices. While U.S. meat exports increase to over 11 percent of production value by the end of the projections, the domestic market remains the dominant source of overall meat demand.

Milk production and dairy herd

Million cows and 1,000 pounds/cow   Production, billion pounds
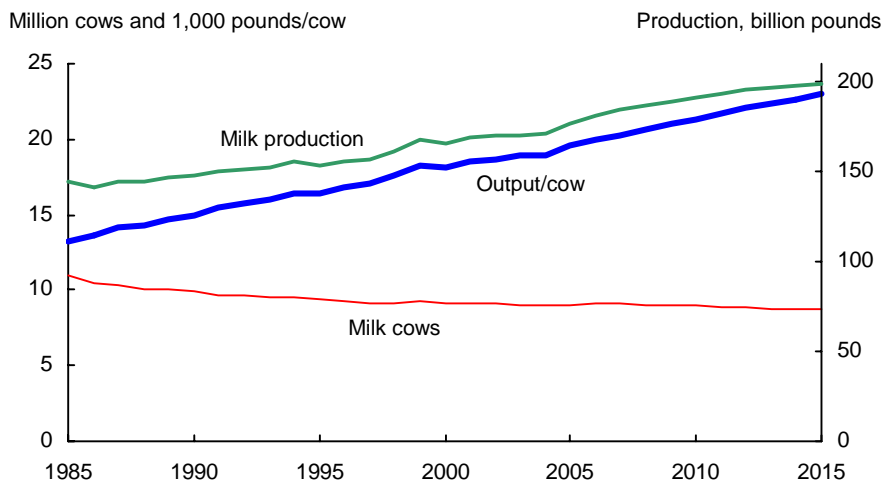
Relatively favorable farm milk prices in 2004 and 2005 encouraged increases in milk cow numbers in 2005 and 2006. Combined with an upward trend in output per cow, this resulted in relatively strong gains in milk production and lower prices in 2005, which are also expected for 2006. Smaller production gains are projected over the rest of the baseline.

- Productivity gains are expected to boost milk output per cow and total milk production throughout the projections. Further development of large, specialized operations in most regions will be a significant contributor to these gains.

- Growth in milk output per cow is projected to slow in the baseline as gains are less easily boosted by simply increasing the amount of concentrate feeds fed.

- Milk cow numbers are expected to decline after 2006 at a relatively slow pace. Increasing specialization of dairy farms over time (and the associated less attractive salvage uses for dairy capital and other inputs) makes exit rates from milk production lower than in past decades.

- Commercial use increases slightly faster than the growth in population, reflecting slow growth in domestic demand for dairy products. Cheese and butter demand benefit from greater consumption of prepared foods and increased away-from-home eating. Per capita consumption of fluid milk, however, is expected to decline slowly.

- Farm-level milk prices decline in 2006 due to relatively large production increases. Prices then rebound somewhat in 2007 as milk production gains are smaller. Projected milk prices are then relatively flat for several years, but rise over the last part of the baseline as production gains slow further. Nonetheless, milk price movements are projected to be less than the general inflation rate after 2007.

Table 21. Per capita meat consumption, retail weight

Item	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
						Pounds						
Total beef	66.1	65.9	67.7	67.3	67.5	68.2	67.3	66.6	66.1	65.6	65.2	64.8
Total veal	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4
Total pork	51.3	49.7	50.0	50.7	50.7	50.9	50.7	50.4	50.2	50.0	49.9	49.9
Lamb and mutton	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
Total red meat	119.1	117.2	119.5	119.7	119.8	120.7	119.6	118.6	117.8	117.2	116.6	116.1
Broilers	84.3	85.3	86.6	88.5	90.1	91.4	92.5	93.5	94.5	95.3	96.1	96.8
Other chicken	1.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Turkeys	17.1	16.4	16.3	16.8	17.2	17.1	17.1	17.1	17.0	16.9	16.8	16.8
Total poultry	102.3	103.0	104.2	106.5	108.6	109.8	110.8	111.9	112.8	113.5	114.3	115.0
Red meat & poultry	221.4	220.2	223.7	226.2	228.3	230.5	230.4	230.5	230.6	230.7	230.9	231.1

Table 22. Consumer expenditures for meats

Item	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Beef, dollars per person	268.96	268.12	263.38	265.11	262.74	264.94	267.59	269.72	272.43	274.12	273.91	273.36
Percent of income	0.91	0.87	0.81	0.78	0.74	0.71	0.69	0.66	0.64	0.62	0.59	0.56
Percent of meat expenditures	46.67	46.63	46.03	45.56	44.93	44.83	44.19	43.85	43.73	43.51	42.99	42.65
Pork, dollars per person	143.15	141.09	139.07	140.34	140.70	140.71	146.55	148.03	149.37	150.74	152.06	153.36
Percent of income	0.49	0.46	0.43	0.41	0.39	0.38	0.38	0.36	0.35	0.34	0.33	0.31
Percent of meat expenditures	24.84	24.54	24.30	24.12	24.06	23.81	24.20	24.07	23.98	23.92	23.87	23.93
Broilers, dollars per person	145.62	148.27	152.42	158.64	163.38	167.40	173.08	178.67	182.16	185.86	191.44	194.24
Percent of income	0.49	0.48	0.47	0.46	0.46	0.45	0.44	0.44	0.43	0.42	0.41	0.40
Percent of meat expenditures	25.27	25.79	26.64	27.27	27.94	28.33	28.58	29.05	29.24	29.50	30.05	30.30
Turkeys, dollars per person	18.60	17.48	17.35	17.75	17.94	17.90	18.30	18.70	19.03	19.35	19.68	20.02
Percent of income	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04
Percent of meat expenditures	3.23	3.04	3.03	3.05	3.07	3.03	3.02	3.04	3.05	3.07	3.09	3.12
Total meat, dollars per person	576.33	574.97	572.22	581.85	584.76	590.95	605.53	615.12	622.98	630.07	637.09	640.98
Percent of income	1.96	1.86	1.76	1.71	1.64	1.59	1.55	1.51	1.46	1.41	1.37	1.32

Table 23. Beef baseline

Item	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Beginning stocks	Mil. lbs.	518	637	610	575	575	575	575	575	575	575	575	575
Commercial production	Mil. lbs.	24,548	24,685	25,762	26,083	26,608	27,386	27,577	27,776	28,069	28,379	28,746	29,099
Change from previous year	Percent	-6.4	0.6	4.4	1.2	2.0	2.9	0.7	0.7	1.1	1.1	1.3	1.2
Farm production	Mil. lbs.	102	102	102	102	102	102	102	102	102	102	102	102
Total production	Mil. lbs.	24,650	24,787	25,864	26,185	26,710	27,488	27,679	27,878	28,171	28,481	28,848	29,201
Imports	Mil. lbs.	3,679	3,746	3,720	3,671	3,582	3,472	3,325	3,250	3,200	3,150	3,100	3,100
Total supply	Mil. lbs.	28,847	29,170	30,194	30,431	30,867	31,535	31,579	31,703	31,946	32,206	32,523	32,876
Exports	Mil. lbs.	460	629	640	800	880	968	1,113	1,280	1,472	1,693	1,947	2,239
Ending stocks	Mil. lbs.	637	610	575	575	575	575	575	575	575	575	575	575
Total consumption	Mil. lbs.	27,750	27,931	28,979	29,056	29,412	29,992	29,891	29,848	29,899	29,938	30,001	30,062
Per capita, carcass weight	Pounds	94.4	94.1	96.7	96.1	96.4	97.4	96.2	95.2	94.5	93.8	93.2	92.6
Per capita, retail weight	Pounds	66.1	65.9	67.7	67.3	67.5	68.2	67.3	66.6	66.1	65.6	65.2	64.8
Change from previous year	Percent	1.8	-0.3	2.8	-0.7	0.3	1.0	-1.2	-1.0	-0.7	-0.7	-0.7	-0.7
Prices:													
Beef cattle, farm	$/cwt	85.58	88.42	83.59	80.76	79.28	79.12	80.57	81.37	81.99	82.21	82.57	82.81
Calves, farm	$/cwt	121.59	129.75	117.03	118.92	114.25	110.86	112.70	113.78	115.77	117.02	117.79	119.28
Choice steers, Nebraska	$/cwt	84.75	85.96	81.25	78.50	77.06	76.91	78.32	79.10	79.70	79.92	80.27	80.51
Deflated price	$/cwt	44.82	44.31	40.82	38.47	36.85	35.88	35.64	35.12	34.53	33.78	33.10	32.38
Yearling steers, Okla. City	$/cwt	104.76	109.23	98.50	100.09	96.16	93.31	94.86	95.77	97.44	98.49	99.14	100.39
Deflated price	$/cwt	55.40	56.30	49.48	49.05	45.98	43.53	43.17	42.52	42.21	41.62	40.87	40.38
Retail: Beef and veal	1982-84=100	195.3	200.4	189.0	191.5	189.3	188.9	193.2	196.7	200.1	202.9	204.1	205.0
Retail: Other meats	1982-84=100	173.4	177.5	178.6	180.4	182.8	184.7	189.2	192.2	195.2	198.1	201.0	203.9
ERS retail beef	$/lb.	4.07	4.07	3.89	3.94	3.90	3.89	3.98	4.05	4.12	4.18	4.20	4.22
Costs and returns, cow-calf enterprise:													
Variable expenses	$/cow	229.07	237.03	245.95	246.81	253.49	261.18	267.46	272.52	276.66	280.53	283.26	288.40
Fixed expenses	$/cow	123.64	127.04	130.49	135.54	139.89	142.63	145.03	147.28	149.48	151.65	153.95	156.21
Total cash expenses	$/cow	352.71	364.07	376.44	382.35	393.38	403.81	412.49	419.80	426.15	432.18	437.21	444.60
Returns above cash costs	$/cow	148.20	145.75	103.62	111.47	88.37	71.12	77.64	82.55	92.38	99.57	105.58	112.49
Cattle inventory	1,000 head	94,888	95,848	97,882	99,695	99,336	99,846	99,645	100,020	100,547	101,111	101,896	102,836
Beef cow inventory	1,000 head	32,861	33,055	33,320	33,415	33,711	34,350	34,536	34,844	35,194	35,583	36,084	36,662
Total cow inventory	1,000 head	41,851	42,060	42,390	42,465	42,731	43,320	43,452	43,704	44,000	44,329	44,775	45,298

Table 24. Pork baseline

Item	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Beginning stocks	Mil. lbs.	532	543	545	545	545	545	545	545	545	545	545	545
Commercial production	Mil. lbs.	20,509	20,707	21,125	21,606	21,784	22,085	22,185	22,277	22,365	22,487	22,632	22,818
Change from previous year	Percent	2.8	1.0	2.0	2.3	0.8	1.4	0.5	0.4	0.4	0.5	0.6	0.8
Farm production	Mil. lbs.	20	20	20	20	21	21	21	21	21	21	21	22
Total production	Mil. lbs.	20,529	20,727	21,145	21,627	21,805	22,106	22,206	22,298	22,386	22,508	22,654	22,839
Imports	Mil. lbs.	1,099	985	960	979	1,004	1,029	1,054	1,086	1,119	1,152	1,187	1,222
Total supply	Mil. lbs.	22,160	22,255	22,650	23,151	23,354	23,680	23,805	23,929	24,050	24,205	24,386	24,606
Exports	Mil. lbs.	2,181	2,709	2,785	2,841	2,883	2,927	2,970	3,008	3,045	3,083	3,122	3,161
Ending stocks	Mil. lbs.	543	545	545	545	545	545	545	545	545	545	545	545
Total consumption	Mil. lbs.	19,436	19,001	19,320	19,765	19,926	20,208	20,290	20,376	20,460	20,577	20,719	20,900
Per capita, carcass weight	Pounds	66.1	64.0	64.5	65.4	65.3	65.6	65.3	65.0	64.7	64.5	64.3	64.4
Per capita, retail weight	Pounds	51.3	49.7	50.0	50.7	50.7	50.9	50.7	50.4	50.2	50.0	49.9	49.9
Change from previous year	Percent	-1.0	-3.2	0.7	1.4	-0.1	0.5	-0.5	-0.5	-0.5	-0.3	-0.2	0.0
Prices:													
Hogs, farm	$/cwt	51.20	49.23	45.05	43.50	43.47	42.72	45.13	45.99	46.83	47.52	48.07	48.41
National base, live equivalent	$/cwt	52.51	49.65	45.45	44.08	44.15	43.50	45.95	46.83	47.68	48.38	48.95	49.29
Deflated price	$/cwt	27.77	25.59	22.83	21.61	21.11	20.29	20.91	20.79	20.65	20.45	20.18	19.83
Retail: pork	1982-84=100	174.2	177.7	173.9	173.1	173.8	172.9	181.0	183.7	186.2	188.5	190.5	192.1
ERS retail pork	$/lb.	2.79	2.84	2.78	2.77	2.78	2.76	2.89	2.94	2.98	3.01	3.05	3.07
Costs and returns, farrow to finish:													
Variable expenses	$/cwt	38.02	33.57	32.04	33.31	35.08	36.40	37.90	38.74	39.30	39.73	39.78	40.57
Fixed expenses	$/cwt	7.37	7.60	7.72	7.81	7.86	7.89	7.93	7.96	8.01	8.05	8.10	8.16
Total cash expenses	$/cwt	45.40	41.16	39.76	41.12	42.93	44.28	45.83	46.71	47.31	47.78	47.89	48.73
Returns above cash costs	$/cwt	7.33	8.69	5.87	3.07	1.27	-0.61	0.31	0.31	0.57	0.80	1.25	0.75
Hog inventory,													
Dec. 1, previous year	1,000 head	60,444	60,975	60,900	62,205	62,688	63,504	63,775	64,025	64,265	64,595	64,988	65,491

Table 25. Young chicken baseline

Item	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Beginning stocks	Mil. lbs.	608	713	675	695	695	695	695	695	695	695	695	695
Federally inspected slaughter	Mil. lbs.	34,063	35,192	36,174	37,092	38,075	38,951	39,758	40,536	41,278	41,978	42,654	43,311
Change from previous year	Percent	4.0	3.3	2.8	2.5	2.7	2.3	2.1	2.0	1.8	1.7	1.6	1.5
Production	Mil. lbs.	33,699	34,815	35,785	36,721	37,694	38,561	39,360	40,130	40,866	41,558	42,228	42,878
Total supply	Mil. lbs.	34,334	35,565	36,496	37,452	38,425	39,292	40,091	40,861	41,597	42,289	42,959	43,609
Change from previous year	Percent	3.5	3.6	2.6	2.6	2.6	2.3	2.0	1.9	1.8	1.7	1.6	1.5
Exports	Mil. lbs.	4,784	5,431	5,595	5,611	5,704	5,824	5,927	6,013	6,095	6,170	6,240	6,305
Ending stocks	Mil. lbs.	713	675	695	695	695	695	695	695	695	695	695	695
Consumption	Mil. lbs.	28,837	29,459	30,206	31,146	32,026	32,773	33,469	34,153	34,807	35,424	36,024	36,609
Per capita, carcass weight	Pounds	98.1	99.3	100.8	103.0	104.9	106.4	107.7	108.9	110.0	111.0	111.9	112.7
Per capita, retail weight	Pounds	84.3	85.3	86.6	88.5	90.1	91.4	92.5	93.5	94.5	95.3	96.1	96.8
Change from previous year	Percent	3.3	1.2	1.6	2.2	1.9	1.4	1.2	1.1	1.0	0.9	0.8	0.8
Prices:													
Broilers, farm	Cents/lb.	45.2	42.8	43.0	42.7	42.3	42.4	42.9	43.4	43.5	43.6	44.1	44.0
12-city market price	Cents/lb.	74.1	71.4	71.8	71.3	70.7	70.8	71.6	72.4	72.6	72.7	73.5	73.4
Deflated wholesale price	Cents/lb.	39.2	36.8	36.1	35.0	33.8	33.0	32.6	32.1	31.4	30.7	30.3	29.5
Change from previous year	Percent	16.3	-6.1	-2.0	-3.0	-3.3	-2.3	-1.3	-1.4	-2.2	-2.2	-1.3	-2.6
Composite retail broiler price	Cents/lb.	172.8	173.9	176.0	179.3	181.3	183.2	187.1	191.0	192.8	195.0	199.2	200.6
Costs and returns:													
Total costs	Cents/lb.	63.21	66.75	65.39	64.49	65.61	67.13	68.90	69.91	70.76	71.49	71.99	73.01
Net returns	Cents/lb.	10.89	4.66	6.38	6.85	5.11	3.68	2.72	2.48	1.80	1.22	1.55	0.40

Table 26. Turkey baseline

Item	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Beginning stocks	Mil. lbs.	354	275	288	250	300	300	300	300	300	300	300	300
Federally inspected slaughter	Mil. lbs.	5,455	5,498	5,555	5,762	5,886	5,928	5,977	6,034	6,073	6,096	6,136	6,184
Change from previous year	Percent	-3.5	0.8	1.0	3.7	2.1	0.7	0.8	1.0	0.6	0.4	0.6	0.8
Production	Mil. lbs.	5,384	5,425	5,483	5,687	5,810	5,850	5,899	5,956	5,994	6,017	6,056	6,103
Total supply	Mil. lbs.	5,738	5,700	5,771	5,937	6,110	6,150	6,199	6,256	6,294	6,317	6,356	6,403
Change from previous year	Percent	-2.9	-0.7	1.2	2.9	2.9	0.7	0.8	0.9	0.6	0.4	0.6	0.7
Exports	Mil. lbs.	442	578	590	564	571	581	593	597	608	618	631	643
Ending stocks	Mil. lbs.	288	250	300	300	300	300	300	300	300	300	300	300
Consumption	Mil. lbs.	5,012	4,876	4,881	5,074	5,238	5,269	5,306	5,359	5,386	5,399	5,426	5,460
Per capita	Pounds	17.1	16.4	16.3	16.8	17.2	17.1	17.1	17.1	17.0	16.9	16.8	16.8
Change from previous year	Percent	-2.2	-3.6	-0.8	3.0	2.3	-0.3	-0.2	0.1	-0.4	-0.6	-0.4	-0.2
Prices:													
Turkey, farm	Cents/lb.	42.0	44.1	43.4	42.5	41.7	41.4	42.3	43.0	43.8	44.7	45.5	46.3
Hen turkey (whsle.) East	Cents/lb.	69.7	72.5	71.3	69.9	68.4	68.0	69.5	70.7	72.0	73.5	74.8	76.0
Deflated hen turkey	Cents/lb.	36.9	37.4	35.8	34.2	32.7	31.7	31.6	31.4	31.2	31.0	30.8	30.6
Retail frozen turkey	Cents/lb.	109.1	106.4	106.5	105.8	104.5	104.6	107.2	109.5	111.8	114.4	116.8	119.1
Retail: poultry	1982-84=100	181.7	185.3	188.0	190.6	191.8	193.4	197.7	201.9	204.2	207.0	211.5	213.5
Costs and returns:													
Total costs	Cents/lb.	73.42	68.80	61.28	61.62	62.54	64.93	66.34	67.37	68.16	68.76	69.02	69.88
Net returns	Cents/lb.	-3.72	3.70	9.98	8.24	5.85	3.06	3.14	3.30	3.79	4.70	5.77	6.15

Table 27. Egg baseline

Item	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Beginning stocks	Mil. doz.	14	14	14	14	14	14	14	14	14	14	14	14
Production	Mil. doz.	7,443	7,500	7,645	7,706	7,768	7,845	7,924	8,011	8,107	8,205	8,311	8,419
Change from previous year	Percent	2.3	0.8	1.9	0.8	0.8	1.0	1.0	1.1	1.2	1.2	1.3	1.3
Imports	Mil. doz.	12	10	10	10	10	10	10	10	10	10	10	10
Total supply	Mil. doz.	7,469	7,524	7,669	7,730	7,792	7,869	7,948	8,035	8,131	8,229	8,335	8,443
Change from previous year	Percent	2.4	0.7	1.9	0.8	0.8	1.0	1.0	1.1	1.2	1.2	1.3	1.3
Hatching use	Mil. doz.	988	998	1,015	1,034	1,054	1,072	1,088	1,104	1,119	1,133	1,146	1,159
Exports	Mil. doz.	167	199	200	190	193	196	199	202	205	208	211	214
Ending stocks	Mil. doz.	14	14	14	14	14	14	14	14	14	14	14	14
Consumption	Mil. doz.	6,300	6,313	6,440	6,492	6,531	6,588	6,646	6,715	6,793	6,874	6,964	7,056
Per capita	Number	257.2	255.3	257.9	257.6	256.8	256.6	256.6	256.9	257.6	258.4	259.5	260.7
Change from previous year	Percent	1.0	-0.7	1.1	-0.1	-0.3	-0.1	0.0	0.1	0.3	0.3	0.4	0.5
Prices:													
Eggs, farm	Cents/doz.	69.8	53.6	56.1	61.1	65.4	69.7	72.2	74.0	74.8	75.7	76.5	77.4
New York, Grade A large	Cents/doz.	82.2	63.8	65.5	71.0	76.0	81.0	84.0	86.0	87.0	88.0	89.0	90.0
Deflated wholesale prices	Cents/doz.	43.5	32.9	32.9	34.8	36.3	37.8	38.2	38.2	37.7	37.2	36.7	36.2
Retail, Grade A, large	Cents/doz.	134	120	115	124	133	142	147	151	152	154	156	158
Retail: Eggs	1982-84=100	167.0	144.1	141.0	153.3	165.1	177.0	184.6	190.0	193.2	196.4	199.6	202.9
Costs and returns:													
Total costs	Cents/doz.	81.46	71.91	68.65	71.36	75.15	80.12	82.80	84.61	85.81	86.73	86.84	88.53
Net returns	Cents/doz.	0.74	-8.11	-3.15	-0.36	0.85	0.88	1.20	1.39	1.19	1.27	2.16	1.47

Table 28. Dairy baseline

Item	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Production data:													
Number of cows	1,000	9,010	9,040	9,105	9,085	9,060	9,005	8,950	8,895	8,840	8,780	8,730	8,675
Milk per cow	Pounds	18,957	19,570	19,935	20,265	20,660	20,995	21,350	21,695	22,075	22,340	22,650	22,965
Milk production	Bil. lbs.	170.8	176.9	181.5	184.1	187.2	189.1	191.1	193.0	195.1	196.1	197.7	199.2
Farm use	Bil. lbs.	1.1	1.1	1.1	0.9	0.8	0.8	0.7	0.7	0.6	0.5	0.5	0.4
Commercial use, milk equivalent:													
Milkfat basis	Bil. lbs.	176.2	180.4	185.2	187.5	190.9	192.8	195.0	197.1	199.4	200.7	202.4	204.3
Skim solids basis	Bil. lbs.	173.5	181.6	184.3	187.1	190.2	190.2	191.9	193.9	196.4	198.0	200.3	203.2
Net removals, milk equivalent:													
Milkfat basis	Bil. lbs.	-0.1	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Skim solids basis	Bil. lbs.	1.3	-1.0	0.7	1.8	1.8	3.8	4.5	4.5	4.4	4.0	3.6	2.6
Prices:													
All milk	$/cwt	16.05	15.20	13.60	14.55	14.55	14.45	14.50	14.70	14.85	14.85	15.20	15.40
Retail, all dairy products	1982-84=100	180.2	182.4	181.5	188.0	191.5	194.5	198.5	203.0	207.5	211.5	216.5	221.5

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

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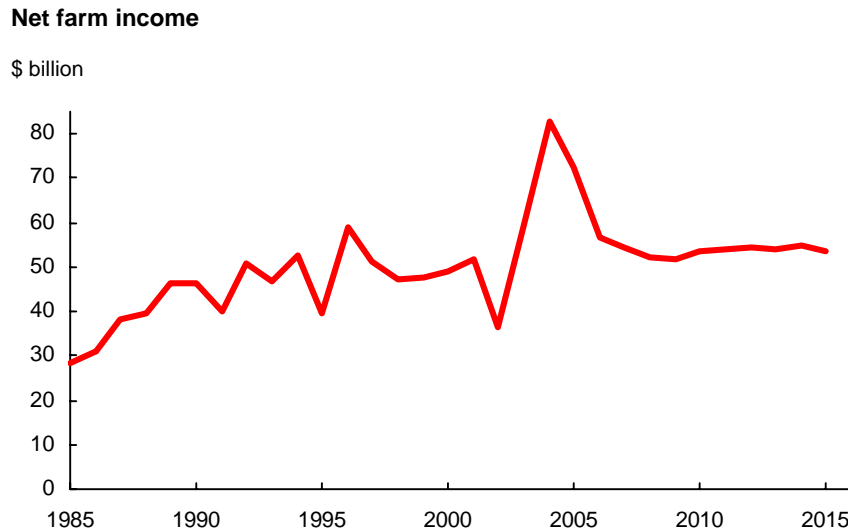
Net farm income falls over the next several years from the historically high levels in 2004 and 2005, and then stabilizes over the remainder of the projections.

- 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
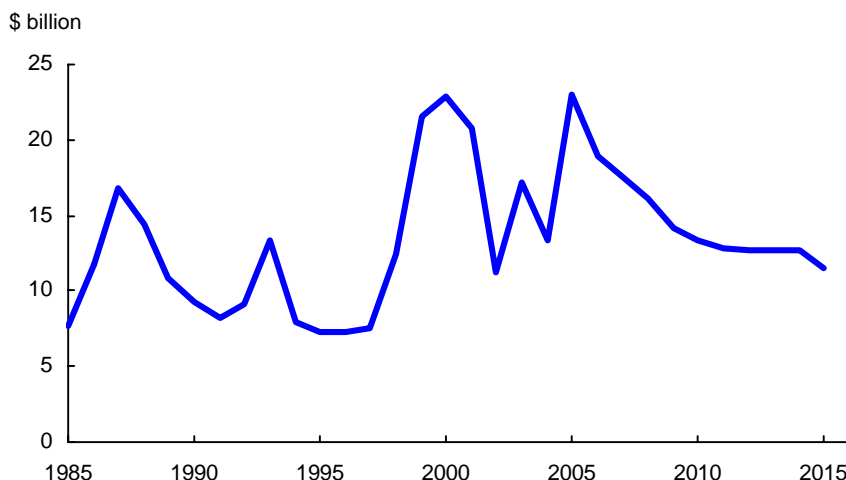
$ billion

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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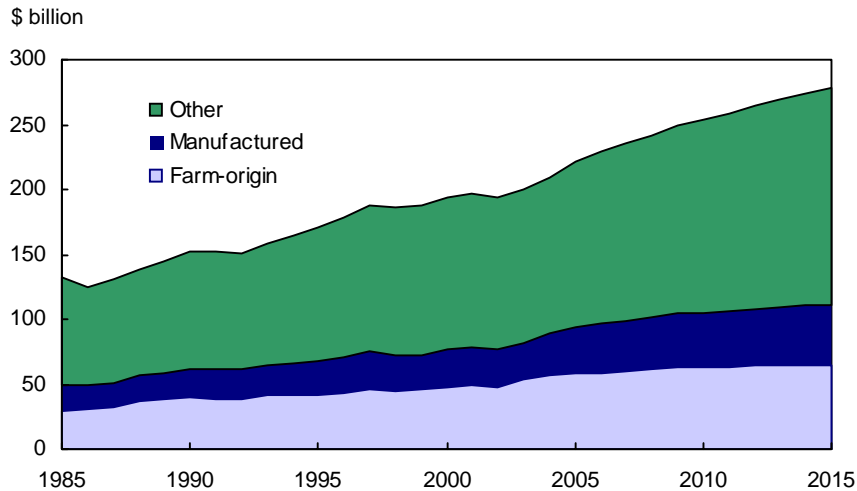**Projected Government Payments Reflect Stochastic Estimation Procedure**--continued

Comparison of marketing loan benefit estimates for corn

$ billion

Stochastic
marketing loan benefits

Deterministic
marketing loan benefits

Deterministic season average price
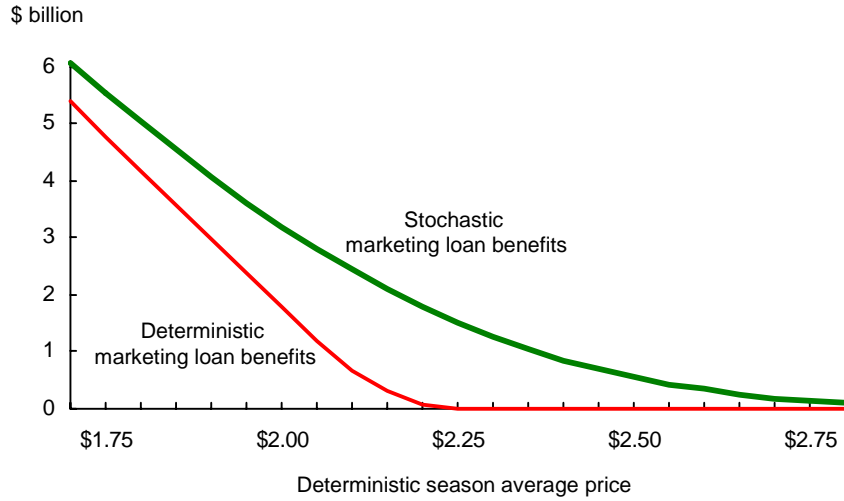
Comparison of counter-cyclical payment (CCPs) estimates for corn

$ billion

Deterministic
CCPs

Stochastic
CCPs

Target price minus
direct payment rate
($2.63 minus $0.28 = $2.35)

Loan rate
($1.95)

Deterministic season average price

USDA Baseline Projections, February 2006   **63**

Farm production expenses

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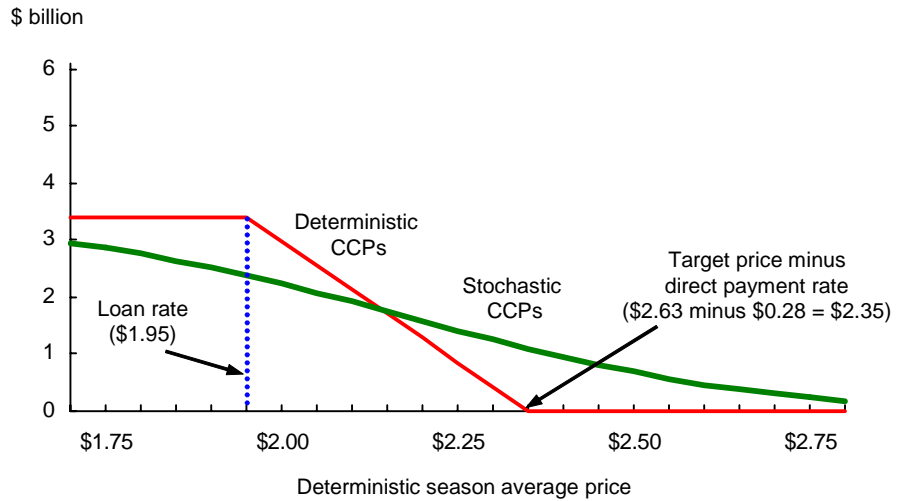
Total production expenses increase at near the general inflation rate in the projections. These expenses are divided into three categories in the chart above: farm-origin (seed, feed, and feeder livestock), manufactured (fuel, fertilizer, pesticides, and electricity), and other (labor, interest, and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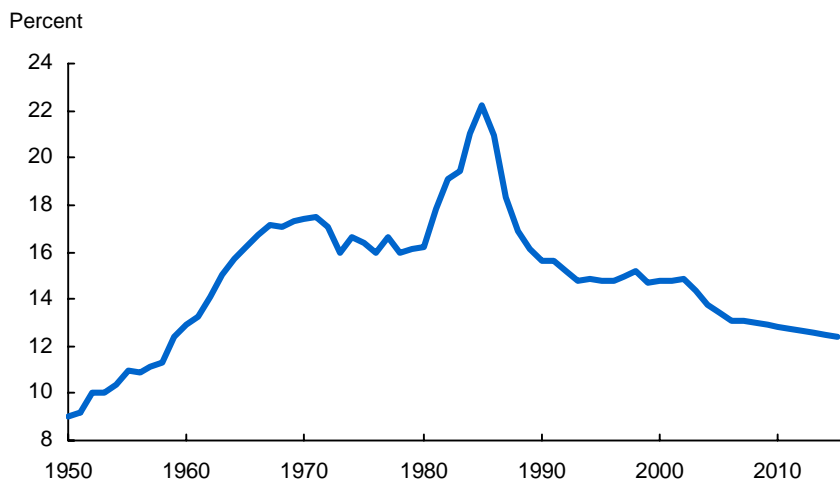
Percent

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.

Food inflation

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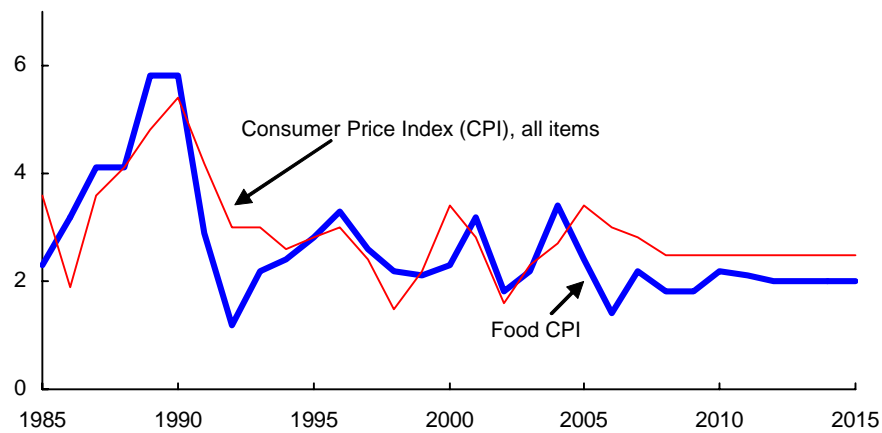
Retail food prices are projected to increase less than the general inflation rate.

- 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

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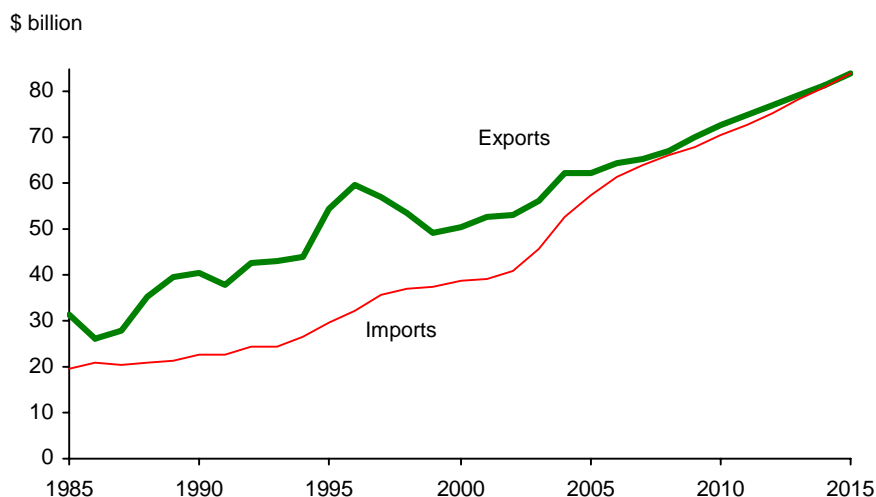
The value of U.S. agricultural exports rises in the baseline due to increasing global income and food demand, which raise both export volumes and prices. Strong domestic economic growth and consumer demand also boost imports throughout the projections, continuing to reflect U.S. consumer preferences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

Table 30. Farm receipts, expenses, and incomes in 1996 dollars

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

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

Table 33. Summary of U.S. agricultural trade projections, fiscal years

	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
						Billion dollars						
Agricultural imports:												
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.

Agricultural Trade

With strong world economic growth, global agricultural trade is projected to rise throughout the baseline. Agricultural trade will remain very competitive, reflecting expanding production in a number of foreign countries.

The growing economies of developing countries provide a foundation for gains in demand for agricultural products and increases in trade. Broad-based economic growth and increasing urbanization lead to diet diversification in most developing regions, generating increased demand for livestock products and feeds, as well as for fruits, vegetables, and processed products. Developing-country import demand is further reinforced by population growth rates that remain nearly double the growth rates of developed countries.

International trade in animal products, however, remains heavily dependent on demand from developed countries and from market access achieved under existing global trade agreements. Trade is also affected by disease-related concerns such as bovine spongiform encephalopathy (BSE), avian influenza (AI), and foot-and-mouth disease (FMD). Strong policy support for domestically produced meat is expected to motivate growth in feed grain trade, especially to those regions where limited land availability or agroclimatic conditions preclude expanding domestic crop production, such as North Africa, the Middle East, and East and Southeast Asia.

Strong competition is expected in international commodity markets, not only from traditional exporters such as Argentina, Australia, and Canada, but also from countries that are making significant investments in their agricultural sectors, including Brazil, Russia, Ukraine, and Kazakhstan.

Rapid expansion of ethanol and biodiesel production in some countries is projected to have a significant impact on global demand for corn and vegetable oils and on world price relationships. The continued expansion of oilseed crushing capacity in a number of countries is expected to augment the demand for oilseeds more than for protein meals and vegetable oils.

Baseline trade projections to 2015 are founded on assumptions concerning trends in foreign area, yields, and use, and on the assumption that countries comply with existing bilateral and multilateral agreements affecting agriculture and agricultural trade. The baseline incorporates the effects of trade agreements and domestic policy reforms in place or signed by November 2005.

Domestic agricultural and trade policies in individual foreign countries are assumed to continue to evolve along their current paths, based on the consensus judgment of USDA's regional and commodity analysts. In particular, economic and trade reforms underway in many developing countries are assumed to continue. Similarly, the development and use of agricultural technology and changes in consumer preferences are assumed to continue evolving based on past performance and analysts' judgments regarding future developments.

Global trade: Wheat, coarse grains, and soybeans and soybean products

Million metric tons
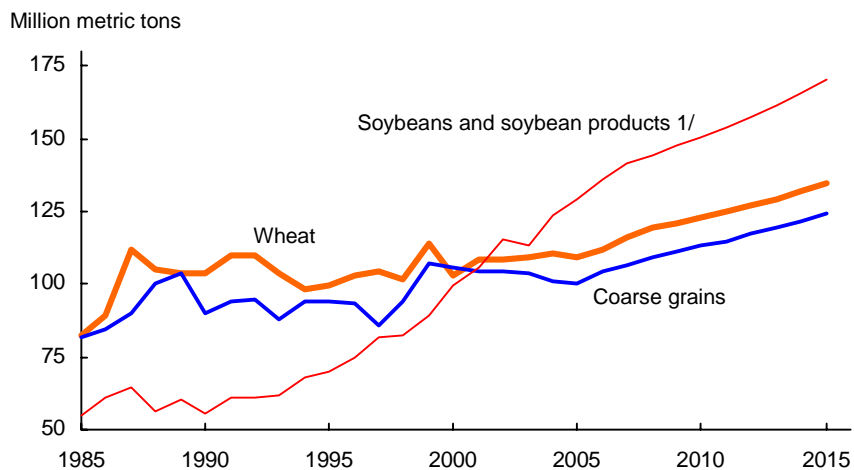
1/ Soybeans and soybean meal in soybean-equivalent units.

Rising unabated since the early 1990s, global trade in soybeans and soybean products has surpassed wheat—the traditional leader in agricultural commodity trade—and total coarse grains (corn, barley, sorghum, and other). Continued strong growth in global demand for vegetable oil and protein meal is expected to maintain soybean and soybean-product trade well above wheat and coarse grains trade throughout the next decade.

- These three major commodity groupings—wheat, coarse grains, and oilseeds (including soybeans)—compete with each other and with other crops for increasingly limited temperate cropland. However, previously uncropped land in tropical regions of Brazil and Indonesia is being converted to soybean and palm oil production.

- Virtually no growth in overall global wheat and coarse grain trade occurred in the 1990s, largely reflecting reductions in imports by the former Soviet Union (FSU) and Central and Eastern Europe (CEE). In the coming decade, overall gains in global grain trade come from a broad range of countries, particularly from developing countries in Africa and the Middle East.

- In the projections, total area planted to all crops changes little in most countries other than Brazil, Argentina, and Indonesia. Growth in global production is derived mostly from rising yields. The growth rate in crop yields has slowed somewhat during the last several decades and is projected to continue to do so.

- Slower growth in aggregate crop production is offset by slower growth in world population. Nonetheless, population is a significant factor driving overall growth in demand for agricultural products. Additionally, rising per capita income in many countries generates growth in demand for vegetable oils and livestock and horticultural products.

Global wheat imports

Million metric tons
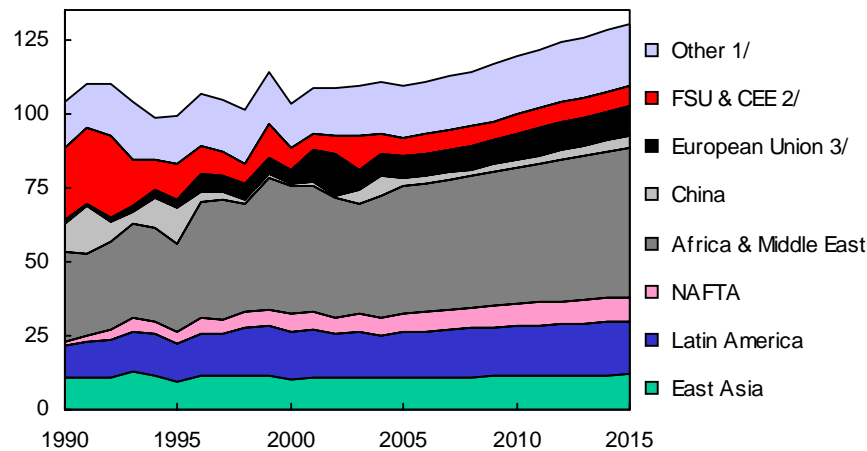
1/ Predominantly South and Southeast Asia.
2/ Former Soviet Union and Other Europe; prior to 1999, includes Czech Republic,
Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.
3/ EU-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Growth in wheat imports is concentrated in those developing countries where robust growth in income and population underpins increases in demand. Important growth markets include Sub-Saharan Africa, Brazil, Mexico, and Egypt. World wheat trade (including flour) expands by 20 million tons (18 percent) between 2006 and 2015 to more than 130 million tons.

- Egypt maintains its position as the world's largest importing country, as imports climb slowly to nearly 9 million tons. Imports by Brazil, another large importer, are projected to surpass 7 million tons. Brazil's climate does not favor wheat, and in some key wheat-producing states, winter corn is expected to have better returns than wheat.

- Imports by developing countries in Sub-Saharan Africa, North Africa, and the Middle East rise 7 million tons and account for nearly 40 percent of world wheat trade. In most developing countries, little change in per capita wheat consumption is expected but imports expand modestly because of population growth and limited potential to expand production. Nigeria has emerged as a major wheat importer.

- Changing consumption patterns will boost the wheat imports of some major developing countries. In Indonesia, diversification of diets and strong economic growth are projected to increase per capita wheat consumption. Mexican consumers are projected to continue substituting wheat for corn in their diets.

- Stocks of low-quality wheat are large at the beginning of the projection period. Low prices for this feed-quality wheat during the next couple of years, and lower wheat-to-corn price ratios during most of the projection period, enable wheat to compete effectively with corn for feed use in a number of countries. South Korea, for example, is projected to substitute 1 million tons of feed wheat for corn annually by 2015.

Global wheat exports

Million metric tons
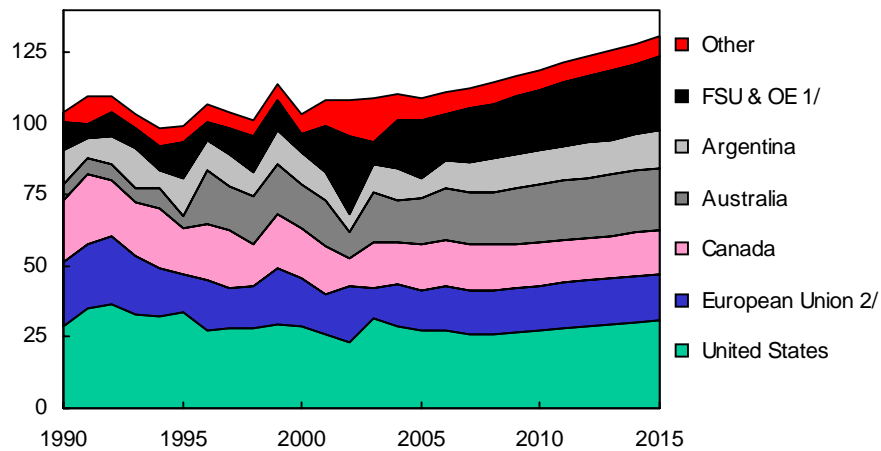
1/ Former Soviet Union and Other Europe; prior to 1999, includes Czech Republic,
Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.
2/ EU-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

The top five wheat exporting nations (the United States, Australia, the European Union (EU), Canada, and Argentina) account for about 75 percent of world trade from 2006 through 2015. This is down from the average of 85 percent during the latter part of the 1990s, mostly due to increased exports from the Black Sea area. U.S. wheat exports are projected to account for about 23 percent of global wheat trade, down from 25 percent in recent years.

- Shares of the world wheat market held by Canada, the EU, and the United States decline slightly, offsetting increases by Australia, Argentina, Ukraine, and Kazakhstan.

- In Canada, increased demand for barley and oilseeds is expected to cause wheat area to decline, which causes Canadian exports to trend slowly downward.

- The EU lowered the set-aside rate from 10 percent to 5 percent in 2004 in response to the drought-reduced 2002 crop and low stock levels. These projections assume that the set-aside rate reverts back to 10 percent for the duration of the projections.

- Russia, Ukraine, and Kazakhstan have become significant wheat exporters in recent years. Low costs of production and investment in their agricultural sectors have enabled their world market share to climb to 14 percent in recent years. Exports from Ukraine and Kazakhstan are projected to continue gaining market share, more than offsetting a slight decline in the share held by Russia. However, because of the region's weather extremes, high year-to-year volatility in production and trade can be expected.

- Exports by Turkey, China, and other minor exporters trend slowly downward during the projection period.

- Although India has exported some wheat in recent years, exports are expected to cease as stocks are drawn down.

Global coarse grain trade, by type

Million metric tons
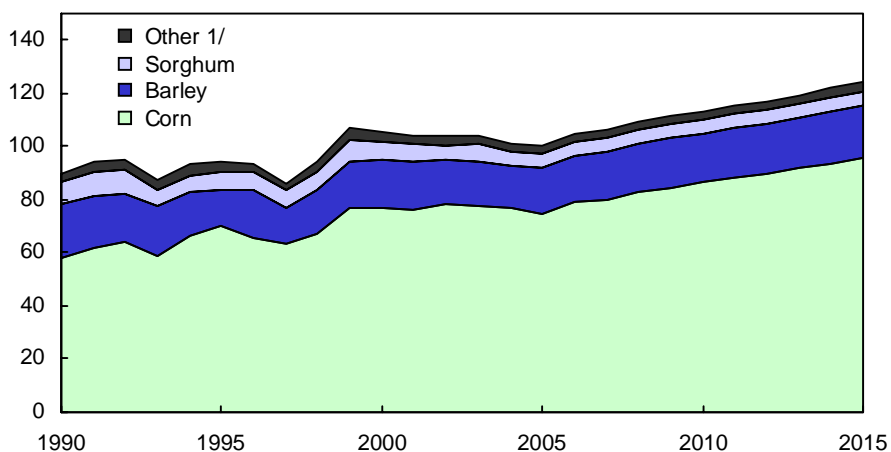
1/ Includes rye, oats, millet, and mixed grains.

Growth in trade of coarse grains is strongly linked to expansion of livestock activities in regions unable to meet their own forage and feed needs. Key growth markets include Mexico, North Africa and the Middle East, China, and Southeast Asia.

- Corn is the dominant feed grain traded in international markets. Corn accounts for an average of 76 percent of all coarse grain trade through the projection period, followed by barley (16 percent), and sorghum (5 percent).

- The commercialization of livestock feeding has been a driving force behind the growing dominance of corn in international feedgrain markets as well as the gains in global protein meal markets. Hogs and ruminants, such as cattle and sheep, are capable of digesting a broad range of feedstuffs, making demand relatively price-sensitive across alternate feed sources. However, as pork and poultry production become increasingly commercialized, higher quality feeds are used.

- World coarse grain trade is projected to increase about 2 percent a year, with corn accounting for a growing share. Mexico's composition of imports accounts for most of the shift. Following the 2002 and 2003 drop in U.S. sorghum production and exportable supplies, Mexico's imports of kibbled corn (processed corn that is tariff free) rose sharply, reaching a record 2.6 million tons (whole-corn equivalent) in 2004/05. Under the North America Free Trade Agreement (NAFTA), Mexico's over-quota tariff on U.S. and Canadian corn is eliminated by 2008. As Mexico's over-quota tariff on corn imports is further reduced, Mexico's grain imports continue shifting from sorghum to corn. After 2008/09, kibbled corn imports are entirely replaced by whole-grain corn. Mexico's corn imports continue to rise through the rest of the projections, while sorghum imports resume growth after 2011/12.

Global coarse grain imports

Million metric tons
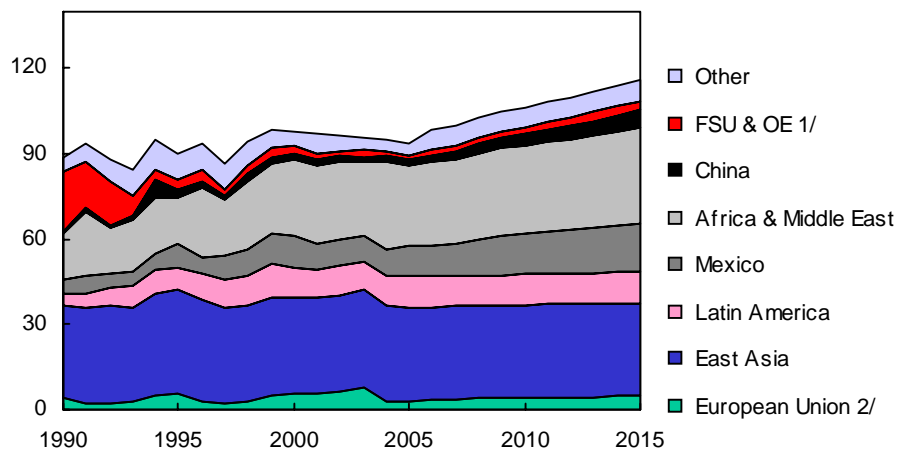
1/ Former Soviet Union and Other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.
2/ EU-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

World coarse grain trade expands about 19 million tons (18 percent) from 2006 to 2015. About two-thirds of global coarse grain supplies are used as animal feed. Industrial uses, such as starch, ethanol, and malt production, are relatively small but growing. Food use of coarse grains, concentrated in parts of Latin America, Africa, and Asia, has generally declined over time as consumers tend to shift consumption toward wheat, rice, and other foods as their incomes rise.

- Steady longrun growth in the livestock sectors of developing countries in Asia, Latin America, North Africa, and the Middle East is projected to account for most of the growth in world imports during the next decade.

- Mexico's corn imports are projected to rise from 7.3 million tons in 2006 to more than 13 million tons in 2015. Imports will be stimulated by rising poultry production and a steady reduction in Mexico's over-quota tariff on corn imports from the United States to zero by January 1, 2008. Some corn imports will substitute for imports of sorghum, which already have tariff-free status.

- North Africa and the Middle East experience continued growth in import demand for grain and protein meals through 2015, as rising populations and increasing incomes sustain strong demand growth for domestically produced animal products.

- Increasing meat imports will limit coarse grain imports in Japan, South Korea, and Taiwan. By 2015, low-priced feed wheat is projected to replace about 1 million tons of South Korean corn imports.

- The EU's imports of corn from other Eastern European countries, particularly Romania and Bulgaria, are expected to increase as the latter countries prepare for accession to the EU.

Global corn exports

Million metric tons
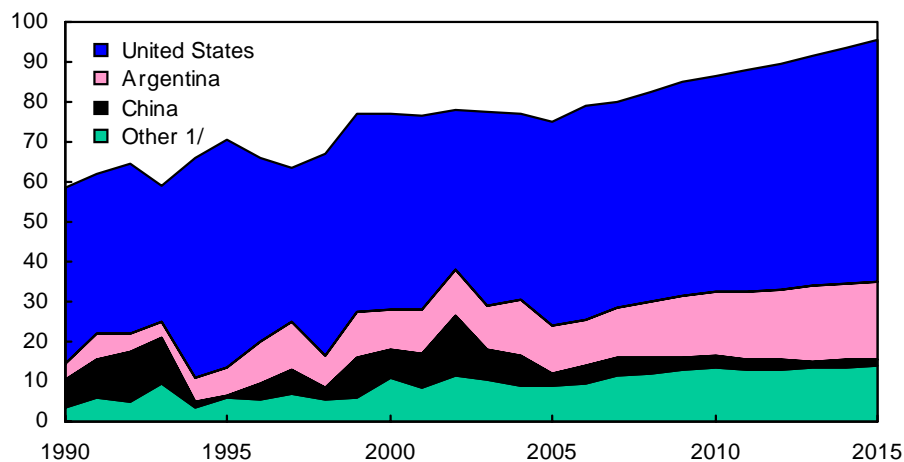
1/ Republic of South Africa, Brazil, EU, former Soviet Union, and others.

The United States dominates world trade in coarse grains, particularly corn. However, increasing use of corn for U.S. ethanol production is assumed to limit export growth. The U.S. corn sector faces increased competition from exports by non-EU Eastern Europe, Argentina, and Brazil. Still, the U.S. share of world corn trade is projected to grow from 60 percent in recent years to 63 percent by 2015 as few countries have similar capability to respond to rising international demand for corn.

- Argentina, with a small domestic market, remains the world's second largest corn exporter. As Argentina's economy expands, investments and planted area gradually return to corn production over the baseline, with exports projected to rise from 11 million to 16 million tons. Argentina and other South American countries increase corn exports to Chile to support its expanding pork exports to South Korea.

- The Republic of South Africa continues exporting about 2 million tons of corn to its neighboring countries. Uncertainties associated with its land reform program are assumed to limit increases in production.

- Corn exports from non-EU Eastern European countries, primarily Romania and Bulgaria, rise to nearly 3 million tons by 2015. Favorable resource endowments, increasing economic openness, greater investment in their agricultural sectors, and preparation for joining the European Union are behind the projected gains in production and trade.

- Brazil's corn exports nearly double during the next decade, rising to 4.5 million tons, in response to higher corn-to-soybean price ratios. Brazil targets niche market demand for nongenetically modified (GM) grain. However, strong growth in domestic demand from its livestock sector limits more rapid expansion.

- China's corn exports decline in the baseline, reflecting strengthening domestic demand driven by its expanding livestock sector. It is assumed that Chinese policy will tend to favor importing soybeans rather than corn.

**China: Corn imports and exports**

Million metric tons
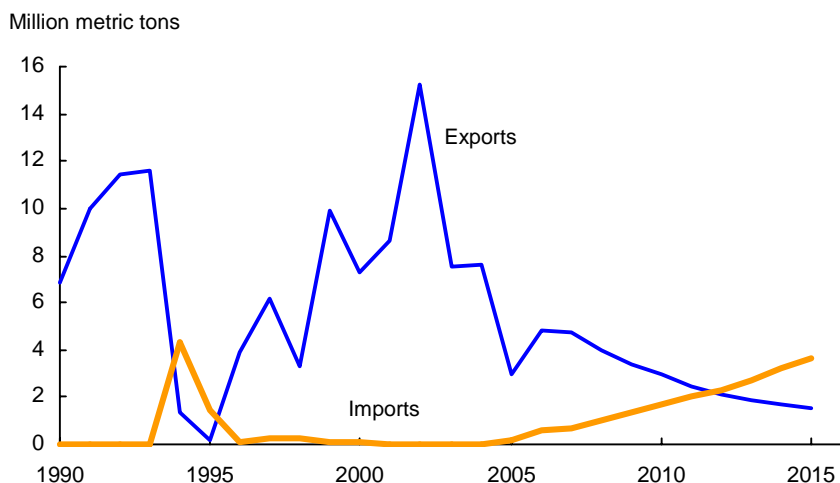
As more U.S. corn is used to produce ethanol, China is assumed to increase it corn production, slowing its decline in exports and its increase in imports. Nonetheless, China is projected to become a net corn importer in 2012/13 as demand for livestock feed overtakes China's internal supplies of corn. China continues to export corn throughout the projection period, although in declining amounts, due to regional supply and demand differences. Northern China runs a corn surplus, while southern China has a corn deficit.

- Corn is the favored crop in northeast China. Proximity to South Korea and other Asian markets provides a nearby source of demand, while various government measures— including waiver of certain transportation construction taxes, and a rebate of the value-added tax on exported corn—keep corn exports competitively priced in international markets. High ocean-freight rates raise the delivered cost of U.S. corn to Asian markets, another factor that keeps Chinese corn competitive. Shipments of corn from northeast China to the country's southern markets are limited by China's high internal transportation costs.

- China experienced a large buildup of corn stocks in the mid- to late 1990s due to a combination of favorable weather and local self-sufficiency policies that boosted grain production to record levels. In the last 6 years, China's corn consumption exceeded production, and stocks have declined sharply. Because a continued drop in stocks is unsustainable, China is projected to increase imports and reduce exports, and to eventually become a net corn importer, as livestock feeding continues to increase in response to income growth and rising meat demand.

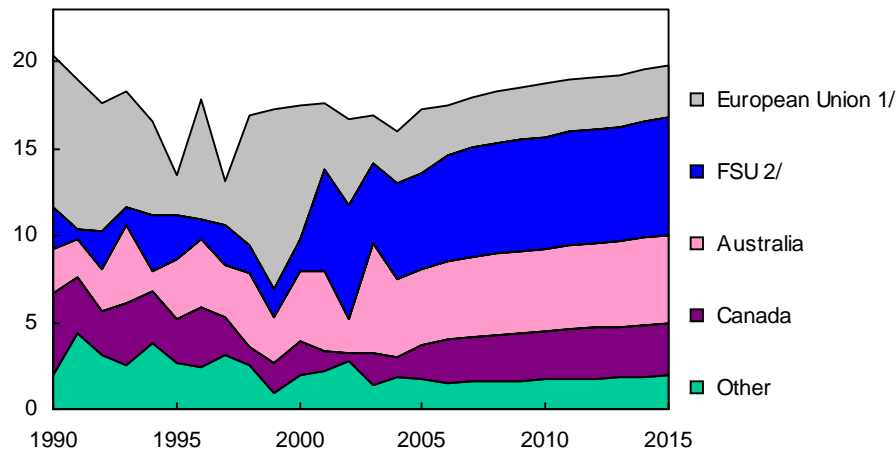**Global barley imports**

Million metric tons
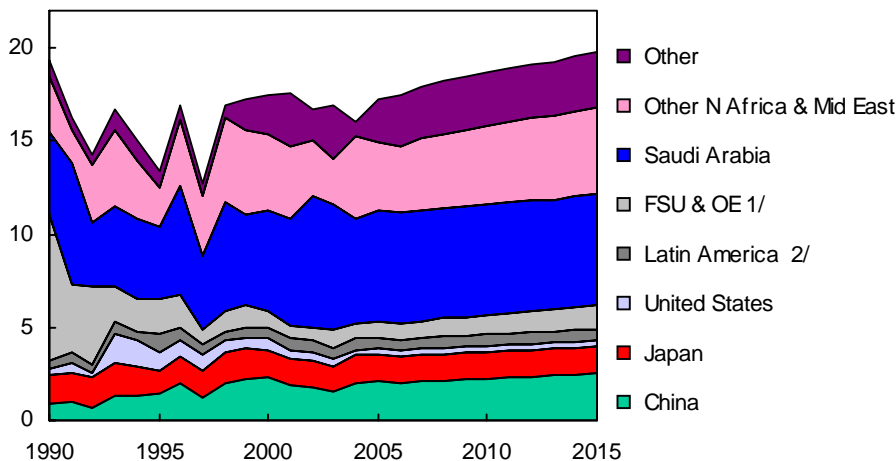
1/ Former Soviet Union and Other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.
2/ Includes Mexico.

Global barley trade expands throughout the baseline, driven by rising demand for both malting and feed barley.

- Feed barley imports by North African and Middle Eastern countries—where barley is preferred as a feed for large populations of camels, goats, and sheep—grow steadily through the period. In the mid-1990s, corn overtook barley as the principal coarse grain imported by these countries, due mainly to rising poultry production. This pattern is expected to continue through the projection period. However, the North Africa and Middle East region is expected to remain the world's largest barley importing area.

- Saudi Arabia—the world's foremost barley importer—accounts for over 30 percent of world barley trade through the baseline. Saudi Arabia's barley imports are used primarily as feed for camels, goats, and sheep.

- International demand for malting barley is boosted by strong growth in beer demand in many developing countries, notably China—the world's largest malting barley importer. China's beer demand is rising steadily due to growth in incomes and population. China's breweries use rice and other grains, as well as malting barley, which limits the growth in imports of malting barley. Expansion in China's brewing capacity is being aided by foreign investment in the industry. Australia and Canada are China's main sources of malting barley imports.

**Global barley exports**

Million metric tons

1/ EU-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.
2/ Former Soviet Union.

Historically, global barley exports have originated primarily from the EU, Australia, and Canada. However, Ukraine and, to a lesser extent, Russia, have emerged as important competitors in international feed barley markets and remain so throughout the baseline period.

- Barley production is expected to increase in the EU-25 as a result of Common Agricultural Policy (CAP) reform and EU enlargement. The abolition of EU intervention for rye, combined with higher barley prices in the acceding countries, will stimulate the allocation of more area to barley production. Within the enlarged EU-25, barley trade will rise. However, EU-25 exports to non-EU countries are projected to hover around 3 million tons over the projection period (16 percent of world trade).

- The FSU remains a major barley exporter throughout the baseline as exports exceed 5 million tons. Together, the FSU and EU-25 account for about 50 percent of world barley trade throughout the baseline.

- Malting barley is a different variety and quality than feed barley and commands a substantial price premium over feed barley. This premium is expected to influence planting decisions in Canada and Australia and, in both countries, malting barley's share of total barley area rises in the latter half of the projection period.

Global sorghum imports

Million metric tons
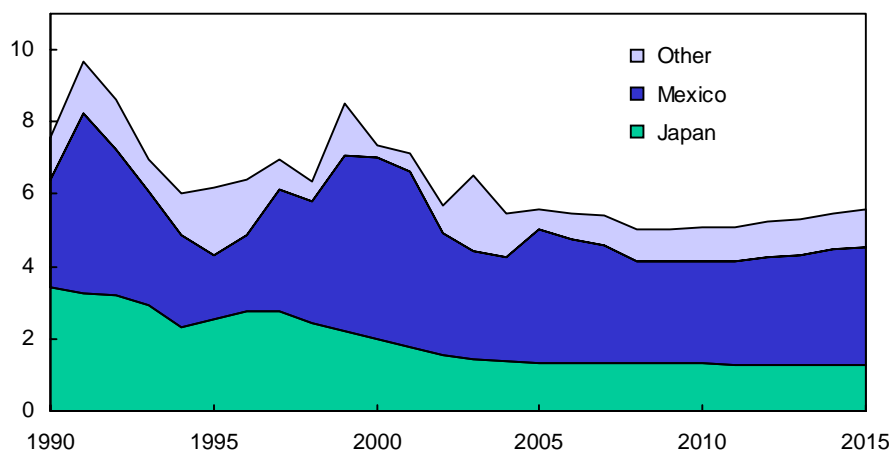
World sorghum trade, which averaged nearly 7 million tons during the last decade, declines to just above 5 million tons by the middle of the projection period before rising through the remainder of the baseline. This trade pattern is driven almost entirely by Mexico.

- Mexico is the world's leading sorghum importer, although its imports fell in 2002 and 2003 due to reduced U.S. production and exportable supplies. Since then, Mexico's sorghum imports have recovered somewhat. However, sorghum's share of Mexico's total coarse grain imports declined as imports of duty-free kibbled corn increased rapidly. Whole-grain corn imports also are rising as Mexico's over-quota tariff on U.S. and Canadian corn is reduced to zero by 2008. In the projections, Mexico's sorghum imports increase slightly in the later years, but remain around 3 million tons. Even at this reduced import level, Mexico is expected to account for more than 55 percent of world imports.

- Japan imports a fairly constant volume of sorghum (1.3 million tons) throughout the period to maintain diversity and stability in its feed grain supplies.

- The United States is the largest exporter of sorghum, accounting for about 80 percent of world trade in recent years. During the projection period, the U.S. share declines slightly as its sorghum exports to Mexico account for a smaller share of world trade.

- The primary sorghum markets for Argentina, the world's second largest exporter, are Japan, Chile, and Europe. In Argentina, prices and profitability favor planting other crops, particularly soybeans and corn, so sorghum exports only rise slightly during the projection period.

- Brazil has begun to export small quantities of sorghum and the volume is projected to rise during the projection period. Because of special soil characteristics in the Campos Cerrado region of Brazil, sorghum is increasingly planted between crops of soybeans or cotton to protect soils from the negative effects of solar radiation.

Global exports: Soybeans, soybean meal, and soybean oil
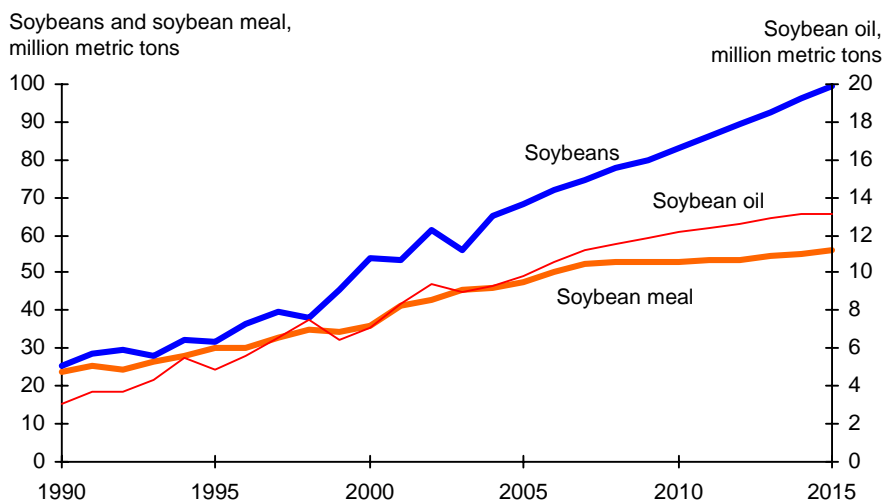
Soybeans and soybean meal, million metric tons / Soybean oil, million metric tons


Strong income and population growth in developing countries generates increasing demand for vegetable oils for food consumption and for protein meals used in livestock production. World soybean trade grows at an average annual rate of 3.6 percent through the projection period, compared with rates of 2.8 and 2.2 percent for soybean oil and soybean meal.

- Many countries with limited opportunity to expand oilseed production continue investment in oilseed crushing capacity, such as China and some countries in North Africa, the Middle East, and South Asia. As a result, import demand for soybeans grows faster than for either soybean meal or soybean oil throughout the baseline. However, strong competition in international protein meal markets is expected to pressure crushing margins and shift some of the import demand for oilseeds to cheaper meals. The steady competitive pressure of new oilseed crushing capacity is expected to result in some inefficient crushers going out of business.

- China's expansion of domestic crushing capacity instead of importing protein meal and vegetable oil significantly influences the composition of world trade by raising international import demand for soybeans and other oilseeds rather than for soybean products.

- Brazil's rapidly increasing soybean area enables it to gain a larger share of world soybean and soybean meal exports, despite increasing domestic feed use. Its share of world exports of soybeans plus the soybean equivalent of soymeal exports rises from about 32 percent in recent years to 45 percent by 2015.

- The expansion in Argentine soybean area slows as incentives to grow corn and sunflower seed improve and conversion of new farmland approaches its practical limits.

Global soybean imports

Million metric tons
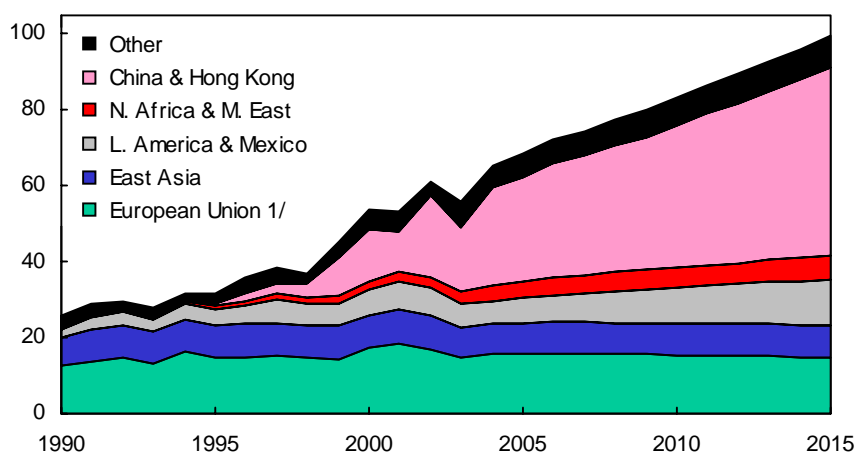
1/ European Union-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003,
Slovenia before 1992.

- The EU has been the world's leading importer of soybean meal, and until 2002, of soybeans. However, increases in grain and rapeseed meal feeding are expected to continue to slow the growth in EU soybean and soybean meal imports. Increased barley production due to 2003 CAP reforms, greater supplies of coarse grains from acceding countries, and more rapeseed meal available as a result of the biofuels initiative, combine to slow the growth of soybean meal consumption. These factors are only partially offset by an increase in the dairy quota that would increase soybean meal feeding.

- China will face policy decisions regarding tradeoffs in producing or importing corn and soybeans. The baseline projections assume that Chinese policies will tend toward maintaining domestic corn production and importing soybeans. Thus, China accounts for over 70 percent of the world's 27-million-ton growth in soybean imports over the next 10 years. Significant investments in oilseed crushing infrastructure by China drive strong gains in soybean imports as China seeks to capture the value added from processing oilseeds into protein meal and vegetable oil.

- East Asia's trade outlook is dominated by a continuing shift from importing feedstuffs to importing meat and other livestock products. As a result, the growth in this region's import demand for protein meal and oilseeds slows over the baseline. This process occurs most noticeably in Japan.

- As Argentina seeks to operate its expanding crushing facilities at full capacity, it is projected to increase its soybean imports from Brazil and other South American countries to nearly 3 million tons a year by the end of the period.

Global soybean exports

Million metric tons
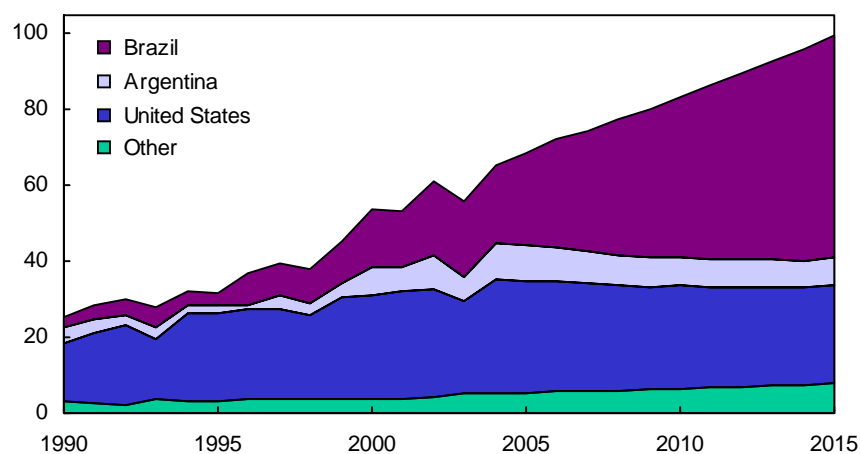
- The three leading soybean exporters—the United States, Brazil, and Argentina—account for more than 90 percent of world trade throughout the baseline.

- With continuing area gains, Brazil maintains its position as the world's leading exporter of soybeans and soybean products. Although combating soybean rust disease increases production costs, soybeans remain more profitable than other crops in most areas of Brazil. It has been assumed that some land in southern Brazil will shift from oilseed to corn production during the middle of the projection period in response to higher corn prices and more limited competition from U.S. corn exports. Still, with expanded soybean plantings in the Central West, the growth rate for Brazil's soybean planted area is projected to average nearly 4 percent a year, reaching about 30 million hectares by 2015.

- In the United States, projected declines in soybean acreage and increased domestic crush limit exportable supplies.

- Argentina's export tax structure favors domestic crushing of whole seeds and exporting the products. To more fully utilize its large and expanding crushing capacity, while diverting some land to corn production and exports, it is assumed that Argentina will import some soybeans from Brazil, Paraguay, Uruguay, and Bolivia. Argentina's soybean exports hold steady at about 7 million tons.

Global soybean meal imports

Million metric tons
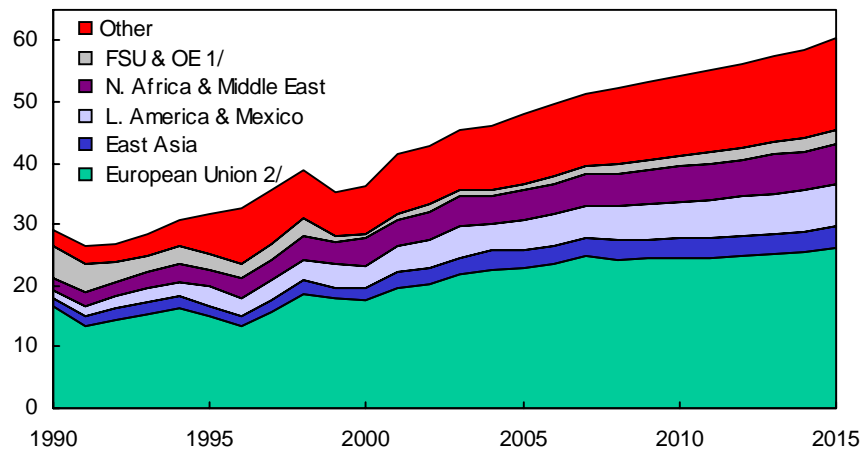
1/ Former Soviet Union and Other Europe; prior to 1999, includes Czech Republic,
Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.
2/ EU-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

- Despite increased domestic feeding of grains, the EU remains the world's principal destination for soybean meal throughout the projection period. Lower import prices for meal relative to soybeans pressure crush margins, curtailing soybean imports in favor of soybean products.

- The North Africa and Middle East region becomes a larger importer of soybean meal in the projections as the demand for livestock feed boosts import demand in a number of countries.

- Latin America, Southeast Asia, and the former Soviet Union remain important growth markets for soybean meal, provided avian influenza can be controlled.

- Mexico's strong growth in demand for protein feed and vegetable oils is projected to continue. The crushing industry is also expected to continue expansion. This will boost soybean imports but slow the growth in soybean meal imports.

Global soybean meal exports

Million metric tons
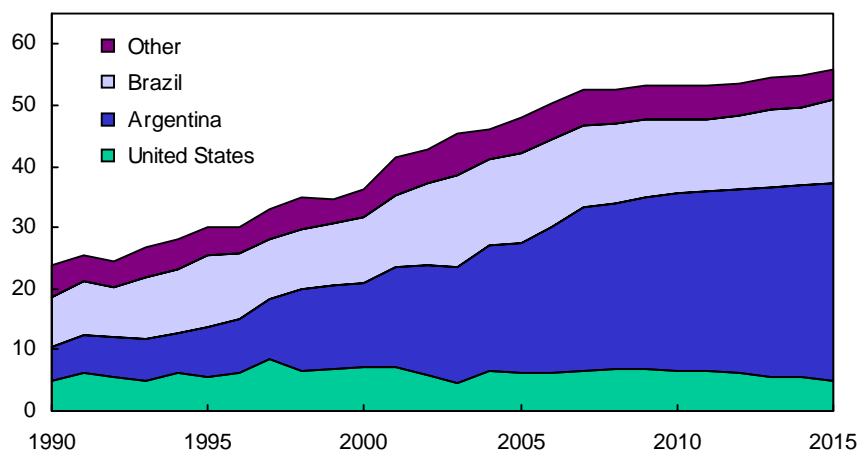
- Argentina, Brazil, and the United States remain the three major exporters in international protein meal markets.

- Argentina, the world's largest exporter, increases its share of soybean meal exports from less than 45 percent in recent years to more than 53 percent in the latter portion of the projection period. The export shares of Brazil, the United States, and other exporters fall. Argentina maintains high utilization of its growing crushing capacity and continues to expand soybean meal exports by importing soybeans from Brazil and other South American countries.

- In Brazil, strong growth in domestic meal consumption due to rapid expansion of the poultry and pork sectors limits increases in soybean meal exports. Also, domestic soybean crushing capacity is not expected to grow as fast as soybean meal consumption

- Significant expansion in domestic crushing in China and large imports of oilseeds in the baseline result in Chinese soybean meal exports rising to more than 1 million tons annually by the end of the projections. China's exports, along with small increases in exports from South America, keep international protein meal markets very competitive.

- The EU continues to be a small but steady exporter of soybean meal to Russia and other East European countries. India remains an exporter, although export volume declines as domestic use, especially for poultry feed, rapidly expands.

Global soybean oil imports

Million metric tons
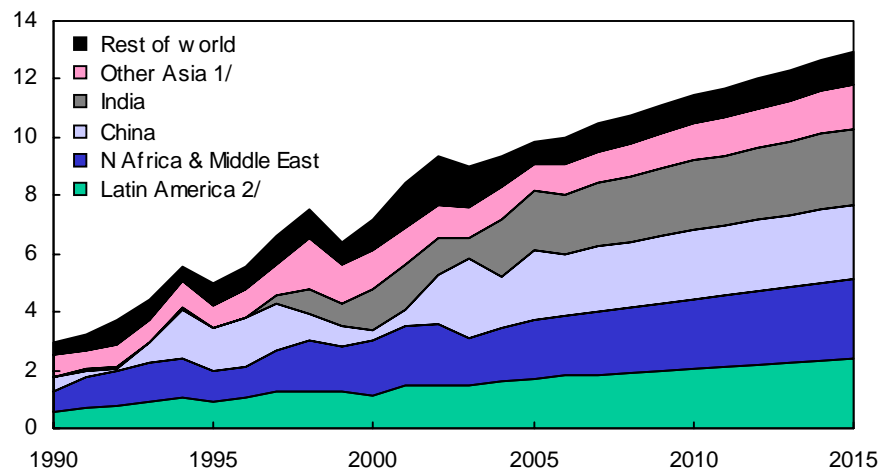
1/ Asia less India and China. 2/ Includes Mexico.

- Import demand for soybean oil rises in nearly all countries and regions. Although India and China remain the world's largest importers, income and population growth in the North Africa and Middle East region and in Latin America (particularly Central America and the Caribbean) drive more rapid gains in soybean oil imports.

- In India, lower tariffs on soybean oil (held in check by World Trade Organization (WTO) tariff-binding commitments) compared with tariffs for other vegetable oils support continued large imports of soybean oil. Other factors that contribute to India becoming the world's largest soybean oil importer include burgeoning domestic demand for vegetable oils and limitations on domestic production of oilseeds. Low yields, associated with erratic rainfed growing conditions and low input use, inhibit growth of oilseed production in India.

- In China, growing demand for high-quality vegetable oils outpaces domestic oil production and fuels a small expansion in soybean oil imports. Land-use competition from other crops constrains area planted to vegetable oil crops in China.

Global soybean oil exports

Million metric tons
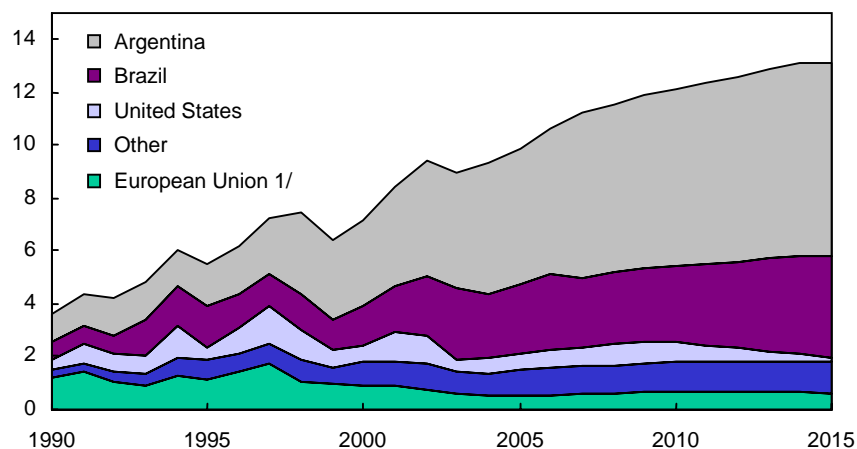
1/ European Union-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

A strong emphasis on exporting soybean products pushes Argentina's and Brazil's combined share of world soybean oil exports from less than 80 percent in recent years to about 85 percent by the end of the baseline.

- Argentina is the leading exporter of soybean oil, reflecting the country's large crush capacity, its small domestic market for soybean oil, and an export tax structure that favors the exports of products rather than soybeans. Increases in crush and soybean oil exports are supported by gains in Argentine soybean production due to extensive double-cropping, further adjustments to crop-pasture rotations, and the addition of marginal lands in the northwest part of the country. Argentina also increases soybean imports from other South American countries in order to more fully utilize its crushing capacity.

- Brazil's expansion of soybean production into new areas of cultivation enables it to increase both its volume of soybean oil exports and its share of world trade.

- The European Union and the United States remain the world's next largest soybean oil exporters throughout the baseline, although their export volumes and shares of world trade continue a downward trend. In the EU, exportable supplies of vegetable oils are limited by the growth in biodesel.

Global rice imports

Million metric tons

1/ European Union, former Soviet Union, and Other Europe. 2/ Includes Mexico.
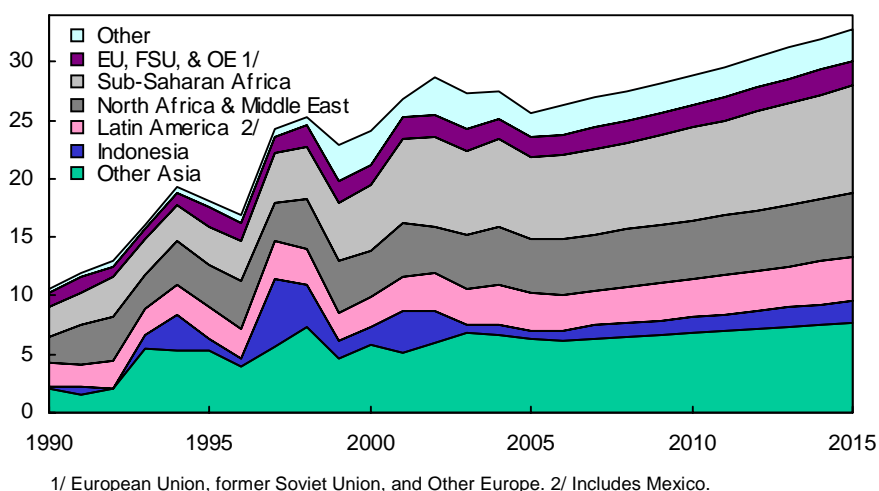
Global rice trade is projected to grow 2.5 percent per year from 2006 through 2015. By 2015, global rice trade is projected to reach nearly 33 million tons, nearly 15 percent above the record set in 2002.

- Long-grain varieties account for around three-fourths of global rice trade and are expected to account for the bulk of trade growth over the next decade. Long-grain rice is imported by a broad spectrum of countries in South and Southeast Asia, much of the Middle East, nearly all of Sub-Saharan Africa, and most of Latin America. Indonesia, Nigeria, Iran, Iraq, the Philippines, and Saudi Arabia are typically the top long-grain import markets.

- Medium- and short-grain rice account for 10-12 percent of global trade, with Japan, South Korea, Taiwan, Turkey, and Jordan the major importers. Expansion in medium-grain rice trade is projected to be much smaller than for long grain. Among the Northeast Asian buyers, only South Korea is projected to increase purchases over the next decade. All rice imports by Japan, South Korea, and Taiwan are the result of commitments under the WTO.

- Aromatic rice, primarily basmati and jasmine, makes up most of the rest of global rice trade. Aromatics typically sell at a substantial price premium over long- and medium-grain varieties. Aromatics are imported mostly for high-income consumers.

- Indonesia and Bangladesh, two of the world's leading rice importing countries, will experience rising food demand due to growing populations. However, land constraints and already high cropping intensities indicate little opportunity for either country to significantly expand production. Thus, their imports are projected to increase over the next decade and account for 22 percent of the increase in rice trade.

- Sub-Saharan Africa and the Middle East are also major destinations for internationally traded rice. In both regions, strong demand growth is driven by rapidly expanding populations. But opportunities to expand production are limited due to constraints such as agroclimatic conditions in the Middle East and infrastructure deficiencies in Sub-Saharan Africa. Sub-Saharan Africa accounts for 30 percent of the increase in world rice trade during the projection period.

Global rice exports

Million metric tons
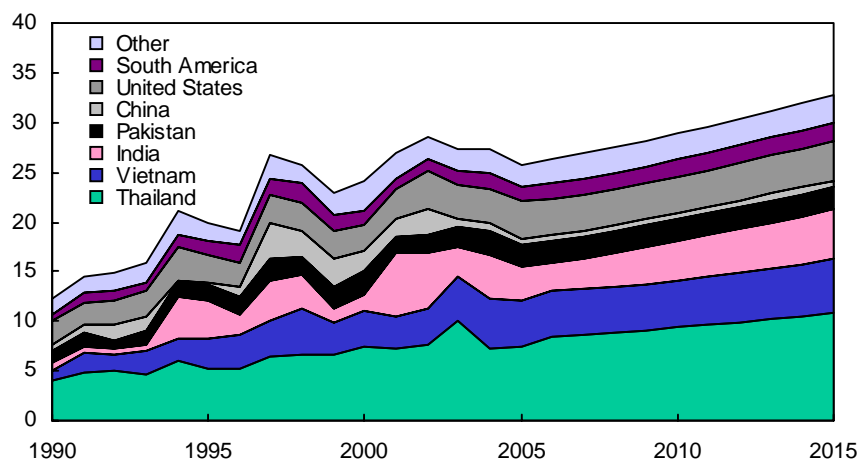
Asia remains the largest rice exporting region throughout the projection period.

- Thailand and Vietnam, the world's largest rice-exporting countries, account for nearly half of all rice exports in the baseline. Both countries produce and export primarily long-grain rice. Rising production, mostly due to higher yields, and declining per capita consumption, drive the expansion in exports from both countries.

- The United States is projected to remain the third largest rice-exporting country during the first half of the baseline. Rising domestic demand and a slower growth rate in yields constrains the expansion of U.S. rice exports.

- Midway through the baseline, India becomes the third largest rice exporter. India has been a major exporter since the mid-1990s, although export levels have been rather volatile, primarily due to fluctuating production and stock levels. Exports are projected to increase over the next decade as high internal prices stimulate production and exportable supplies. India exports both low-quality, long-grain rice and smaller quantities of high-quality basmati rice.

- In recent years, Pakistan has replaced China as the world's fifth-leading exporter. This is due primarily to declining exports from China rather than an increase in Pakistan's exports. Pakistan has little ability to expand rice area, and its agricultural sector is confronting a growing water shortage. Rice exports are stable at around 2.2 million tons. Pakistan exports both high-quality basmati and low-quality, long-grain rice.

- Rice exports from China have declined from over 2 million tons in most years during the half-decade ending in 2003 to less than 0.9 million tons during the last few years. Production growth is projected to be very slight during the next decade as higher yields are nearly offset by stagnant-to-declining area planted to rice. Consumption growth is negligible as declining per capita rice consumption offsets rising population. China exports high-quality, medium/short-grain rice to Northeast Asian markets and low-quality, long-grain rice to Sub-Saharan Africa and some lower-income Asian markets.

Global cotton imports

Million bales

1/ Includes Mexico. 2/ Malaysia, Philippines, Thailand, and Vietnam. 3/ Bangladesh, India, and Pakistan. 4/ European Union, former Soviet Union, and Other Europe.
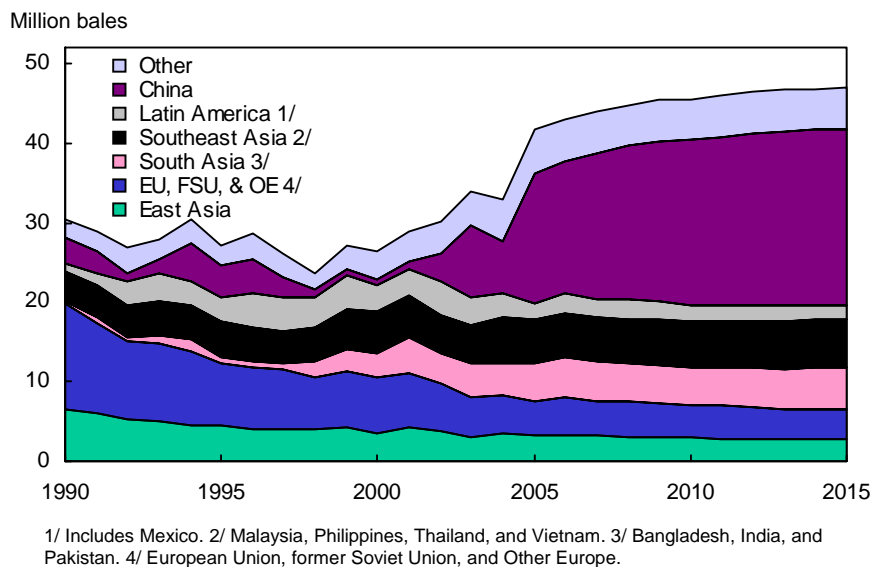
Completion of the Multi-Fiber Arrangement (MFA) phaseout at the end of calendar year 2004 eliminated the quotas that governed much of the world's trade in textiles and apparel for more than 30 years. These restrictions were removed per WTO commitments by the United States, the EU, and Canada, and their removal has been a major influence on world trade patterns in cotton, textiles, and apparel. For apparel production, labor costs are decisive in determining the location of production. As a result, textile production and raw cotton consumption will increase in countries where labor costs are low. High-cost labor markets in Europe and East Asia continue to reduce their cotton imports through the baseline.

- The textile industries in China, India, and Pakistan are the major beneficiaries of the MFA's elimination.

- China has been importing record amounts of cotton following the depletion of government stocks in 2003/04. Its cotton imports are expected to grow more slowly than the rapid increase since 2001. However, during the next decade, the increase in cotton imports by China is projected to more than offset the decline in imports by other countries, and China accounts for 46 percent of world imports by 2015.

- India's textile industry has been accelerating in recent years, but cotton use is not expected to grow as rapidly as in China, despite India's growing textile exports. India's export orientation and pace of income growth have generally lagged China's, limiting its growth in cotton consumption.

- In recent years, Turkey's textile industry has benefited from favorable trade access to the EU, its major export market for textiles and apparel. However, the end of the MFA quotas will now give lower cost competitors the same favorable access to EU markets. Turkey's cotton imports are projected to decline slowly over the next 10 years.

- The EU, Japan, Taiwan, and South Korea all steadily reduce their cotton imports as textile trade reforms and/or higher wages in these countries drive textile production to lower wage countries.

Global cotton exports

Million bales
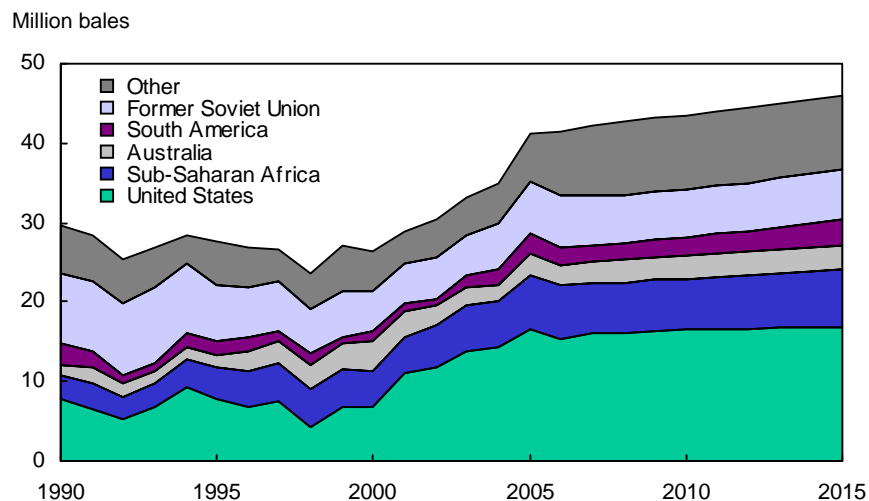
Globalization is expected to continue to move raw cotton production to countries where resource endowments and technology result in the lowest production costs. Land is a key input factor. Traditional producers with large land bases suitable for cotton production are expected to benefit from post-MFA trade patterns. Such producer/exporter regions include the United States, Sub-Saharan Africa, Australia, and Brazil.

- The United States continues as the world's leading cotton exporter throughout the baseline period, with annual exports remaining around 16 million bales. Exports dip to 15.5 million bales in 2006/07, but grow to almost 17 million bales by 2015/16.

- The Central Asian countries of the former Soviet Union have been the principal competitors of the United States in world raw cotton markets for the last decade. However, government policies in Central Asia promoting investment in textiles have increasingly resulted in exports of textile products rather than exports of raw cotton

- Sub-Saharan Africa has overtaken Central Asia as the principal competitor. Its cotton exports have risen in large part due to economic reforms. A large correction in the foreign exchange value of the currency of the major cotton exporting countries of West Africa in 1994 led to nearly a decade of growth in West Africa's cotton production. As West Africa's production gains began to lag at the end of the 1990s, several southern African countries began increasing their cotton production, aided by reforms such as ending marketing board monopolies. Continued increases in output are expected as producers take advantage of more export-oriented government policies.

- Improved Indian cotton crop yields, in part due to the adoption of GM cotton, have raised India's output in recent years, increasing exportable supplies. This is expected to continue in the early part of the projection period.

Meat exports 1/

Million metric tons

1/ Major exporters.
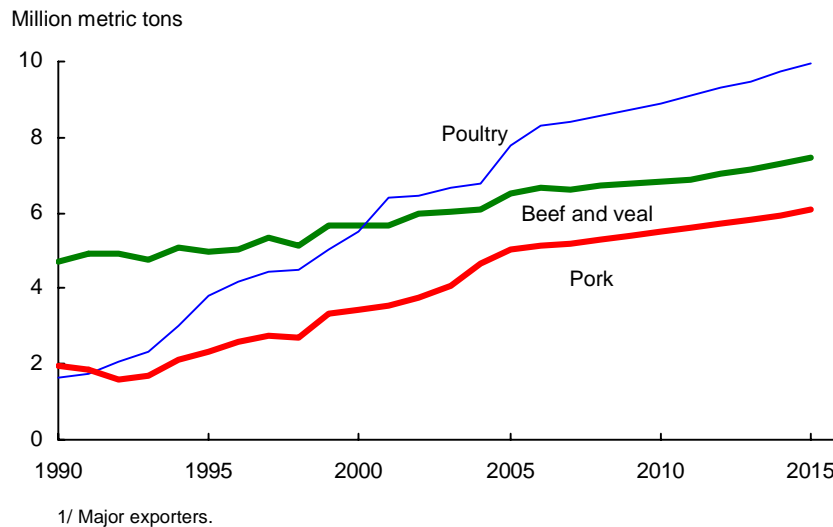
Increased market access achieved under global trade agreements was behind much of the gains in animal product trade over the past decade. During the baseline, per capita income growth in a broad number of importing countries is the driving force behind rising global meat demand. However, animal diseases remain a dampening force in world meat trade.

- BSE in Canada and the United States has resulted in changes in Canada's beef and live cattle exports to the United States. In 2004 and 2005, Canadian beef exports recovered all of the decline following its 2003 BSE case. Canadian exports to the United States of live cattle under 30 months of age are assumed to continue. Canadian beef exports, after an initial decline associated with the increase in live cattle exports, are projected to remain flat over the baseline period.

- EU enlargement results in greater shipments between the EU-15 and the acceding 10 countries and restrained trade of meat outside the EU-25. EU beef exports remain well below the annual WTO export-subsidy limit of 817,000 tons, as a stronger euro limits their competitiveness and policy changes lower beef production and the need to remove beef from the domestic market.

- Argentine exports rose sharply during the last 2 years. However, export taxes and other recent policy changes have made Argentina's exports less competitive. Beef exports are projected to decline throughout the baseline, but remain above their pre-2004 levels.

- The baseline assumes that Brazil does not gain nationwide FMD-free status. However, exports from Brazil's expanding pork sector are expected to be competitive in Russia and other price-sensitive markets, and in non-FMD-free markets.

- U.S. poultry exports face strong competition from other countries. Brazilian poultry production and exports rise rapidly, bolstered by low production costs and very competitive prices in international markets.

- Because of avian influenza, Thailand's exports of chilled and frozen poultry meat have been banned by importers. However, Thailand's exports of fully cooked poultry products have expanded rapidly and partially offset the loss of uncooked exports.

Beef and veal imports 1/

Million metric tons
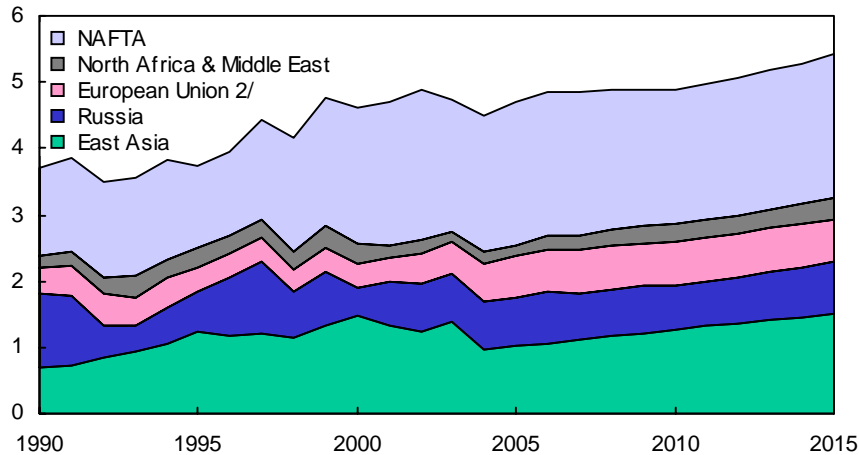
1/ Selected importers.
2/ EU-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Traditionally, beef trade occurred largely between developed countries. However, Brazil and India have become large exporters of lower quality beef that is imported by lower income countries and countries with less stringent import restrictions concerning FMD. The baseline assumes gradual recovery of U.S. and Canadian exports to Japan and South Korea.

- Higher income countries, such as Japan and South Korea, increase beef imports, reflecting domestic cattle sectors that are constrained by land availability. These imports are primarily of higher quality beef. U.S. beef exports to these countries are projected to rebuild. Overall imports by Japan and South Korea rise to levels attained prior to the U.S. BSE case in 2003, but the United States loses market share because of the increased presence of Australia and New Zealand in these markets.

- U.S. beef imports, primarily of grass-fed ground beef and other processed products from Australia and New Zealand, decline slightly through the period. However, rising Asian imports of beef from Australia and New Zealand enable these exporters to maintain their trade levels.

- Robust import growth of U.S. higher quality beef is projected for Mexico.

- The baseline assumes that Russia's tariff rate-quota (TRQ) for beef, first imposed in 2003, remains in effect until 2009. In the longer run, the growth in Russia's beef imports resumes as rising consumer demand outpaces gains in domestic production. Russia remains a large market for EU-subsidized beef exports as well as Brazilian beef.

Pork imports 1/

Million metric tons

1/ Selected importers.
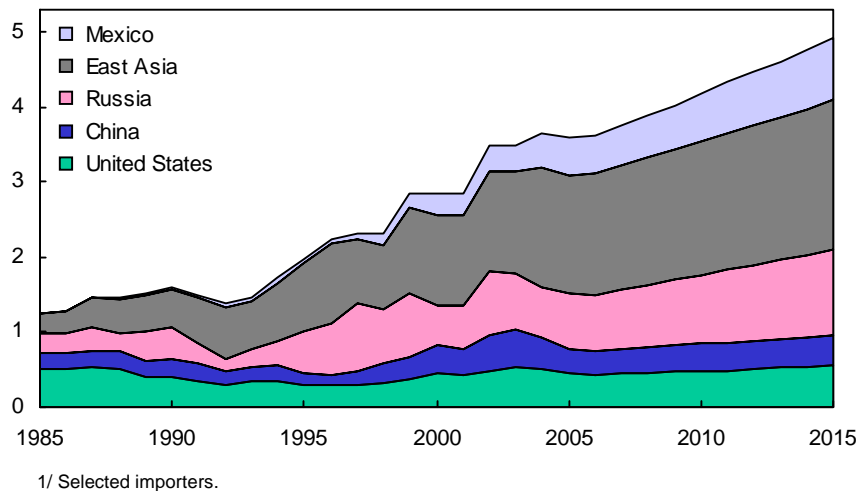
- Mexican pork imports increase nearly 400,000 tons between 2006 and 2015, making Mexico the fastest growing pork importer. Increases in income and population are the primary drivers of Mexico's increasing demand for pork products.

- Higher income countries of East Asia, such as Japan, Hong Kong, and South Korea, increase pork imports as their domestic hog sectors are constrained by environmental issues and imported feed costs. In South Korea and Japan, consumer concerns about BSE boost pork consumption and imports.

- As with beef, the baseline assumes that the TRQ that Russia imposed for pork in 2003 remains in effect until 2009. Although the TRQ initially lowers pork imports, Russia remains a major destination for competitively priced pork exports from the EU and Brazil as demand growth continues to exceed Russian meat producers' ability to respond.

- China's pork production and exports continue to rise rapidly. Although its imports also rise, China's net pork exports rise slightly during the projection period.

Poultry imports 1/

Million metric tons
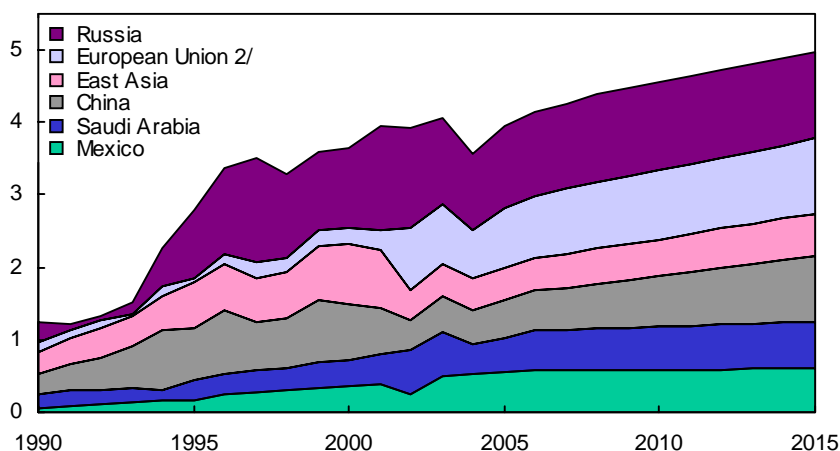
1/ Selected importers.
2/ EU-25 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

- Russia is expected to remain the world's largest poultry importer, with gains in consumer income fueling increased demand for poultry products. Even with rapid gains in production, Russia's domestic output is expected to lag gains in domestic demand.

- Russia's TRQ on poultry imports is assumed to remain in effect thorough 2009. Over this period, the low-tariff quota expands slowly and the over-quota tariff rate is gradually lowered. During the quota period, imports from the United States are given the largest share of the quota, averaging approximately 75 percent of the total.

- In Mexico, the world's second largest importer, strong economic growth raises per capita poultry consumption. Domestic poultry production rises rapidly but lags increasing consumer demand.

- Poultry consumption growth in China is met largely by expanding domestic production, but imports are also projected to grow.

- Exports from Thailand and China will be limited to fully cooked products for most of the projection period because of avian influenza. Most of these exports are likely to be higher value boneless products. For Thailand, exports of cooked chicken products replace some, but not all, of the decline in its frozen poultry exports.

- Poultry imports into Saudi Arabia continue to rise throughout the baseline. However, consumer preference for freshly killed birds also keeps domestic production growing.

- Rising consumer incomes in many developing countries is expected to provide growing markets for lower valued poultry products.

Table 34. Coarse grains trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	Imports, million metric tons											
Importers												
Former Soviet Union[1]	1.1	1.1	1.3	1.6	1.7	1.8	2.0	2.1	2.3	2.4	2.5	2.6
Other Europe	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
European Union[2]	3.1	3.1	3.3	3.6	3.9	4.1	4.3	4.4	4.5	4.6	4.7	4.8
North Africa & Middle East	27.8	26.3	26.9	27.4	28.0	28.6	29.1	29.6	30.1	30.6	31.2	31.7
Sub-Saharan Africa[3]	2.9	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Japan	19.8	19.5	19.6	19.5	19.5	19.4	19.4	19.3	19.2	19.2	19.1	19.0
South Korea	8.8	8.5	8.4	8.4	8.5	8.5	8.4	8.4	8.4	8.4	8.3	8.3
Taiwan	4.7	4.8	4.8	4.8	4.8	4.8	4.8	4.9	4.9	4.9	4.9	4.9
China	2.0	2.3	2.6	2.8	3.2	3.5	3.9	4.3	4.6	5.2	5.7	6.2
Other Asia & Oceania	3.7	3.8	4.2	4.2	4.2	4.3	4.5	4.7	4.9	5.2	5.4	5.7
Mexico	9.0	10.5	10.8	11.6	13.2	13.7	14.2	14.7	15.3	15.8	16.4	17.0
Central America & Caribbean	4.5	4.3	4.4	4.3	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.9
Brazil	1.0	1.2	1.1	0.9	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.8
Other South America	5.4	5.5	5.5	5.3	5.5	5.6	5.6	5.6	5.6	5.7	5.7	5.6
Other foreign[4]	4.3	4.4	7.1	7.2	7.2	7.2	7.4	7.5	7.6	7.7	7.8	7.9
United States	2.2	2.2	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0
Total trade	101.0	100.0	104.7	106.2	108.9	111.3	113.0	115.0	117.1	119.3	121.8	124.0
	Exports, million metric tons											
Exporters												
European Union[2]	4.1	4.8	4.5	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
China	7.6	3.0	4.8	4.8	4.0	3.4	3.0	2.5	2.2	1.9	1.7	1.6
Argentina	14.6	12.5	11.9	13.1	14.5	15.8	16.5	17.1	17.7	18.6	19.4	20.1
Australia	5.0	5.0	5.2	5.4	5.5	5.6	5.6	5.7	5.8	5.8	6.0	6.1
Canada	2.8	3.6	3.8	3.9	4.1	4.1	4.1	4.2	4.2	4.3	4.3	4.3
Republic of South Africa	2.3	1.5	0.8	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.0
Other Europe	2.1	2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3	3.4	3.6
Former Soviet Union[1]	8.0	7.9	8.7	8.9	9.3	9.4	9.5	9.4	9.4	9.3	9.3	9.2
Other foreign	3.2	3.8	4.7	5.7	5.9	6.3	6.6	6.9	7.1	7.2	7.4	7.5
United States	51.3	56.0	58.3	56.2	57.1	57.7	58.4	59.6	61.0	62.3	63.7	65.0
	Percent											
U.S. trade share	50.8	56.0	55.6	52.9	52.4	51.9	51.6	51.9	52.1	52.2	52.3	52.4

1/ Covers FSU-12, includes intra-FSU trade.
2/ Covers EU-25, excludes intra-EU trade.
3/ Includes Republic of South Africa.
4/ Includes unaccounted.
The projections were completed in November 2005.

Table 35. Corn trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
					Imports, million metric tons							
Importers												
European Union[1]	2.5	2.5	2.7	3.0	3.3	3.5	3.6	3.7	3.8	3.9	4.0	4.1
Former Soviet Union[2]	0.5	0.4	0.6	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.3
Egypt	5.3	5.3	5.5	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5
Algeria	2.0	1.9	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.5	2.6
Morocco	1.4	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6
Iran	2.6	2.3	2.4	2.5	2.5	2.6	2.6	2.7	2.8	2.8	2.9	3.0
Saudi Arabia	1.2	1.4	1.5	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.7	1.8
Turkey	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other N. Africa & Middle East	4.9	4.3	4.5	4.5	4.6	4.8	4.9	5.0	5.1	5.2	5.3	5.4
Japan	16.5	16.5	16.5	16.4	16.3	16.3	16.2	16.2	16.1	16.0	16.0	15.9
South Korea	8.6	8.4	8.3	8.3	8.3	8.3	8.3	8.2	8.2	8.2	8.1	8.1
Taiwan	4.5	4.6	4.7	4.6	4.6	4.7	4.7	4.7	4.7	4.7	4.8	4.8
China	0.0	0.2	0.6	0.7	1.0	1.3	1.7	2.0	2.3	2.7	3.2	3.7
Indonesia	0.5	0.6	0.8	0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.4	1.5
Malaysia	2.4	2.5	2.5	2.6	2.6	2.7	2.8	2.8	2.9	3.0	3.0	3.1
Other Asia & Oceania	0.8	0.6	0.9	0.8	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.0
Canada	2.4	2.5	2.5	2.6	2.6	2.6	2.7	2.8	2.9	3.0	3.1	3.2
Mexico	6.0	6.7	7.3	8.2	10.2	10.7	11.2	11.7	12.1	12.6	13.0	13.5
Central America & Caribbean	4.5	4.3	4.4	4.3	4.3	4.4	4.5	4.6	4.7	4.7	4.8	4.9
Brazil	0.7	1.0	0.9	0.7	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5
Other South America	4.9	5.1	5.0	4.9	5.0	5.2	5.2	5.2	5.2	5.3	5.3	5.3
Sub-Saharan Africa[3]	2.4	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Other foreign[4]	1.8	0.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
United States	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total trade	76.8	74.8	78.8	80.0	82.7	84.8	86.3	88.0	89.7	91.7	93.6	95.5
Exporters						*Exports, million metric tons*						
European Union[1]	0.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
China	7.6	3.0	4.8	4.8	4.0	3.4	3.0	2.5	2.1	1.9	1.7	1.5
Argentina	14.0	12.0	11.3	12.6	14.0	15.3	16.0	16.5	17.1	18.0	18.7	19.3
Brazil	0.5	1.3	2.3	3.3	3.4	3.7	3.9	4.1	4.2	4.3	4.4	4.5
Republic of South Africa	2.3	1.5	0.8	1.5	1.6	1.7	1.8	1.8	1.9	1.9	1.9	2.0
Other Europe	1.5	1.6	1.6	1.7	1.8	2.0	2.2	2.4	2.5	2.6	2.7	2.8
Former Soviet Union[2]	2.3	2.1	2.1	2.2	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.1
Other foreign	2.3	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.4	2.4	2.4	2.4
United States	46.1	50.8	53.3	51.4	52.7	53.3	54.0	55.2	56.5	57.8	59.1	60.3
						Percent						
U.S. trade share	60.0	67.9	67.7	64.3	63.7	62.9	62.5	62.8	63.0	63.0	63.1	63.2

1/ Covers EU-25, excludes intra-EU trade.
2/ Covers FSU-12, includes intra-FSU trade.
3/ Includes Republic of South Africa.
4/ Includes unaccounted.
The projections were completed in November 2005.

Table 36. Sorghum trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Importers						*Imports, million metric tons*						
Japan	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Mexico	2.9	3.7	3.4	3.3	2.8	2.8	2.8	2.8	3.0	3.0	3.2	3.3
North Africa & Middle East	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
South America	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sub-Saharan Africa[1]	0.4	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other[2]	0.6	0.3	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Total trade	5.5	5.6	5.5	5.4	5.0	5.0	5.1	5.1	5.2	5.3	5.5	5.6
Exporters						*Exports, million metric tons*						
Argentina	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Australia	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Other foreign	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
United States	4.7	4.6	4.4	4.3	3.9	3.9	3.9	3.9	4.1	4.1	4.2	4.2
						Percent						
U.S. trade share	85.2	81.6	80.9	80.1	78.3	78.0	77.6	77.3	77.6	76.6	76.4	75.2

1/ Includes the Republic of South Africa.
2/ Includes unaccounted.
The projections were completed in November 2005.

Table 37. Barley trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
						Imports, million metric tons						
Importers												
Former Soviet Union[1]	0.4	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.2	1.2
Japan	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
South Korea	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	2.0	2.1	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.4	2.4	2.5
European Union[2]	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3
Latin America[3]	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Algeria	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Saudi Arabia	5.7	6.0	5.9	5.9	6.0	6.0	6.0	6.0	6.0	5.9	5.9	5.9
Morocco	0.5	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
Tunisia	0.5	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Republic of South Africa	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iran	0.9	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0
Turkey	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other N. Africa & M. East	2.4	2.1	2.1	2.2	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5
Other foreign[4]	0.3	1.8	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3
United States	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total trade	16.0	17.2	17.5	17.9	18.2	18.5	18.7	18.9	19.1	19.3	19.5	19.8
Exporters						*Exports, million metric tons*						
European Union[2]	3.0	3.6	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Australia	4.5	4.3	4.5	4.6	4.7	4.7	4.7	4.8	4.9	4.9	5.0	5.2
Canada	1.2	2.0	2.5	2.6	2.7	2.7	2.7	2.9	2.9	2.9	3.0	3.0
Russia	1.1	1.2	1.5	1.6	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9
Ukraine	4.3	4.0	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Other Former Soviet Union[5]	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Turkey	0.0	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other foreign	1.3	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.3
United States	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
						Percent						
U.S. trade share	3.2	3.2	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.2	2.2

1/ Covers FSU-12, includes intra-FSU trade.
2/ Covers EU-25, excludes intra-EU trade.
3/ Includes Mexico.
4/ Includes unaccounted.
5/ Covers FSU-12 except Russia and Ukraine, includes intra-FSU trade.
The projections were completed in November 2005.

Table 38. Wheat trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	Imports, million metric tons											
Importers												
Algeria	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.7	5.8	5.8
Egypt	8.2	7.5	7.7	7.7	7.9	8.1	8.2	8.4	8.5	8.6	8.8	8.9
Morocco	2.3	2.9	2.9	2.9	3.1	3.1	3.2	3.3	3.4	3.5	3.6	3.6
Iran	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Iraq	3.0	3.8	3.9	3.8	3.7	3.7	3.8	3.9	4.0	4.1	4.2	4.3
Tunisia	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7
Other N. Africa & Middle East	8.7	8.7	8.8	9.3	9.4	9.7	9.9	10.1	10.3	10.5	10.7	10.9
Sub-Saharan Africa[1]	12.1	12.3	12.3	12.2	12.4	12.6	12.8	13.1	13.4	13.6	14.0	14.3
Mexico	3.7	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.9	5.0
Central America & Caribbean	3.5	3.5	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.8	3.9
Brazil	5.3	5.5	5.9	6.3	6.4	6.7	6.9	7.0	7.2	7.2	7.3	7.4
Other South America	5.5	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.2	6.2	6.3	6.3
European Union[2]	7.2	7.2	7.3	7.7	7.9	8.2	8.5	8.9	9.0	9.0	9.3	9.7
Other Europe	1.8	1.8	1.6	1.6	1.4	1.4	1.3	1.3	1.4	1.4	1.4	1.4
Former Soviet Union[3]	4.6	3.9	4.6	4.9	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6
Japan	5.7	5.7	5.6	5.5	5.5	5.5	5.4	5.4	5.4	5.3	5.3	5.2
South Korea	3.6	3.9	4.0	4.1	4.3	4.4	4.5	4.7	4.8	5.0	5.1	5.3
Philippines	2.5	2.5	2.5	2.6	2.7	2.7	2.7	2.8	2.8	2.9	2.9	2.9
Indonesia	4.7	4.6	4.6	4.8	4.9	5.0	5.1	5.1	5.2	5.3	5.4	5.5
China	6.7	2.5	2.2	1.8	1.7	1.9	2.2	2.3	2.6	2.8	3.0	3.3
Bangladesh	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3
Malaysia	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Thailand	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3
Vietnam	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6
Pakistan	1.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.8
Other Asia & Oceania	4.8	5.5	5.7	5.7	6.0	6.1	6.3	6.5	6.4	6.5	6.5	6.5
Other foreign	0.8	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
United States	1.9	2.2	2.4	2.4	2.6	2.6	2.7	2.7	2.9	2.9	3.0	3.0
Total trade	110.5	109.3	110.9	112.8	114.4	116.7	119.2	121.6	123.9	125.8	128.4	130.6
	Exports, million metric tons											
Exporters												
European Union[2]	14.4	14.5	16.0	16.0	16.0	16.0	16.0	16.2	16.3	16.4	16.5	16.6
Canada	15.0	16.0	16.0	15.7	15.5	15.4	15.3	15.3	15.1	15.2	15.2	15.2
Australia	14.7	16.0	18.4	18.4	18.9	19.5	20.2	20.5	21.1	21.2	22.0	22.3
Argentina	11.5	7.0	9.5	10.4	11.4	11.6	11.9	12.2	12.4	12.5	12.7	13.1
Russia	8.0	10.0	8.0	8.0	8.0	8.0	8.2	8.5	8.8	9.0	9.3	9.5
Ukraine	4.4	5.5	3.0	5.0	5.0	5.5	6.0	6.2	6.5	6.6	6.7	6.8
Other Former Soviet Union[4]	2.9	3.7	4.0	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0
Other Europe	1.3	1.3	1.6	1.8	1.9	2.1	2.2	2.4	2.7	2.9	3.2	3.5
India	2.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
China	1.2	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6
Turkey	2.0	2.0	1.6	1.5	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.6
Other foreign	4.2	4.5	4.6	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
United States	28.9	27.2	27.2	25.9	25.9	26.5	27.2	27.9	28.6	29.3	29.9	30.6
	Percent											
U.S. trade share	26.2	24.9	24.5	22.9	22.6	22.7	22.8	22.9	23.1	23.3	23.3	23.4

1/ Includes Republic of South Africa.
2/ Covers EU-25, excludes intra-EU trade.
3/ Covers FSU-12, includes intra-FSU trade.
4/ Covers FSU-12 except Russia and Ukraine, includes intra-FSU trade.
The projections were completed in November 2005.

Table 39. Soybean trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
						Imports, million metric tons						
Importers												
European Union[1]	15.8	16.0	15.9	15.8	15.7	15.6	15.5	15.4	15.3	15.1	14.9	14.8
Japan	4.3	4.5	4.6	4.6	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6
South Korea	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.6
Taiwan	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Mexico	3.5	3.7	3.9	4.2	4.4	4.6	4.9	5.1	5.3	5.5	5.7	6.0
Former Soviet Union[2]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Other Europe	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
China	25.8	27.5	29.8	31.4	33.4	35.1	37.3	39.8	42.0	44.3	46.9	49.8
Malaysia	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Indonesia	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.8	1.9
Other	9.8	10.7	11.6	12.2	12.9	13.5	14.1	14.7	15.3	16.0	16.6	17.2
Total imports	65.2	68.5	72.2	74.6	77.5	80.1	83.1	86.4	89.5	92.6	96.1	99.7
						Exports, million metric tons						
Exporters												
Argentina	9.6	9.7	8.8	8.1	7.9	7.7	7.6	7.5	7.1	7.0	7.0	6.9
Brazil	20.5	24.0	27.9	31.2	34.5	37.3	41.0	44.7	48.4	51.4	55.0	58.3
Other South America	3.4	3.7	3.9	4.2	4.4	4.6	4.8	5.1	5.4	5.7	6.0	6.3
China	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Other foreign	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5
United States	30.0	29.3	29.8	29.4	29.1	28.8	28.0	27.4	26.9	26.9	26.5	26.5
Total exports	65.2	68.5	72.2	74.6	77.5	80.1	83.1	86.4	89.5	92.7	96.1	99.7
						Percent						
U.S. trade share	46.0	42.7	41.3	39.4	37.6	36.0	33.7	31.7	30.1	29.1	27.6	26.6

1/ Covers EU-25, excludes intra-EU trade.
2/ Covers FSU-12, includes intra-FSU trade.
The projections were completed in November 2005.

Table 40. Soybean meal trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	Imports, million metric tons											
Importers												
European Union[1]	22.6	22.9	23.5	24.7	24.3	24.4	24.5	24.5	24.8	25.1	25.3	26.1
Former Soviet Union[2]	0.5	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.1
Other Europe	0.7	0.7	0.7	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.3
Canada	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Japan	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Southeast Asia	6.1	6.3	6.6	6.8	7.0	7.2	7.4	7.6	7.8	8.0	8.2	8.5
Latin America	5.6	5.9	6.3	6.5	6.9	7.1	7.3	7.5	7.7	8.0	8.2	8.4
North Africa & Middle East	4.3	4.8	5.0	5.1	5.3	5.5	5.6	5.8	6.0	6.2	6.4	6.7
Other	3.6	4.4	4.3	4.5	4.7	4.9	5.1	5.2	5.4	5.6	5.7	6.0
Total imports	46.0	47.9	49.4	51.3	52.2	53.2	54.1	55.0	56.2	57.4	58.5	60.4
	Exports, million metric tons											
Exporters												
Argentina	20.4	21.5	23.6	26.7	27.4	28.2	29.1	29.5	30.2	30.8	31.4	32.3
Brazil	14.0	14.5	14.1	12.9	13.2	13.3	13.2	13.7	14.3	14.9	15.5	16.6
Other South America	1.6	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.5
China	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.1	1.1
India	1.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.0	0.9	0.7	0.5
European Union[1]	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other foreign	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
United States	6.6	6.1	6.0	6.0	6.0	6.2	6.3	6.4	6.4	6.4	6.5	6.5
Total exports	46.0	47.9	49.4	51.3	52.2	53.2	54.1	55.0	56.2	57.4	58.5	60.4
	Percent											
U.S. trade share	14.4	12.7	12.1	11.7	11.6	11.6	11.6	11.6	11.4	11.1	11.1	10.7

1/ Covers EU-25, excludes intra-EU trade.
2/ Covers FSU-12, includes intra-FSU trade.
The projections were completed in November 2005.

Table 41. Soybean oil trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	Imports, million metric tons											
Importers												
China	1.7	2.4	2.1	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
India	2.0	2.1	2.0	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.6	2.6
Other Asia	1.1	0.9	1.0	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5
Latin America	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.2	2.3	2.4
North Africa & Middle East	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.7
Former Soviet Union & Other Europe[1]	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other	1.0	0.7	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2
Total imports	9.3	9.9	10.3	10.8	11.1	11.4	11.8	12.0	12.3	12.6	13.0	13.2
	Exports, million metric tons											
Exporters												
Argentina	5.0	5.2	5.5	6.2	6.4	6.6	6.8	6.9	7.0	7.2	7.3	7.3
Brazil	2.4	2.6	2.6	2.3	2.5	2.6	2.7	2.8	3.0	3.2	3.4	3.7
European Union[2]	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6
Other foreign	0.8	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2
United States	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4
Total exports	9.3	9.9	10.3	10.8	11.1	11.4	11.8	12.0	12.3	12.6	13.0	13.2
	Percent											
U.S. trade share	6.6	6.2	5.8	5.5	5.2	4.9	4.5	4.3	4.0	3.7	3.4	3.2

1/ Includes intra-FSU trade.
2/ Covers EU-25, excludes intra-EU trade.
The projections were completed in November 2005.

Table 42. Rice trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
						Imports, million metric tons						
Importers												
Canada	0.25	0.25	0.26	0.26	0.26	0.27	0.27	0.28	0.28	0.29	0.29	0.30
Mexico	0.55	0.60	0.65	0.67	0.69	0.71	0.73	0.75	0.77	0.79	0.81	0.83
Central America/Caribbean	1.85	1.65	1.67	1.71	1.75	1.80	1.84	1.90	1.96	2.01	2.07	2.14
Brazil	0.55	0.70	0.37	0.31	0.35	0.33	0.33	0.34	0.35	0.36	0.37	0.38
Other South America	0.41	0.29	0.31	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41
European Union[1]	1.00	0.98	1.09	1.10	1.12	1.16	1.20	1.24	1.27	1.29	1.32	1.35
Former Soviet Union[2]	0.53	0.55	0.53	0.54	0.53	0.54	0.54	0.55	0.57	0.58	0.59	0.60
Other Europe	0.22	0.22	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.22	0.22	0.22
Bangladesh	0.73	0.65	0.71	0.76	0.80	0.85	0.91	0.97	1.03	1.10	1.18	1.26
China	0.50	0.60	0.62	0.65	0.65	0.66	0.67	0.67	0.68	0.69	0.71	0.74
Japan	0.68	0.70	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
South Korea	0.19	0.40	0.21	0.23	0.25	0.27	0.30	0.32	0.34	0.36	0.39	0.41
Indonesia	0.90	0.70	0.90	1.05	1.18	1.31	1.42	1.49	1.58	1.66	1.73	1.78
Malaysia	0.70	0.55	0.60	0.63	0.64	0.67	0.68	0.69	0.70	0.71	0.72	0.74
Philippines	1.50	1.25	1.29	1.30	1.32	1.32	1.36	1.42	1.47	1.51	1.55	1.59
Other Asia & Oceania	2.38	2.16	2.08	2.16	2.16	2.18	2.19	2.21	2.23	2.26	2.28	2.31
Iraq	1.00	1.00	1.03	1.07	1.10	1.13	1.17	1.20	1.24	1.27	1.31	1.34
Iran	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.97	0.97	0.98
Saudi Arabia	1.50	1.25	1.22	1.23	1.25	1.27	1.30	1.32	1.35	1.37	1.39	1.42
Other N. Africa & M. East	1.60	1.45	1.53	1.53	1.54	1.56	1.57	1.59	1.61	1.65	1.69	1.72
Sub-Saharan Africa[3]	6.61	6.15	6.39	6.51	6.68	6.88	7.09	7.32	7.56	7.81	8.07	8.34
Republic of South Africa	0.82	0.75	0.77	0.80	0.81	0.82	0.84	0.85	0.87	0.88	0.90	0.91
Other foreign[4]	1.63	1.44	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78
United States	0.41	0.47	0.46	0.47	0.48	0.50	0.51	0.53	0.55	0.56	0.58	0.60
Total imports	27.43	25.69	26.30	26.91	27.52	28.18	28.89	29.62	30.40	31.20	32.00	32.81
						Exports, million metric tons						
Exporters												
Australia	0.12	0.16	0.40	0.49	0.52	0.54	0.56	0.59	0.61	0.63	0.66	0.68
Argentina	0.40	0.35	0.41	0.44	0.46	0.46	0.48	0.49	0.50	0.51	0.53	0.54
Other South America	1.31	1.06	1.13	1.15	1.18	1.20	1.22	1.24	1.25	1.27	1.29	1.31
European Union[1]	0.18	0.18	0.25	0.26	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27
China	0.75	0.60	0.60	0.60	0.62	0.64	0.66	0.67	0.69	0.72	0.74	0.76
India	4.50	3.50	2.90	3.20	3.48	3.68	3.85	4.08	4.33	4.58	4.82	5.05
Pakistan	2.30	2.25	2.20	2.17	2.17	2.18	2.19	2.18	2.19	2.20	2.20	2.21
Thailand	7.25	7.50	8.52	8.66	8.79	9.04	9.36	9.64	9.93	10.23	10.52	10.83
Vietnam	5.00	4.50	4.49	4.52	4.61	4.70	4.81	4.91	5.03	5.13	5.25	5.37
Egypt	1.10	1.00	0.89	0.90	0.90	0.91	0.91	0.90	0.90	0.92	0.93	0.94
Other foreign	0.99	0.79	0.84	0.87	0.89	0.90	0.92	0.93	0.94	0.95	0.96	0.96
United States	3.44	3.81	3.65	3.65	3.65	3.65	3.68	3.72	3.75	3.80	3.84	3.89
Total exports	27.33	25.69	26.30	26.91	27.52	28.18	28.89	29.62	30.40	31.20	32.00	32.81
						Percent						
U.S. trade share	12.6	14.8	13.9	13.6	13.3	13.0	12.8	12.5	12.3	12.2	12.0	11.9

1/ Covers EU-25, excludes intra-EU trade.
2/ Covers FSU-12, includes intra-FSU trade.
3/ Excludes Republic of South Africa
4/ Includes unaccounted.
The projections were completed in November 2005.

USDA Baseline Projections, February 2006   **103**

Table 43. All cotton trade baseline projections

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
						Imports, million bales						
Importers												
European Union[1]	3.1	2.7	2.8	2.7	2.7	2.7	2.6	2.5	2.5	2.4	2.4	2.3
Former Soviet Union[2]	1.6	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.2
Indonesia	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Thailand	2.3	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3
India	0.8	0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9	1.0
Brazil	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Other Europe	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other Asia & Oceania	4.6	5.3	5.7	5.5	5.5	5.5	5.5	5.7	5.8	6.0	6.2	6.4
Japan	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6
South Korea	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0
China	6.4	16.0	16.2	17.9	19.0	19.9	20.4	20.9	21.4	21.7	21.7	21.7
Taiwan	1.3	1.2	1.3	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1
Turkey	3.4	3.4	3.6	3.5	3.6	3.6	3.5	3.5	3.5	3.4	3.4	3.4
Mexico	1.8	1.2	1.4	1.2	1.2	1.1	1.0	1.0	0.9	0.9	0.8	0.8
Other	2.6	2.7	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Total imports	32.9	41.7	43.0	43.9	44.8	45.5	45.5	45.9	46.4	46.7	46.8	46.9
						Exports, million bales						
Exporters												
Former Soviet Union[2]	5.9	6.5	6.5	6.2	6.1	6.0	6.0	6.0	6.1	6.1	6.1	6.2
Australia	2.0	2.8	2.6	2.7	2.8	2.9	2.9	3.0	3.0	3.0	3.0	3.0
Argentina	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4
Pakistan	0.6	0.2	0.2	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.4
India	0.8	1.8	3.6	4.2	4.5	4.5	4.4	4.4	4.3	4.2	4.2	4.1
China	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Egypt	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Brazil	1.6	2.0	1.8	1.5	1.5	1.6	1.6	1.8	1.9	2.1	2.3	2.4
Other Latin America	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Sub-Saharan Africa[3]	5.7	6.6	6.7	6.4	6.4	6.4	6.4	6.6	6.7	7.0	7.1	7.3
Other foreign	2.9	3.0	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.5	3.6
United States	14.4	16.7	15.3	16.0	16.2	16.4	16.5	16.6	16.7	16.8	16.8	16.9
Total exports	35.0	41.1	41.6	42.1	42.7	43.1	43.4	43.9	44.4	44.9	45.4	45.9
						Percent						
U.S. trade share	41.2	40.7	36.8	37.9	37.9	38.0	38.0	37.8	37.5	37.3	37.1	36.9

1/ Covers EU-25, excludes intra-EU trade.
2/ Covers FSU-12, includes intra-FSU trade.
3/ Includes Republic of South Africa.
The projections were completed in November 2005.

Table 44. Beef trade baseline projections

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Imports, thousand metric tons, carcass weight											
Importers												
Japan	647	721	740	764	770	787	811	829	848	868	888	908
South Korea	218	235	250	267	305	334	364	389	412	434	457	481
Taiwan	80	88	80	95	96	98	100	101	103	105	107	109
Philippines	164	160	165	169	182	198	213	228	242	257	271	285
European Union[1]	583	615	625	649	649	649	650	650	650	650	649	649
Russia	730	680	730	673	685	689	647	654	684	716	741	764
Other Europe	68	83	82	92	100	104	109	112	113	111	113	113
Egypt	114	120	140	161	184	194	203	210	217	224	234	242
Mexico	287	320	360	367	366	364	407	459	510	561	615	674
Canada	111	135	130	125	121	117	112	108	104	101	97	94
United States	1,661	1,699	1,687	1,665	1,625	1,575	1,508	1,474	1,451	1,429	1,406	1,406
Major importers	4,663	4,856	4,989	5,027	5,082	5,106	5,124	5,215	5,334	5,455	5,578	5,724
Exporters	*Exports, thousand metric tons, carcass weight*											
Australia	1,394	1,470	1,480	1,532	1,518	1,489	1,486	1,499	1,501	1,503	1,504	1,506
New Zealand	606	575	615	586	578	571	566	563	563	563	562	561
Other Asia	560	695	768	694	714	728	737	741	746	751	758	766
European Union[1]	358	250	220	244	253	279	295	301	308	313	331	349
Other Europe	31	32	33	31	30	30	29	29	28	27	27	26
Ukraine	108	85	90	77	79	83	83	86	88	89	89	91
Argentina	623	680	720	609	558	524	496	478	472	468	463	458
Brazil	1,628	1,800	1,800	1,964	2,062	2,083	2,090	2,103	2,121	2,137	2,150	2,160
Canada	559	615	640	546	531	525	524	524	526	526	529	534
United States	209	285	290	363	399	439	505	581	668	768	883	1,016
Major exporters	6,076	6,487	6,656	6,645	6,721	6,750	6,810	6,905	7,020	7,145	7,295	7,467

1/ Covers EU-25, excludes intra-EU trade.

The projections were completed in November 2005.

USDA Baseline Projections, February 2006   **105**

Table 45. Pork trade baseline projections

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Imports, thousand metric tons, carcass weight											
Importers												
Japan	1,302	1,243	1,235	1,260	1,285	1,311	1,337	1,364	1,391	1,419	1,447	1,476
China	92	70	50	50	50	50	55	55	58	60	62	63
Hong Kong	332	250	270	278	286	295	304	313	322	332	342	352
South Korea	220	300	351	363	375	387	399	411	423	435	447	459
Russia	629	650	675	714	753	798	846	889	922	963	1,000	1,040
Mexico	458	495	505	535	567	601	638	676	716	759	805	853
Canada	105	135	155	158	162	165	169	173	177	181	184	189
United States	498	447	435	444	455	467	478	493	508	523	538	554
Major importers	3,636	3,590	3,676	3,802	3,934	4,075	4,225	4,373	4,517	4,671	4,825	4,986
	Exports, thousand metric tons, carcass weight											
Exporters												
Brazil	621	745	725	717	731	760	791	822	855	890	925	962
Canada	972	1,075	1,100	1,122	1,144	1,167	1,191	1,214	1,239	1,264	1,289	1,315
Mexico	52	55	65	67	69	71	73	75	78	80	82	85
European Union[1]	1,436	1,430	1,450	1,465	1,479	1,494	1,509	1,524	1,539	1,555	1,570	1,586
Other Europe	23	20	21	20	20	20	20	20	20	20	38	59
China	383	400	415	423	432	440	449	458	467	477	486	496
United States	989	1,229	1,263	1,289	1,319	1,340	1,368	1,388	1,409	1,430	1,451	1,473
Major exporters	4,476	4,954	5,039	5,103	5,194	5,293	5,401	5,502	5,607	5,715	5,841	5,976

1/ Covers EU-25, excludes intra-EU trade.
The projections were completed in November 2005.

Table 46. Poultry trade baseline projections 1/

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Imports, thousand metric tons, ready to cook											
Importers												
Russia	1,037	1,090	1,131	1,171	1,212	1,252	1,259	1,268	1,278	1,289	1,299	1,309
European Union[2]	525	545	575	578	581	584	587	590	593	596	599	601
Japan	582	695	680	722	726	733	742	748	755	761	767	772
Hong Kong	244	230	246	250	254	257	261	265	268	272	275	278
China	174	250	300	317	318	323	331	338	345	354	363	372
South Korea	32	55	70	78	85	91	98	105	112	120	127	135
Saudi Arabia	429	436	447	463	479	499	515	531	548	563	578	593
Mexico	470	530	557	575	622	655	693	738	778	815	857	903
Canada	108	90	92	93	94	96	98	99	101	102	104	105
Major importers	3,601	3,921	4,098	4,246	4,370	4,489	4,584	4,682	4,778	4,871	4,968	5,069
	Exports, thousand metric tons, ready to cook											
Exporters												
Brazil	2,552	3,010	3,230	3,313	3,441	3,522	3,620	3,745	3,888	4,038	4,203	4,379
European Union[2]	980	990	990	952	959	971	985	987	995	1,000	1,004	1,007
China	241	300	360	365	381	386	386	391	394	396	398	401
Thailand	200	300	400	431	442	448	454	460	465	469	473	476
Saudi Arabia	10	10	10	10	10	10	10	10	11	11	11	11
United States	2,468	2,783	2,869	2,869	2,914	2,973	3,025	3,066	3,108	3,147	3,185	3,220
Major exporters	6,451	7,393	7,859	7,940	8,147	8,311	8,481	8,659	8,860	9,060	9,274	9,494

1/ Broilers and turkeys only.
2/ Covers EU-25, excludes intra-EU trade.
The projections were completed in November 2005.

List of Tables