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USDA Agricultural Baseline Projections to 2012

Interagency Agricultural Projections Committee

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USDA Baseline

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Abstract

This report provides long-run baseline projections for the agricultural sector through 2012. 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 or other factors affecting global supply and demand. The projections assume that agricultural law of the 2002 Farm Act remains in effect throughout the baseline. The baseline projections presented 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 2002, reflecting a composite of model results and judgment-based analysis.

In the initial years of the baseline, U.S. farmers respond to reduced supplies and higher prices for many crops in 2002, with planted acreage projections higher in 2003 and 2004 than in recent years. Near-term livestock sector projections reflect adjustments to relatively low net returns in 2002, brought on by increased production levels that reduced meat animal prices coupled with higher grain prices. Total meat production falls in 2003 and net returns improve as meat animal prices increase and grain prices decline.

Stronger domestic and international economic growth beginning in 2003 provides a more favorable demand setting for the agricultural sector, supporting longer run increases in consumption, trade, and prices. A continued strong U.S. dollar and trade competition from countries such as Brazil, Argentina, and the Black Sea region are constraining factors on U.S. exports, however. Nonetheless, improving global economic growth, particularly in developing countries, provides a foundation for gains in trade and U.S. agricultural exports, resulting in rising market prices, increases in farm income, and improvement in the financial condition of the U.S. agricultural sector.

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

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Contents

Page

A Note to Users of USDA Baseline Projections iii

Baseline Projections on the Internet iv

Baseline Contacts iv

Acknowledgments iv

Introduction 1

Summary of Projections 2

Macroeconomic Assumptions 9

Crops 20

Livestock 54

U.S. Agricultural Sector Aggregate Indicators:
Farm Income, Food Prices, and U.S. Trade Value 65

Agricultural Trade 77

List of Tables 125

Features in this Report

Page

Crop Revenues Under the 2002 Farm Act 21

Counter-Cyclical Payments Likely to Overlap Marketing Loan Benefits 22

Ethanol Production Boosts Demand for U.S. Corn 30

EU Wheat Exports 83

China Corn Imports and Exports 89

EU Coarse Grain Exports 93

Soybean and Soybean Meal Exports:
United States Compared to Argentina and Brazil 102

Argentina Exports of Wheat, Corn, and Soybeans 103

Argentina Exports of Soybean Meal, Soybeans, and Soybean Oil 104

A Note to Users of USDA Baseline Projections

USDA long-term agricultural baseline projections presented in this report are a Departmental consensus on a long-run 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, long-run scenario about what would be expected to happen under a continuation of the 2002 Farm Act and specific assumptions about external conditions. The baseline includes short-term projections from the November 2002 *World Agricultural Supply and Demand Estimates* report. Trade projections in this report for 2003/04 incorporate long-term assumptions concerning weather, foreign trend yields, and foreign use and do not reflect short-term conditions that may affect trade that year.

Critical long-term assumptions are made for:

- U.S. and international macroeconomic conditions;
- U.S. and foreign agricultural and trade policies;
- Growth rates of agricultural productivity in the United States and abroad; and
- Weather.

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 projections 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 projections analysis and review include the World Agricultural Outlook Board, the Economic Research Service, the Farm Service Agency, the Foreign Agricultural Service, the Office of the Chief Economist, the Office of Budget and Program Analysis, the Risk Management Agency, the Agricultural Marketing Service, the Natural Resources Conservation Service, and the Cooperative State Research, Education, and Extension Service.

Baseline Projections on the Internet

The new USDA baseline projections are available electronically on the Internet at:

http://usda.mannlib.cornell.edu/data-sets/baseline/

Also, the Economic Research Service has a briefing room for baseline projections at:

http://www.ers.usda.gov/briefing/baseline/

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USDA Agricultural Baseline Projections to 2012

Interagency Agricultural Projections Committee

Introduction

This report provides long-run baseline projections for the agricultural sector through 2012. Projections cover agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices.

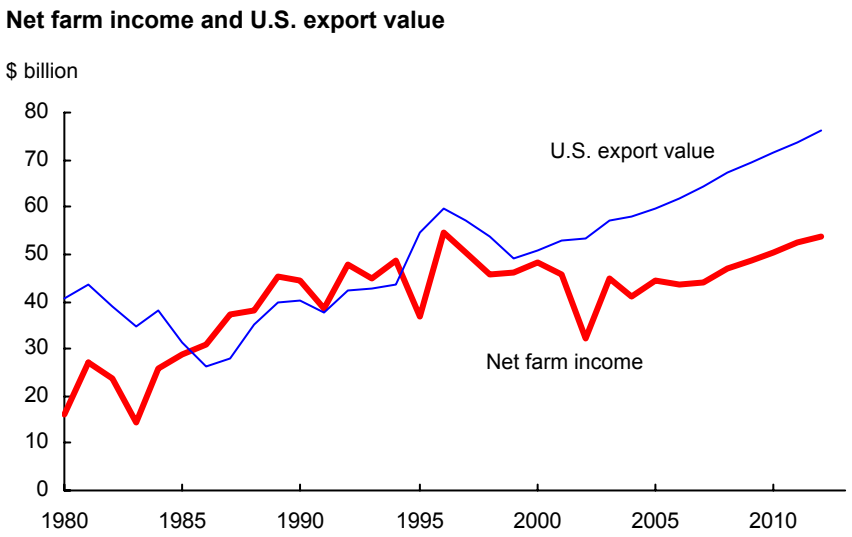
The projections are a conditional scenario with no shocks and are based on specific assumptions regarding the macroeconomy, agricultural policy, the weather, and international developments. In particular, the baseline incorporates provisions of the Farm Security and Rural Investment Act of 2002 (2002 Farm Act) and assumes that current farm legislation remains in effect through the projections period. 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 the 2002 Farm Act, with very specific external circumstances. Thus, the baseline 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 2002 in support of the fiscal year 2004 budget analysis. Projections reflect a composite of model results and judgment-based analysis. Normal weather is assumed. Short-term projections included in the baseline are from the November 2002 *World Agricultural Supply and Demand Estimates* report.

Summary of Projections

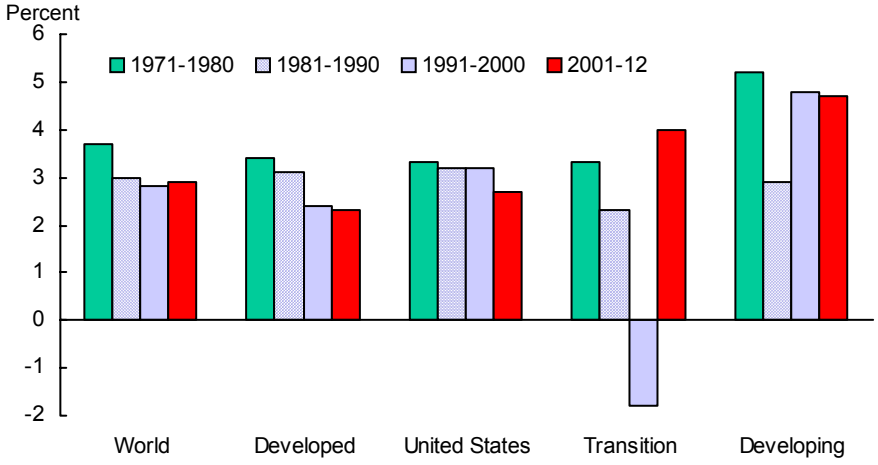
In the initial years of the baseline, U.S. farmers respond to reduced supplies and higher prices for many crops in 2002, with planted acreage projections higher in 2003 and 2004 than in recent years. Near-term livestock sector projections reflect adjustments to relatively low net returns in 2002, brought on by increased production levels that reduced meat animal prices coupled with higher grain prices. Total meat production falls in 2003 and net returns improve as meat animal prices increase and grain prices decline.

Stronger domestic and international economic growth beginning in 2003 provides a more favorable demand setting for the agricultural sector, supporting longer run increases in consumption, trade, and prices. A continued strong U.S. dollar and trade competition from countries such as Brazil, Argentina, and the Black Sea region are constraining factors on U.S. exports, however. Nonetheless, improving global economic growth, particularly in developing countries, provides a foundation for gains in trade and U.S. agricultural exports, resulting in rising market prices, increases in farm income, and improvement in the financial condition of the U.S. agricultural sector. Consumer food prices are projected to continue a long-term trend of rising less than the general inflation rate. The trend in consumer food expenditures towards a larger share for meals eaten away from home is expected to continue.



With production growing faster than domestic demand, agricultural export markets are important for sustaining prices and revenues and, in turn, farm income. Export revenues account for 25 to 30 percent of U.S. farm cash receipts, and are a key factor in determining gains in net farm income.

World gross domestic product (GDP) growth rates, decade averages

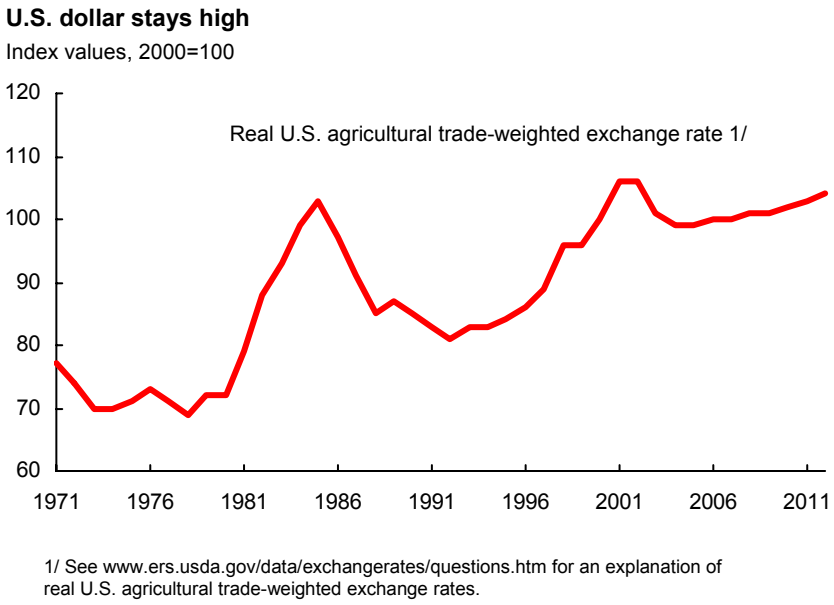


Agricultural trade depends on the economic prosperity of consumers throughout the world.

- Economic growth in developing countries will generate most of the increase in global food demand over the next decade.

- Economic growth in developing countries is important for global agricultural demand because many developing countries have incomes at levels where consumers diversify their diets to include more meats and other higher valued food products, and where consumption and imports of food and feed are particularly responsive to income changes.

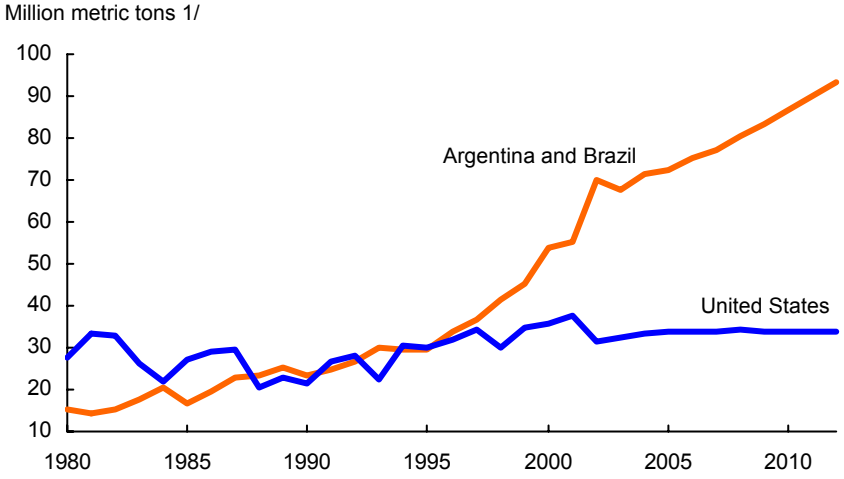
- Projected growth in the transition economies (countries of the former Soviet Union and Central and Eastern Europe) of about 4 percent over 2003-2012 is significant in comparison to the economic contraction of the 1990s. This growth will increase consumer income and thereby raise demand for agricultural goods, such as livestock products for which demand is relatively responsive to income changes.



A strong U.S. dollar in the baseline is a constraining factor for United States agricultural competitiveness and growth in exports.

- Although declining somewhat in the near term, the dollar is assumed to stay at historically strong levels throughout the projections as relatively high financial market returns attract financial flows into the United States.

Trade competition remains strong: Soybean and soybean meal exports

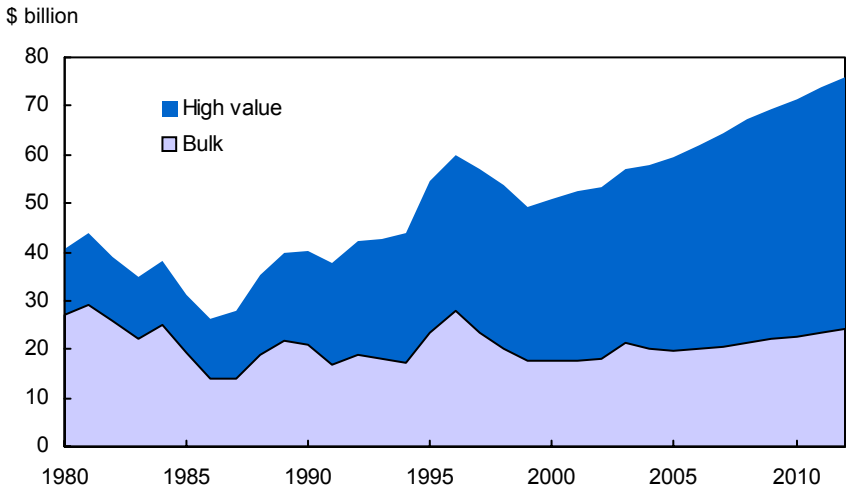


1/ Soybeans plus soybean meal converted to soybean-equivalent weight.

Competition in global agricultural markets will continue to be strong, with expanding production in a number of foreign countries.

- For example, increasing exports of soybeans and soybean meal from South America reflect a continuing conversion of land to crop production uses, particularly in Brazil.

U.S. agricultural export value: bulk and high value



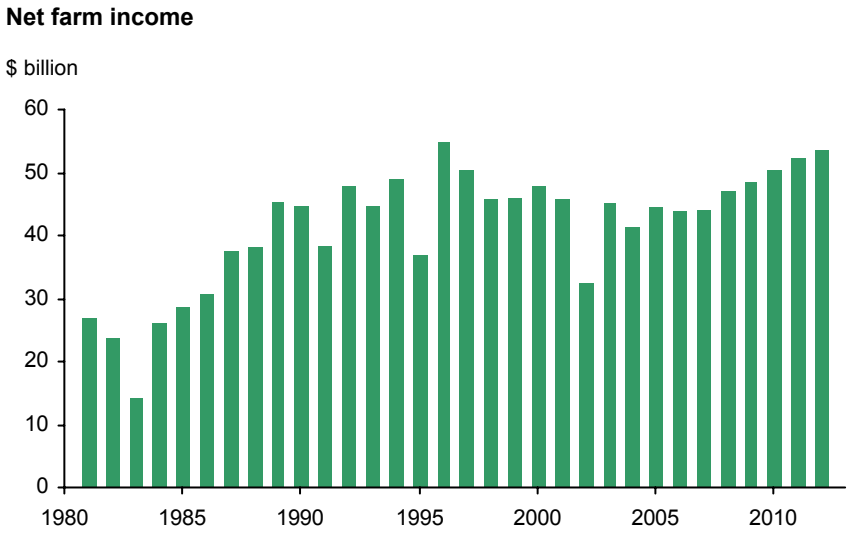
The value of U.S. agricultural exports, which fell from a record of almost $60 billion in fiscal year 1996 to $49.1 billion in 1999, has risen since then.

- Gains in U.S. exports are constrained by a strong U.S. dollar and by continued strong trade competition throughout the baseline period.

- Nonetheless, strengthening world economic growth in the longer run, particularly in developing countries, provides a foundation for gains in U.S. agricultural exports, which increase to about $76 billion by the end of the projections.

- The share of U.S. agricultural exports accounted for by high-value products continues to rise, reaching about 68 percent in the last several years of the baseline.[1]

[1]Bulk commodities include wheat, rice, feed grains, soybeans, cotton, and tobacco. High-value products (HVP's) 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.



Strengthening market conditions lead to rising market prices, increases in farm income, and improvement in the financial condition of the U.S. agricultural sector.

- U.S. net farm income rises gradually throughout the baseline. Income projections for the next decade average near $47 billion, compared to about $46 billion in the 1990s.

- Gross cash income gradually increases as crop and livestock receipts increase due to growing domestic and export demands.

- Production expenses increase modestly in the baseline at slightly less than the general inflation rate. Cash operating margins are stable in the projections with cash expenses at 77-79 percent of gross cash income.

- Government payments become relatively less important over time as a greater share of gross cash income comes from the marketplace.

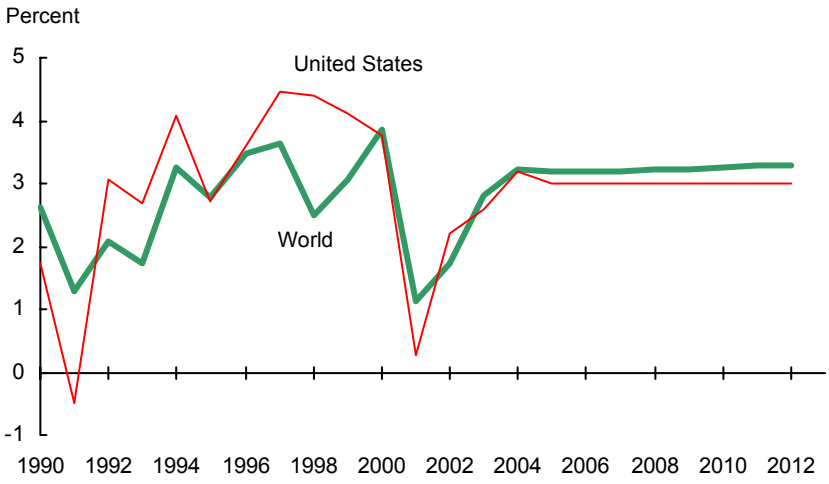
- Increasing farm incomes and relatively low interest rates through the baseline assist in asset accumulation and debt management. Debt-to-asset ratios decline to about 15 percent in the last several years of the projections, compared with over 20 percent in the mid-1980s.

Macroeconomic Assumptions

Macroeconomic assumptions underlying the USDA baseline are characterized by a rebound from the recent U.S. and global slowdown, with a return to sustained growth at historical levels by 2005.[2]

During the last decade, the U.S. and world economies became increasingly interdependent. The United States is not only the world's largest economy with around 30 percent of global gross domestic product (GDP), but the U.S. capital market is also the world's largest. Growth of U.S. exports has also become relatively more important in overall U.S. GDP gains. Because of this interdependence, international macroeconomic conditions affect consumer incomes, exchange rates, trade, inflation, and interest rates and thus have major effects on U.S. agriculture.

U.S. and world gross domestic product (GDP) growth



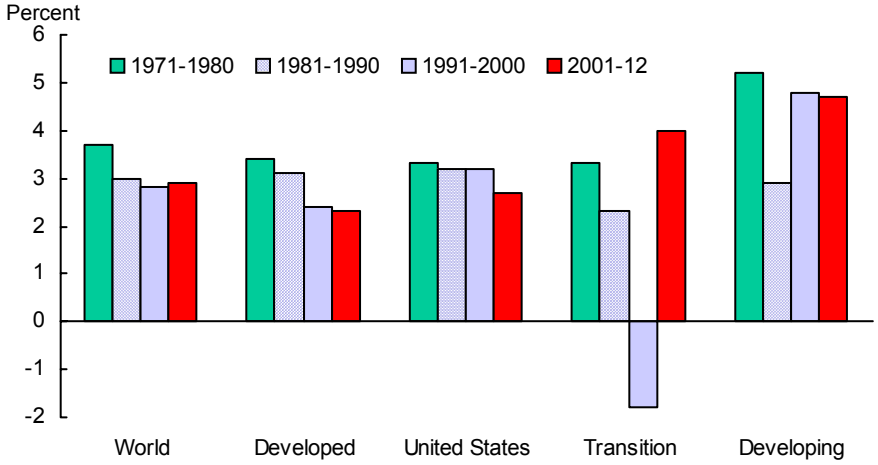
The baseline assumes that U.S. GDP growth improves in the near term (increasing to 2.6 percent in 2003) as the economy recovers from the recent economic slowdown. U.S. growth then returns to a longrun sustainable rate of 3.0 percent. A similar pattern is expected globally, with sustained economic growth projected in the longer term for most countries in the world.

- Improved global economic performance combined with continued, if slowing, population growth is expected to strengthen food demand in the baseline.

- Developing countries play an increasingly important role in increasing global food demand in the baseline and become a more important destination for U.S. exports. High population and income growth, along with relatively large food responsiveness in these countries, underlie this projection.

[2]The baseline's macroeconomic assumptions were completed in October 2002, incorporating data and other information available at that time.

World gross domestic product (GDP) growth rates, decade averages



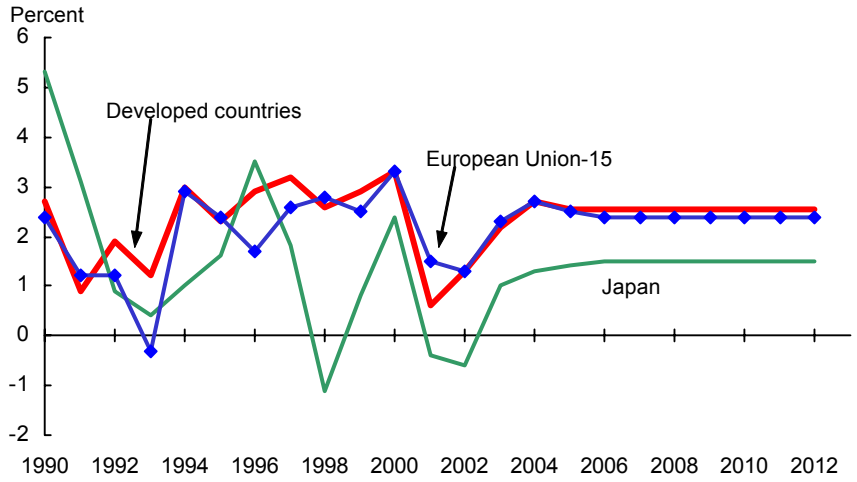
World economic growth is projected to average 2.4 percent annually between 2001 and 2005, before increasing to a 3.2 percent average in 2006 through 2012.[3]

- Increased global purchasing power and population growth are key to increasing U.S. exports.

- 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 and vegetables, and processed foods. These consumption shifts increase import demand for feedstuffs and high-value food products.

[3]See tables 2 and 3 for countries included in developed, transition, and developing country groupings.

GDP growth for developed countries, European Union-15, and Japan

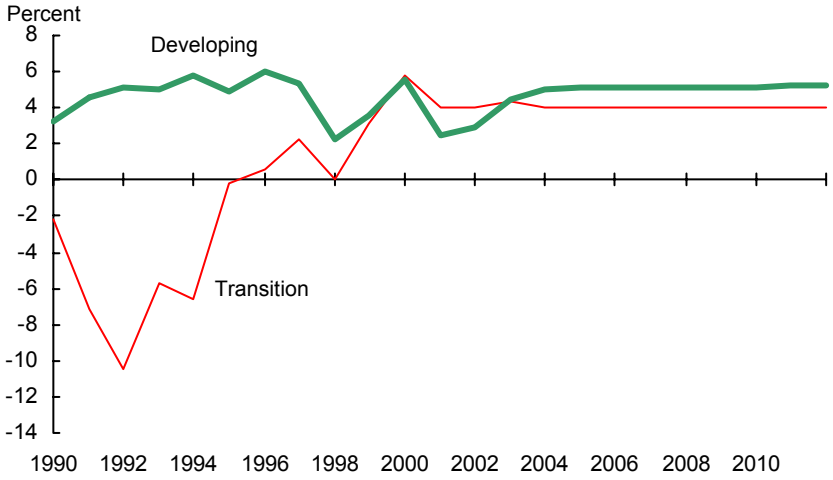


Developed economies are projected to grow at rates comparable to the 1990s, averaging 2.5 percent in 2005 and beyond.

- Adoption of the euro enhances cross-border trade and investment within the European Union. Even without formal enlargement to include countries of Central and Eastern Europe, closer integration with these countries creates more trade and investment opportunities.

- Japan continues to face significant economic problems, largely the result of its ongoing financial crisis and persistent deflation. Japan's share of world GDP is expected to decline to 12 percent by 2012, down from 18 percent in 1991.

Developing and transition economies' GDP growth



Economic growth in developing countries is projected at a strong 4.5 percent annual rate in 2003, increasing to 5.2 percent in 2006-12. Long-term growth in the transition economies (former Soviet Union, Central and Eastern Europe) is projected at 4 percent annually, a significant reversal from the contraction of their economies in the 1990s.

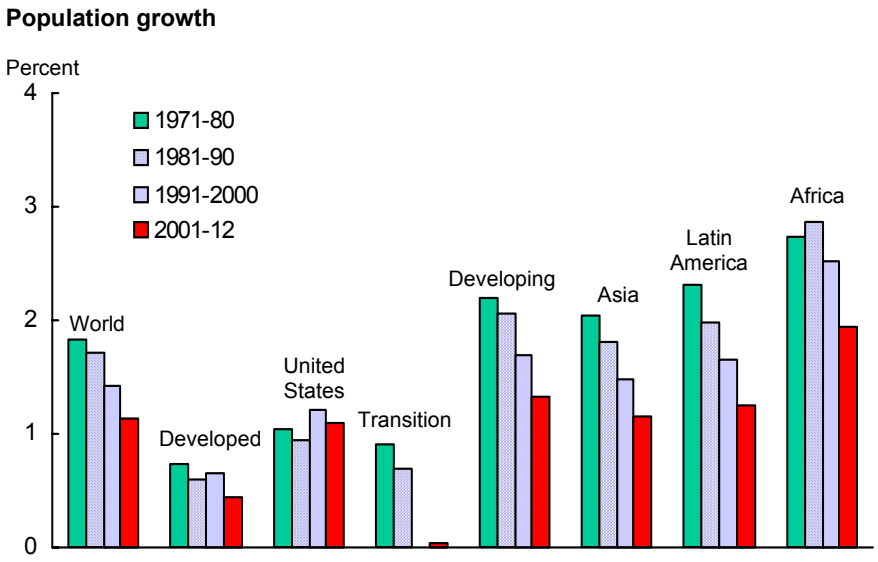
- Strong long-term growth of 4.3 percent is projected for Latin America. This will attract significant foreign capital inflows, sustaining that growth.

- Growth in East and Southeast Asia is projected to rebound from the economic slowdown of the last 2 years to over 6 percent for most of the next decade, but will still be below the very strong average growth of 7.5 percent in the 1990s.

- China's economic growth has been consistently the strongest in Asia, and is expected to average a robust 7.4 percent over the next decade.

- Poland, Hungary, and the Czech Republic show stronger growth than other countries of Central and Eastern Europe, due largely to successful integration into the global economy.

- After a decade of setbacks, Russia and Ukraine begin to benefit from a shift to market economies, with annual GDP gains of 4 percent projected for the next decade.



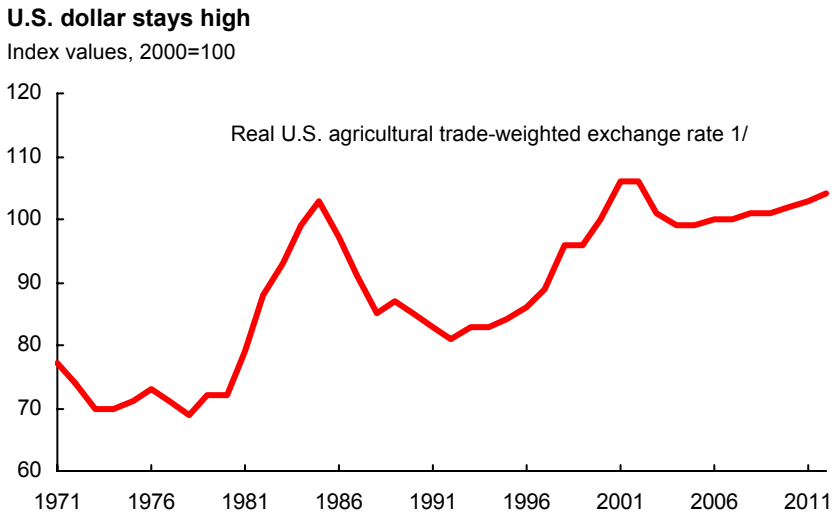
A major factor in the future growth of international demand for agricultural products will be declining population growth around the world. Historically, about 70 percent of increases in food use has been related to population growth, leaving about 30 percent driven by increasing incomes and other factors. 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 1 percent per year at the end of the baseline.

- Developed and transition economies have relatively low projected rates of population growth in the baseline. Population growth rates for developed economies continue to decline, while those for the transition economies are projected to go to zero and then increase modestly by the end of the baseline.

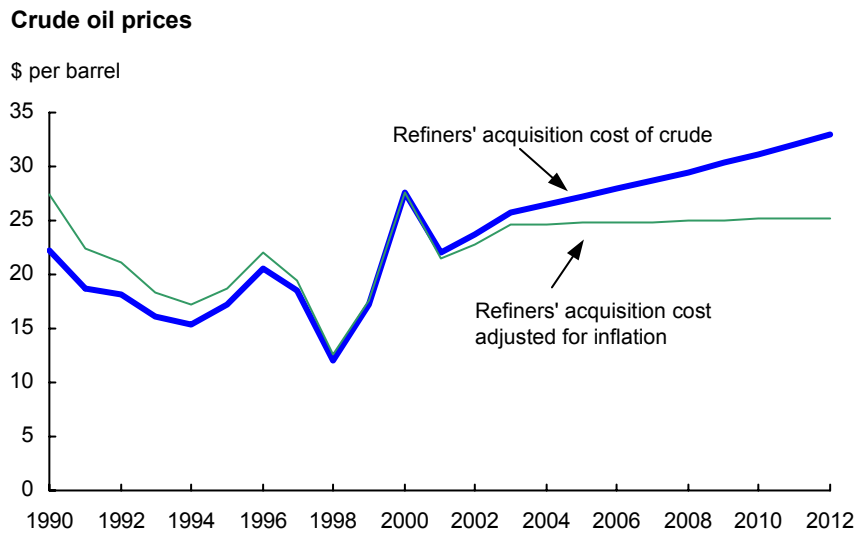
- Population growth rates in developing economies decline by almost half, but remain above those in the developed and transition economies. As a consequence, the share of world population accounted for by developing countries, which is currently about 80 percent, increases to over 81 percent by 2012.

- China's population growth rate slows from 1.5 percent per year in 1981-90 to 0.7 percent in 2001-10. India's population growth rate is projected to decline from 2.1 to 1.4 percent per year in the same periods, Brazil's to decline from 2.1 to 0.8 percent per year, and Sub-Saharan Africa's to decline from 2.9 to 1.9 percent per year.



A strong U.S. dollar reduces U.S. agricultural competitiveness and constrains growth in exports. This is partially offset by longer term global economic growth, which increases the demand for U.S. exports.

- Strong GDP growth in the United States leads to a real appreciation of the U.S. dollar.
- The U.S. dollar is assumed to stay strong as financial flows into the United States are attracted by well-functioning financial markets, a relatively risk-free environment, and high expected financial returns.
- U.S. exports of bulk commodities tend to be the most sensitive of agricultural products to the strong U.S. dollar due to relatively stronger global trade competition for non-differentiated products.

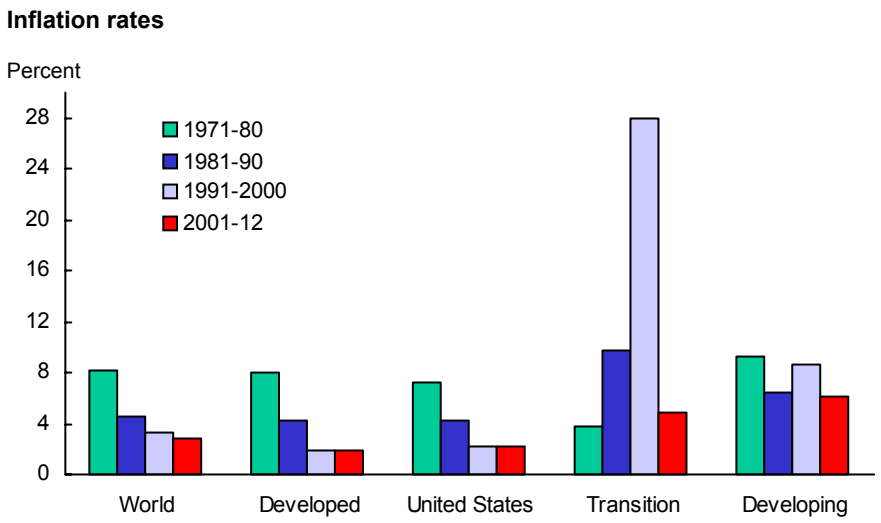


Oil prices declined in 2001-02 from the high levels of 2000. From 2003 forward, oil prices are projected to rise only slightly faster than the general inflation rate. These projections are generally consistent with the Energy Information Administration's January 2002 *Annual Long Term Outlook*.

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

- Most of the growth in world oil demand will be due to strong Asian GDP growth, which has a relatively high energy dependence.

- Oil prices affect the price of natural gas and the supply conditions for nitrogen-based fertilizer. However, since oil prices increase only slowly in real (inflation adjusted) terms in the baseline, no large boost in fertilizer prices is expected in 2003-12. As a result, energy prices have little impact on farm production costs over the projections period.



Inflation rates, which were relatively low in the 1990s (except in the transition economies), are projected to remain relatively low through 2012.

- For developed countries and the world, inflation is projected to be 2.5 percent or less.

- For the transition economies, inflation rates in the baseline come down dramatically from an annual average exceeding 20 percent in the 1990s, to approximately 4 percent per year in the projection period.

- Inflation rates in developing countries are also projected to fall, but less precipitously—from over 8 percent to just over 6 percent. Inflation in Asia declines to rates comparable to those in developed countries. Those in Latin America and the Middle East, while declining, will still remain substantially above inflation rates in the rest of the world.

Table 1. U.S. macroeconomic assumptions

Item	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP, billion dollars												
Nominal	10,082	10,429	10,860	11,421	12,057	12,730	13,439	14,188	14,979	15,815	16,696	17,627
Real 1996 chained dollars	9,215	9,418	9,663	9,972	10,271	10,579	10,896	11,223	11,560	11,907	12,264	12,632
percent change	0.3	2.2	2.6	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Disposable personal income												
Nominal (billions)	7,393	7,777	8,112	8,534	9,012	9,516	10,049	10,612	11,206	11,834	12,473	13,146
percent change	3.8	5.2	4.3	5.2	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.4
Nominal per capita, dollars	25,859	26,907	27,758	28,884	30,170	31,512	32,915	34,414	35,982	37,620	39,259	40,970
percent change	2.6	4.1	3.2	4.1	4.5	4.5	4.5	4.6	4.6	4.6	4.4	4.4
Real (billion 1996 chained)	6,748	7,031	7,221	7,460	7,691	7,929	8,175	8,428	8,690	8,959	9,219	9,486
percent change	1.8	4.2	2.7	3.3	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.9
Real per capita, 96 dollars	23,602	24,326	24,711	25,248	25,748	26,257	26,777	27,333	27,902	28,482	29,018	29,564
percent change	0.6	3.1	1.6	2.2	2.0	2.0	2.0	2.1	2.1	2.1	1.9	1.9
Consumer spending												
Real (billion 1996 chained)	6,377	6,562	6,720	6,921	7,122	7,328	7,541	7,760	7,985	8,216	8,455	8,700
percent change	2.5	2.9	2.4	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Inflation measures												
GDP price index, chained	109.4	110.7	112.4	114.5	117.4	120.3	123.3	126.4	129.6	132.8	136.1	139.5
percent change	2.4	1.2	1.5	1.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
CPI-U, 82-84=100	177.1	180.8	185.2	189.8	194.5	199.4	204.4	209.5	214.7	220.1	225.6	231.2
percent change	2.8	2.1	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PPI, finished goods 82=100	140.7	138.6	141.1	143.9	146.9	150.0	153.2	156.4	159.7	163.0	166.4	169.9
percent change	2.0	-1.5	1.8	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
PPI, crude goods 82=100	121.0	111.9	108.0	109.4	110.7	112.1	113.5	114.9	116.4	117.8	119.3	120.8
percent change	0.3	-7.5	-3.5	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Crude oil price, $/barrel												
Refiner acq. cost, imports	22.0	23.6	25.8	26.4	27.2	27.9	28.7	29.5	30.4	31.2	32.1	33.0
percent change	-20.5	7.3	9.2	2.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Real cost, 1996 chained dollars	20.1	21.3	23.0	23.1	23.1	23.2	23.3	23.4	23.4	23.5	23.6	23.6
percent change	-22.3	6.0	7.6	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Labor compensation per hour												
nonfarm business, 92=100	136.6	140.1	146.5	152.3	158.2	164.4	170.8	177.4	184.4	191.5	199.0	206.8
percent change	2.7	2.6	4.6	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Interest rates, percent												
3-month T-bills	3.4	1.7	1.9	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
3-month commercial paper	3.8	1.8	2.1	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Bank prime rate	7.0	4.8	4.8	7.3	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Treasury bonds (10-year)	4.9	4.8	4.9	5.7	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Moody's Aaa bonds	7.2	6.6	6.5	7.0	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Civilian unemployment												
rate, percent	4.8	5.9	6.1	6.0	5.5	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Nonfarm payroll emp., millions	131.9	132.6	133.6	135.6	137.2	138.9	140.5	142.2	143.9	145.6	147.4	149.0
percent change	0.0	0.5	0.8	1.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1
Total population, million	285.9	289.1	292.2	295.4	298.7	302.0	305.3	308.4	311.4	314.6	317.7	320.9
percent change	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0

Domestic macroeconomic assumptions were completed in October 2002.

Table 2. Global real GDP growth assumptions

Region/country	Share of world GDP 1996-2000	2000	2001	2002	2003	2004	2005	2006	Average 1991-2000	Average 2001-2005	Average 2006-2012
	Percent					*Percent change*					
World	100.0	3.9	1.1	1.7	2.8	3.2	3.2	3.2	2.7	2.4	3.2
less United States	68.8	3.9	1.6	1.5	2.9	3.2	3.3	3.3	2.5	2.5	3.4
Developed economies	75.9	3.3	0.6	1.3	2.2	2.7	2.5	2.5	2.4	1.9	2.5
United States	31.2	3.8	0.3	2.2	2.6	3.2	3.0	3.0	3.2	2.3	3.0
Canada	2.2	4.5	1.5	3.4	3.4	3.2	3.2	3.2	2.7	2.9	3.2
Japan	16.3	2.4	-0.4	-0.6	1.0	1.3	1.4	1.5	1.4	0.5	1.5
Australia	1.3	1.9	2.4	3.2	3.7	4.0	4.0	4.0	3.7	3.5	4.0
European Union-15	23.5	3.3	1.5	1.3	2.3	2.7	2.5	2.4	2.0	2.1	2.4
Other Western Europe	1.3	2.4	1.8	1.0	2.4	2.4	2.4	2.4	2.0	2.0	2.4
Transition economies	2.4	5.8	4.0	4.0	4.3	4.0	4.0	4.0	-1.8	4.1	4.0
Eastern Europe	1.2	3.9	3.6	4.3	4.5	4.5	4.4	4.3	1.5	4.3	4.3
Czech Republic	0.2	2.9	4.4	5.1	4.9	4.8	4.7	4.6	0.1	4.8	4.6
Hungary	0.1	5.2	4.7	4.6	4.9	4.9	4.9	4.9	0.9	4.8	4.9
Poland	0.5	4.0	2.6	3.8	4.6	4.6	4.6	4.6	3.7	4.0	4.6
Former Soviet Union	1.1	7.9	4.5	3.7	4.0	3.5	3.6	3.7	-4.2	3.9	3.7
Russia	0.8	7.7	5.4	4.1	4.4	3.7	4.0	4.1	-3.9	4.3	4.1
Ukraine	0.1	5.8	4.3	4.5	4.7	4.4	3.9	3.9	-7.7	4.4	3.9
Other	0.2	7.7	1.8	2.0	2.2	2.2	2.2	1.9	-3.5	2.1	1.9
Developing countries	21.7	5.6	2.5	2.9	4.5	5.0	5.1	5.1	4.7	4.1	5.2
Asia	10.0	6.7	4.6	4.8	5.6	5.9	5.9	5.9	6.5	5.5	6.0
East & Southeast Asia	7.2	7.4	4.7	4.9	5.7	6.1	6.1	6.1	7.2	5.7	6.3
China	3.2	7.9	7.3	7.4	7.5	7.4	7.4	7.4	10.2	7.4	7.4
Hong Kong	0.5	10.5	10.5	0.2	1.8	4.5	4.2	4.3	4.4	4.2	4.9
Korea	1.4	8.8	3.0	4.7	5.6	5.7	5.4	5.3	6.2	4.9	5.2
Taiwan	0.5	4.1	-3.5	0.3	2.4	3.6	3.8	3.7	4.5	1.3	3.7
Indonesia	0.5	4.8	3.3	2.8	3.8	4.5	4.8	5.0	4.4	3.8	5.2
Malaysia	0.3	8.3	0.4	3.0	5.9	6.0	5.9	5.8	7.2	4.2	5.8
Philippines	0.2	4.0	1.8	2.8	3.5	4.5	4.5	4.5	2.9	3.4	4.5
Thailand	0.4	4.3	1.8	2.6	5.1	6.0	5.9	5.8	4.5	4.3	5.6
Vietnam	0.1	5.8	6.6	5.8	5.8	5.8	5.8	5.8	5.4	6.0	5.8
South Asia	1.8	4.1	4.7	5.3	5.5	5.7	5.7	5.7	5.2	5.4	5.8
India	1.4	3.9	4.9	5.5	5.8	6.0	6.0	6.0	5.5	5.6	6.0
Pakistan	0.2	4.4	2.6	3.4	3.7	3.8	4.0	4.2	4.0	3.5	4.2
Bangladesh	0.1	5.9	6.0	5.5	5.3	5.2	5.1	5.0	4.8	5.4	4.9
Latin America	6.5	4.1	-0.1	-0.8	2.9	4.0	4.3	4.3	3.4	2.0	4.3
Caribbean & Central America	0.5	3.5	1.8	2.0	4.2	4.1	3.5	3.4	3.5	3.1	3.4
Mexico	1.8	6.9	-0.3	1.5	5.3	5.2	5.1	5.1	3.6	3.4	5.1
South America	4.2	2.9	-0.3	-2.3	1.5	3.4	3.9	4.1	3.3	1.3	4.0
Argentina	1.0	-0.5	-4.5	-13.7	-5.0	1.5	3.5	3.5	4.7	-3.6	3.7
Brazil	2.0	4.5	0.4	-0.5	2.5	3.5	4.0	4.3	2.7	2.0	4.2
Other	1.3	3.1	1.8	3.0	4.0	4.2	4.1	4.0	3.3	3.4	4.0
Middle East	3.5	6.1	0.7	3.5	4.2	4.0	4.2	4.1	3.8	3.3	4.0
Iran	1.0	5.4	4.3	3.6	3.5	3.6	3.7	3.8	4.1	3.7	3.8
Iraq	0.2	25.0	-5.7	7.1	6.0	5.5	5.5	5.4	8.4	3.7	5.1
Saudi Arabia	0.6	4.5	4.1	3.0	3.5	3.7	3.7	3.7	2.2	3.6	3.7
Turkey	0.7	7.2	-7.3	4.1	5.0	4.0	5.0	4.5	3.6	2.2	4.2
Other	1.1	3.6	2.0	2.5	4.2	4.1	4.0	4.0	4.6	3.4	4.0
Africa	1.7	3.3	3.7	3.9	4.5	4.4	4.5	4.3	2.7	4.2	4.2
North Africa	0.6	3.6	4.4	4.8	5.2	5.4	5.3	4.9	3.3	5.0	4.7
Algeria	0.2	2.4	3.3	4.1	4.2	5.3	4.7	4.2	1.7	4.3	4.1
Egypt	0.3	5.1	4.5	5.5	5.7	5.8	5.9	5.5	4.4	5.5	5.2
Morocco	0.1	0.9	6.1	4.2	4.8	4.1	4.2	4.3	2.4	4.7	4.3
Tunisia	0.1	4.7	4.5	4.3	5.6	5.5	5.4	4.8	4.8	5.1	4.6
Sub-Saharan Africa	0.6	3.1	4.0	4.2	5.2	5.1	4.8	4.7	2.7	4.7	4.6
South Africa	0.4	3.1	2.0	2.0	2.4	1.7	2.5	2.5	1.7	2.1	2.5

Global macroeconomic assumptions were completed in October 2002.

Table 3. Population growth assumptions

Region/country	Population in 2001	2000	2001	2002	2003	2004	2005	2006	Average 1991-2000	Average 2001-2005	Average 2006-2012
	Millions					*Percent change*					
World[1]	6,166	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.4	1.2	1.1
less United States	5,871	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.4	1.2	1.1
Developed economies	859	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.7	0.6	0.5
United States	286	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.0
Canada	32	1.0	1.0	1.0	1.0	0.9	0.9	0.9	1.2	1.0	0.9
Japan	127	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	-0.1
Australia	19	1.0	1.0	1.0	0.9	0.9	0.9	0.9	1.2	0.9	0.8
European Union-15	379	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1
Transition economies	411	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Eastern Europe	120	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1
Czech Republic	10	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.2
Hungary	10	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.3
Poland	39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Former Soviet Union	290	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.2
Russia	145	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	-0.3	-0.2
Ukraine	49	-0.8	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6	-0.5	-0.7	-0.5
Other	96	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.7	0.7	1.0
Developing countries	4,896	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.6	1.4	1.2
Asia	3,303	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.5	1.3	1.1
East & Southeast Asia	1,826	1.1	1.1	1.1	1.0	1.0	0.9	0.9	1.2	1.0	0.8
China	1,273	0.9	0.9	0.9	0.9	0.8	0.8	0.7	1.0	0.8	0.6
Hong Kong	7	1.8	1.3	1.3	1.2	1.2	1.2	1.1	2.3	1.2	1.0
Korea	48	0.9	0.9	0.9	0.8	0.8	0.8	0.7	1.0	0.8	0.6
Taiwan	22	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.9	0.8	0.7
Indonesia	228	1.7	1.6	1.6	1.6	1.5	1.5	1.4	1.8	1.6	1.3
Malaysia	22	2.1	2.0	1.9	1.9	1.9	1.8	1.8	2.2	1.9	1.7
Philippines	83	2.1	2.1	2.0	2.0	2.0	1.9	1.9	2.2	2.0	1.8
Thailand	62	1.0	0.9	0.9	0.9	0.8	0.8	0.8	1.1	0.9	0.7
Vietnam	80	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.7	1.4	1.3
South Asia	1,306	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.8	1.6	1.4
India	1,030	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.8	1.5	1.3
Pakistan	145	2.2	2.2	2.1	2.1	2.0	1.9	1.9	2.2	2.1	1.8
Bangladesh	131	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.4
Latin America	528	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.6	1.3	1.1
Caribbean & Central America	75	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.7	1.5	1.4
Mexico	102	1.6	1.5	1.5	1.5	1.4	1.4	1.3	1.7	1.5	1.3
South America	351	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.6	1.2	1.0
Argentina	37	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.3	1.1	1.0
Brazil	174	1.0	0.9	0.9	0.9	0.8	0.8	0.7	1.4	0.9	0.7
Other	140	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.9	1.6	1.4
Middle East	246	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.2	1.9	1.9
Iran	66	0.9	0.8	0.7	0.8	1.1	1.3	1.4	1.7	0.9	1.4
Iraq	23	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.3	2.8	2.6
Saudi Arabia	23	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Turkey	66	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.6	1.2	1.0
Other	68	2.8	2.7	2.7	2.7	2.7	2.6	2.6	3.0	2.7	2.5
Africa	818	1.8	1.8	1.8	1.7	1.6	1.6	1.6	2.1	1.7	1.5
North Africa	142	1.7	1.7	1.7	1.6	1.6	1.5	1.5	2.0	1.6	1.4
Algeria	32	1.8	1.7	1.7	1.7	1.6	1.6	1.6	2.1	1.7	1.5
Egypt	70	1.8	1.7	1.7	1.7	1.6	1.6	1.5	2.0	1.6	1.4
Morocco	31	1.8	1.7	1.7	1.7	1.6	1.6	1.6	2.0	1.7	1.5
Tunisia	10	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.6	1.1	1.0
Sub-Saharan Africa	633	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.3	2.1	1.9
South Africa	44	0.6	0.4	0.1	-0.1	-0.3	-0.6	-0.8	1.3	-0.1	-1.1

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 2002.

Crops

Stronger global economic growth beginning in 2003 provides a more favorable demand setting for field crops, supporting longer run increases in consumption, trade, and prices. A continued strong U.S. dollar and trade competition from areas such as Brazil, Argentina, and the Black Sea region are factors constraining U.S. exports, however.

Near-term acreage projections for 2003 and 2004 indicate a response to drought-related production shortfalls and higher prices for many crops in 2002. U.S. plantings for eight major field crops rise from 249 million acres in 2002 to about 253 million acres in 2003. Acreage falls back to about 248 million in 2005 before growing slowly to about 252 million by 2012 in response to growing demand and rising market prices.

Baseline assumptions for field crops reflect provisions of the Farm Security and Rural Investment Act of 2002 (2002 Farm Act), which is assumed to continue through the projection period. The new farm legislation introduces some new policies to the array of agricultural commodity programs. However, in many ways, the 2002 Farm Act extends provisions of the 1996 Farm Act and the ad hoc emergency spending bills of 1998-2001. For example, marketing assistance loans existed under previous U.S. farm law, direct payments replace production flexibility contract payments of the 1996 Farm Act, and counter-cyclical payments are intended to institutionalize the market loss assistance payments of the past several years.

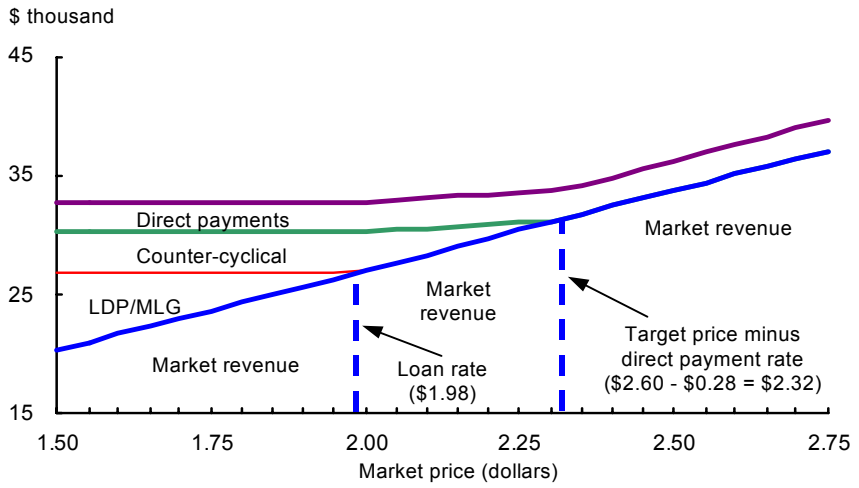
The 2002 Farm Act continues planting flexibility provisions, giving farmers almost complete flexibility in deciding which crops to plant. Producers are permitted to plant all cropland acreage on the farm to any crop, except for some limitations on planting fruits, vegetables, and wild rice on base acres. The land must be kept in an agricultural or conserving use (as determined by the Secretary), and farmers must comply with certain conservation and wetland provisions.

Crop Revenues under the 2002 Farm Act

Corn market revenues and program payments at different price levels illustrate some properties of income-support provisions of the 2002 Farm Act. Corn program provisions for the 2002 crop are used in this illustration. Revenue calculations are for a farm with 100 acres of corn, 100 acres of corn base, corn yields of 135 bushels an acre, a program-payment yield of 103 bushels an acre used for direct payments, and an updated payment yield for counter-cyclical payments (CCPs) of 120 bushels an acre. In this example, it is assumed that the farmer has chosen to plant the same crop as the acreage base on the 100 acres.

- The portions of the accompanying figure labeled "Market revenue" represent receipts from the marketplace, which increase as market prices rise.
- The triangle labeled "LDP/MLG" represents marketing loan benefits in the form of loan deficiency payments (LDPs) and/or marketing loan gains (MLGs) that supplement market revenues at market prices below the loan rate ($1.98 for corn). As prices fall below the loan rate, marketing loan benefits rise and fully offset declines in market revenues since these program benefits are available for all production of loan eligible commodities.
- The area of the figure labeled "Counter-cyclical" represents the counter-cyclical payments under the 2002 Farm Act. Counter-cyclical payments are linked to market prices, with payments provided when prices are below the target price minus the direct payment rate ($2.60 minus $0.28, or $2.32, for corn). Payments increase as prices decline below $2.32 until they reach the loan rate ($1.98 for corn). For prices below the loan rate, counter-cyclical payments are at their maximum and do not change. Counter-cyclical payments do not fully offset reductions in market revenues as prices fall from $2.32 to $1.98 because payments are made on 85 percent of the fixed acreage base and are paid on CCP payment yields rather than actual yields, and thus do not change with the farm's production.
- The area of the figure labeled "Direct payments" are fixed payments of $0.28 a bushel for corn, paid on 85 percent of the acreage base and a payment yield. These payments do not change with market prices or the farm's production.

Corn revenues under the 2002 Farm Act, basic case



Note: Assumes 100 acres of corn, 100 acres of corn base, 135 bushels/acre yield, 103 bushels/acre direct payment yield, and 120 bushels/acre counter-cyclical payment yield.

Source: Economic Research Service, USDA, AIB 778, http://www.ers.usda.gov/publications/aib778/.

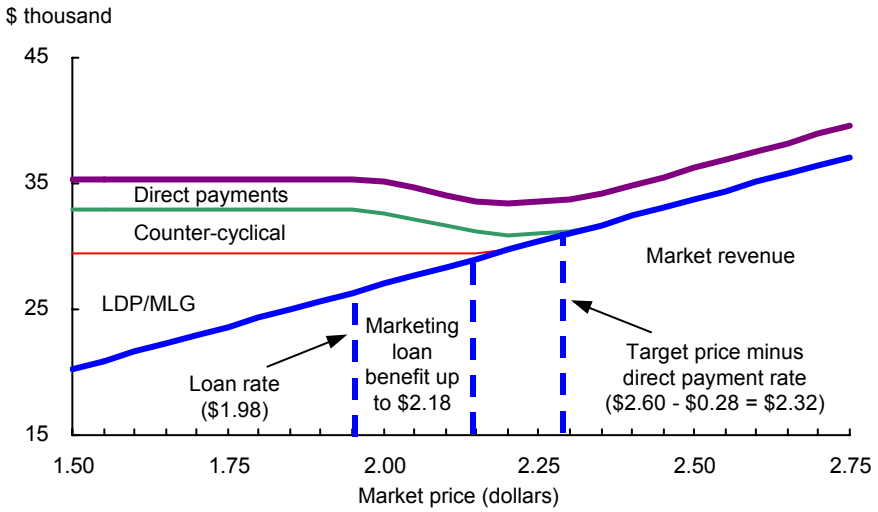
Counter-Cyclical Payments Likely to Overlap Marketing Loan Benefits

Counter-cyclical payments are likely to overlap with counter-cyclical aspects of marketing loan benefits in certain price ranges.

- In the figure in the previous box, marketing loan benefits are assumed only for season-average prices below the loan rate. However, marketing loans have enabled farmers to attain per unit revenues that, on average, exceed commodity loan rates when prices are relatively low. Many farmers use a two-step marketing procedure in which they receive program benefits when prices are seasonally low (and marketing loan benefits seasonally high) and then sell the crop later in the marketing year when prices have risen.

- The accompanying chart includes a representative level of $0.20 a bushel for corn for the expected above-loan-rate revenue facilitated by marketing loans when prices are low, based on the experience of recent years. With this expectation, average per unit market receipts and marketing loan benefits are kept from falling below $2.18. As a result, expected counter-cyclical payments overlap with counter-cyclical aspects of marketing loan benefits in the price range from $1.98 to $2.18, in effect providing two counter-cyclical benefits to farmers. As season-average prices fall in this price range, both counter-cyclical payments and marketing loan benefits rise, causing total revenues to increase.

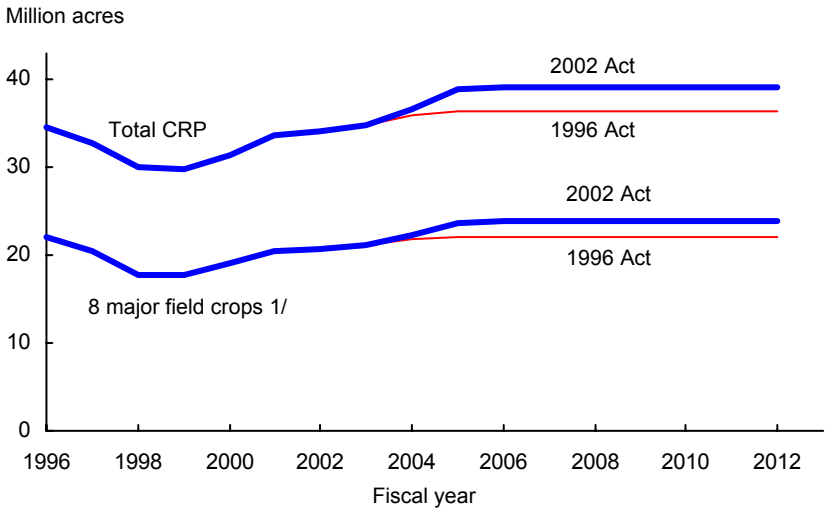
Corn revenues under the 2002 Farm Act, with above-loan-rate marketing loan benefit



Note: Assumes 100 acres of corn, 100 acres of corn base, 135 bushels/acre yield, 103 bushels/acre direct payment yield, and 120 bushels/acre counter-cyclical payment yield. Assumes per unit revenue facilitated by marketing loan exceeds loan rate by an average of 20 cents/bushel.

Source: Economic Research Service, USDA, AIB 778, http://www.ers.usda.gov/publications/aib778/.

Conservation Reserve Program (CRP) acreage

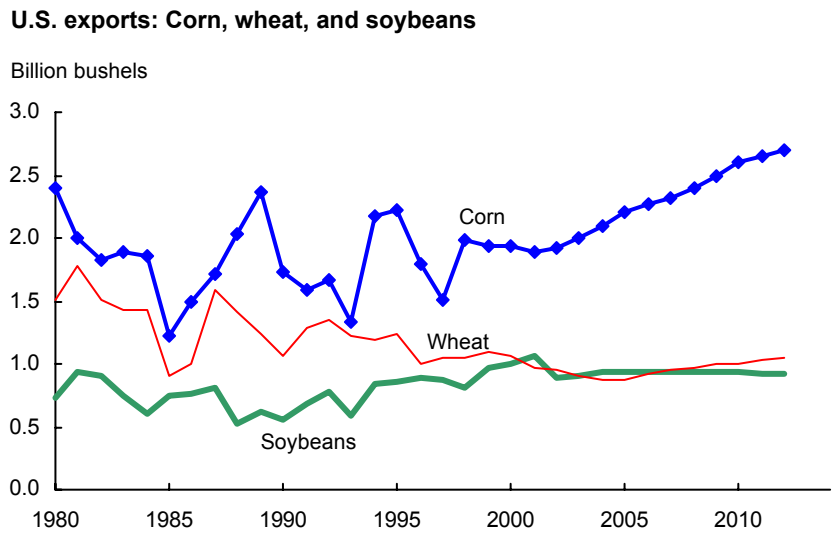


1/ The eight major field crops are corn, sorghum, barley, oats, wheat , rice, upland cotton, and soybeans.

Source: Economic Research Service, USDA, AIB 778, http://www.ers.usda.gov/publications/aib778/.

Under the voluntary Conservation Reserve Program (CRP), farmland owners submit bids to retire highly erodible and other environmentally sensitive cropland from production for 10-15 years. CRP enrollment is designed to enhance environmental quality and improve wildlife habitat. Farmers receive a cost-share payment to establish a permanent cover crop and annual rental payments for retiring land and maintaining specified conservation practices.

- The maximum CRP area is increased to 39.2 million acres under the 2002 Farm Act, up from 36.4 million acres under the 1996 Act. The expansion of the CRP under the 2002 Farm Act will reduce land available for crop production somewhat, with about 60 percent of the reserve allocated to the eight major field crops.

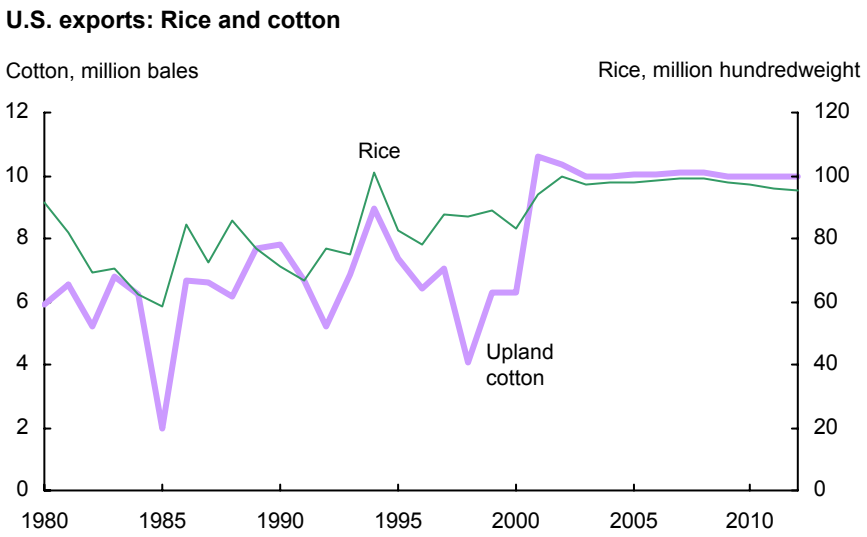


Global economic recovery underlies longrun growth in U.S. exports, but gains in trade are constrained by a strong U.S. dollar and by expanding competition in some key export markets.

- U.S. corn exports are projected to increase at a faster rate than in the 1980s and 1990s. The U.S. corn sector increases its trade share of the global corn market although competition from Argentina and Eastern Europe result in their corn trade shares increasing as well.

- U.S. wheat exports decline through 2005/06 because of a recovery in exports from Canada and Australia following droughts in 2002 as well as large exports from the Black Sea region and the EU. As global wheat trade strengthens, U.S. exports rise through the remainder of the projections, although competition holds the U.S. trade share relatively flat in 2005-12 at levels below those of the late 1990s.

- U.S. exports of soybeans rise only moderately in the baseline, reflecting slow growth in domestic production and increased foreign competition, particularly from South America.

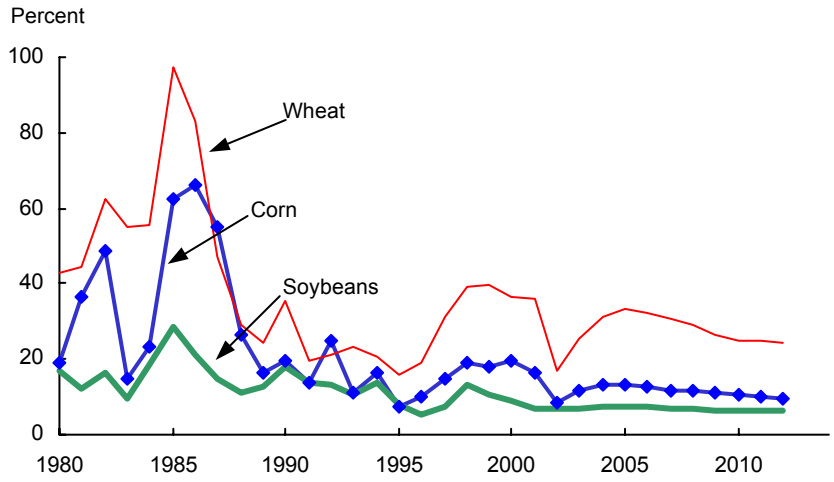


U.S. rice and cotton exports show little or no growth through most of the baseline period.

- After falling slightly in 2003 from a record high level in 2002, rice exports rise moderately through 2007 as gains in production are stronger than domestic market needs and price differentials between domestic and world rice prices weaken. In the longer run, U.S. rice exports fall as domestic use outstrips production growth, raising the price differential between U.S. and Asian rice.

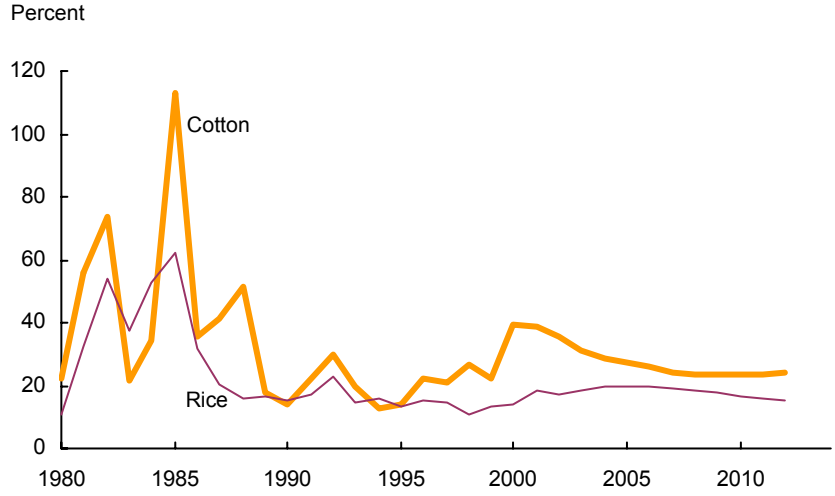
- Upland cotton exports remain relatively stable in the baseline, near 10 million bales annually, as foreign competition strengthens and keeps U.S. cotton exports from expanding above the recent 75-year high. With world cotton trade expanding throughout the projections, the U.S. share of global exports declines but is still about 30 percent in 2012/13.

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

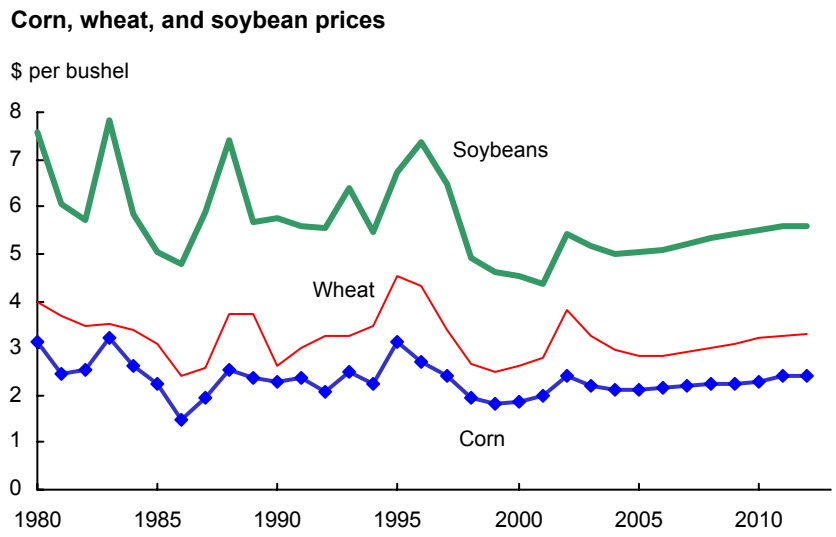


U.S. stocks-to-use ratios for corn and wheat initially increase from relatively low levels at the end of 2002/03, before declining through the remainder of the baseline as domestic use and exports rise faster than production. The stocks-to-use ratio for soybeans is relatively flat throughout the projections.

Stocks-to-use ratios: Cotton and rice



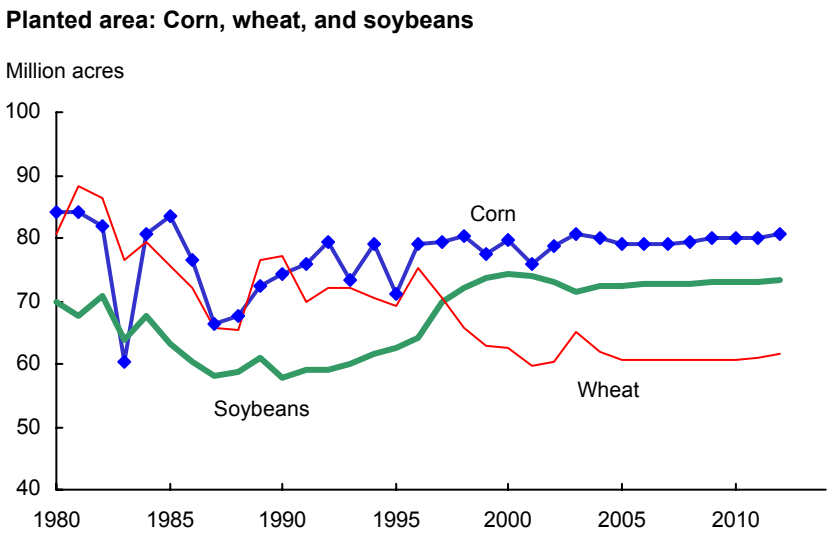
The stocks-to-use ratio for cotton declines from recent high levels and becomes relatively stable toward the end of the projections. The rice stocks-to-use ratio initially rises due to large domestic production, but then gradually falls through the rest of the baseline as domestic use strengthens and outstrips production growth.



Projected prices for corn, wheat, and soybeans reflect, in part, movements in stocks-to-use ratios.

- Prices decline over the next several years as production recovers from the reduced levels of the 2002 crops.

- Prices for corn, wheat, and soybeans rise during the remainder of the baseline as growth in demand outpaces gains in production.



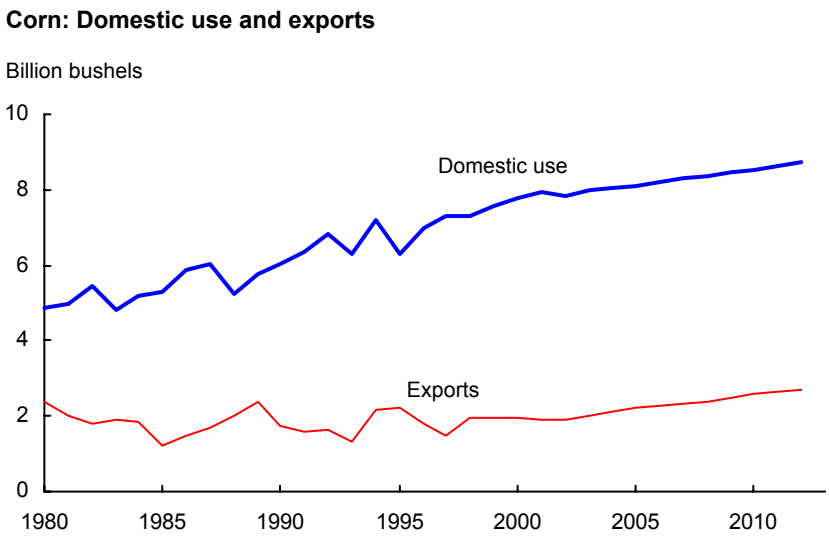
Aggregate U.S. crop area increases sharply in 2003, due mainly to rising corn and wheat plantings as farmers respond to reduced supplies and higher prices in 2002. As production rebounds and prices decline, acreage falls through 2005. For the remainder of the projections, acreage increases as producers respond to generally rising net returns as demand and prices strengthen.

- Area planted to the eight major U.S. crops is expected to rise from 249 million acres to about 253 million in 2003, fall back to 248 million in 2005, and then gradually rise to about 252 million acres by 2012. Plantings remain considerably below the recent high level of over 260 million acres in 1996. Corn, wheat, and soybeans account for about 85 percent of this acreage.

- Marketing loan benefits have a direct impact on net returns for some crops through much of the baseline, thus influencing the aggregate level of plantings as well as the cropping mix in the projections.

- Corn and wheat acreage each rise in 2003, particularly wheat, in response to reduced supplies and high market prices in 2002/03. Plantings fall back over the following 2 years as supplies rebound and prices decline. Marketing loan benefits largely offset market price movements and, thus, hold corn plantings flat in 2005-07 and wheat acreage flat in 2005-10. Additional acreage is attracted to these crops in later years as net returns increase.

- Soybean area planted declines in 2003 due to higher returns for competing crops, particularly corn. Soybean acreage then is expected to increase slightly through the rest of the projection period in response to growing demand and higher prices and net returns. Marketing loan benefits also support soybean net returns and acreage in 2004-06.



Domestic corn use is strong in the initial years and continues growing throughout the period.

- Feed and residual use is relatively unchanged in the initial years with fewer cattle on feed and lower pork production offsetting increases in poultry output. Feed use then rises through the remainder of the projections as meat production increases.

- Major growth is expected for ethanol use (see box, page 30) as many States ban methyl tertiary butyl ether (MTBE) as a fuel oxygenate.

- Gains in high-fructose corn syrup (HFCS) and most other food and industrial components are projected to be smaller than in the past decade. These are mature markets, with projected gains largely reflecting population growth.

- U.S. corn exports rise faster than global trade with the United States increasing its market share. China's corn exports drop as its livestock sector expands. However, the U.S. corn sector faces increased competition from Argentina and Eastern Europe, which increase their shares of the global corn trade market.

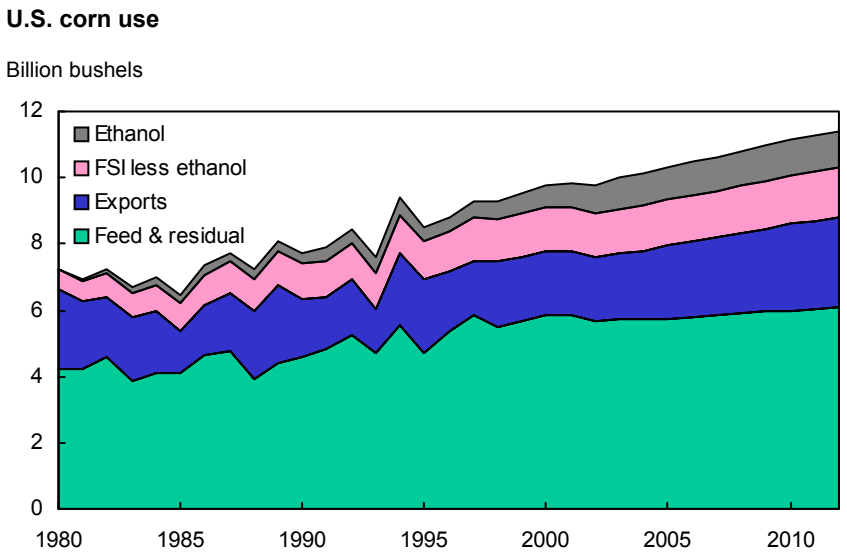
Ethanol Production Boosts Demand for U.S. Corn

Corn used for fuel alcohol has grown sharply since the early 1980s. As a result of this growth, fuel alcohol has become the largest component within the food, seed, and industrial (FSI) use category and total FSI has overtaken corn exports in recent years. Fuel alcohol production and the related use of corn as a feedstock largely reflect the interaction of government incentives and policies, technology development, corn prices, prices of production co-products, and prices of energy substitutes.

Ethanol production expanded very rapidly until 1995/96, when there was a major contraction due to tight corn supplies and record high corn prices. Since then, ethanol output has rebounded, especially since methyl tertiary butyl ether (MTBE), a competing oxygenate produced from methyl alcohol, was found in groundwater supplies and government policies have encouraged ethanol use.

Ethanol production is projected to increase at an annual average rate of 3 percent a year in the baseline, slightly greater than the growth in domestic use of gasoline projected by the Department of Energy, Energy Information Administration. Production gains for ethanol are stronger in the early years of the baseline because many States are banning MTBE, with ethanol production growth then slowing to about 2 percent a year.

Corn is the major feedstock used to make ethanol, accounting for about 90 percent of production, followed by sorghum at about 8 percent. Other feedstocks include wheat, barley, wheat gluten, and some waste products and residues from agricultural processing industries such as brewing and dairy. There is limited substitution among feedstocks, largely for technical reasons. However, an increasing number of dry milling ethanol plants can switch among grains and typically use the cheapest grain available. Some of these plants routinely use sorghum as the principal feedstock but may switch to corn when sorghum supplies are tight.



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Ethanol Production Boosts Demand for U.S. Corn--continued

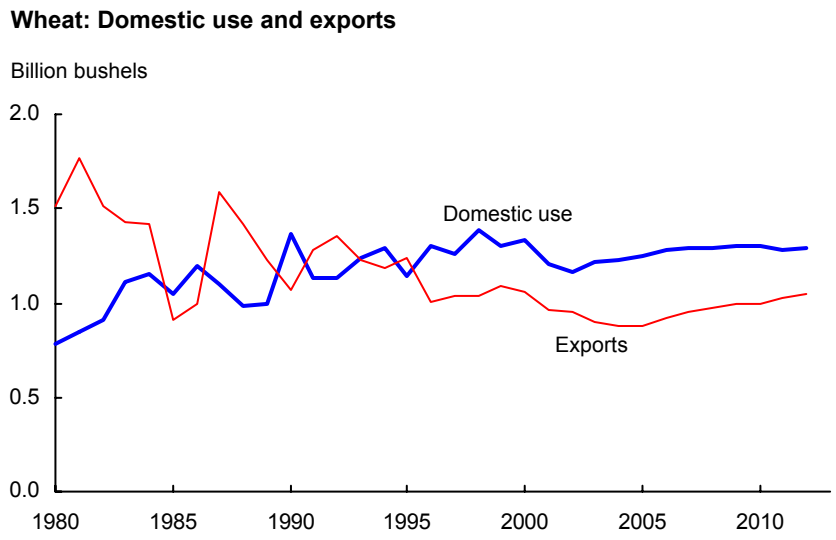
Policies are very important for the expansion of ethanol production. In 1998, the U.S. Congress extended the federal tax credit of 54 cents per gallon for ethanol blending to 2007 from the original expiration date of 2000, but specified 1-cent reductions in 2001, 2003, and 2005, settling at 51 cents in 2005. The bio-energy program helped boost ethanol production in 2001 and 2002 by providing payments for additional production, thereby reducing input costs for plants that expanded output. The 2002 Farm Act extended this program through fiscal year 2006.

Policy-influenced market conditions are also critical determinants of ethanol production. More than half of all fuel ethanol is blended into conventional gasoline as a fuel or octane enhancer. Prices of ethanol relative to gasoline prices are a key component for determining how much ethanol is blended. The remaining ethanol is used for blending into reformulated gasoline for the winter carbon monoxide program, which requires the use of oxygenated gasoline for designated winter months,[4] and for mandated use in other months in some locations to reduce smog. While use of oxygenates largely results from mandated clean air requirements, fuel producers can choose among competing oxygenates based on their relative prices. Some States offer incentives that also influence demand for ethanol. For instance, Illinois has a sales tax exemption for ethanol while Minnesota has mandated a year round minimum oxygen content requirement for all gasoline sold.

Net production costs relative to ethanol prices are critical to profitability and production decisions. Net costs are determined by the cost of corn or other feedstock adjusted for the market value of co-products from ethanol production. Ethanol wet mills produce corn gluten feed, corn gluten meal, corn oil, and carbon dioxide as co-products, while dry mills produce distillers dried grains with solubles (DDGS) and carbon dioxide co-products.

The baseline assumes that each 56 pound bushel of corn that goes into dry mill ethanol production results in 17.5 pounds of DDGS as a co-product. The protein content of DDGS for beef cattle is about 30 percent, compared to about 50 percent for soybean meal and about 10 percent for corn.[5] The energy value of DDGS falls between those of corn and soybean meal. Thus, the baseline assumes that the DDGS co-product of dry mill ethanol production substitutes for about a 50-50 split of corn and soybean meal in feed rations, or about 8.75 pounds each of corn and soybean meal for each corn bushel used for ethanol production.

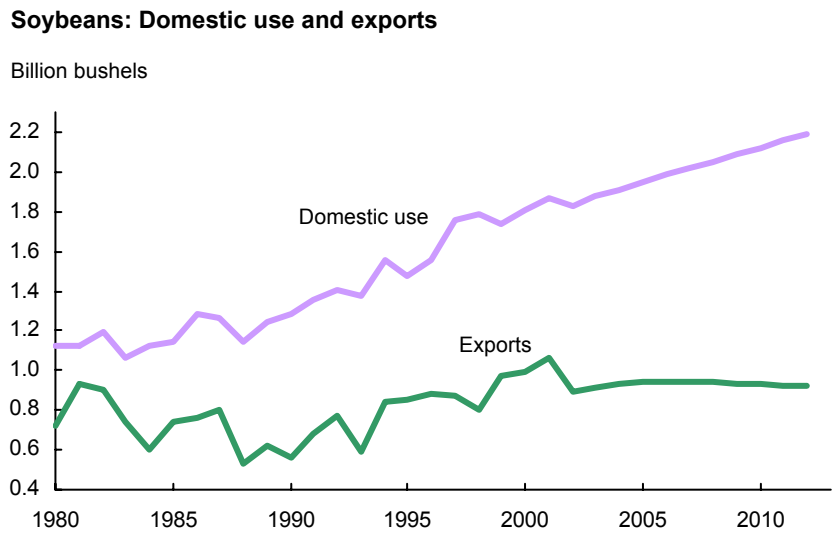
[4]The intent of the oxygenate in the winter carbon monoxide program is to offset the increased carbon monoxide levels emitted from gasoline engines due to hard starting and lengthy warm-up periods in cold weather.
[5]Source: National Research Council, *Nutrient Requirements of Beef Cattle*, Seventh Revised Edition, Update 2000.



Demand in the U.S. wheat sector grows slowly, with steady domestic market gains and moderate long-term increases in exports.

- Domestic wheat demand is a relatively mature market. Food use increases less than the rate of population growth, in line with recent trends since the mid 1990s as consumers have adjusted diets to include fewer carbohydrates. Feed use of wheat rebounds from relatively low levels in 2002/03, with yearly levels largely reflecting prices of wheat relative to corn.

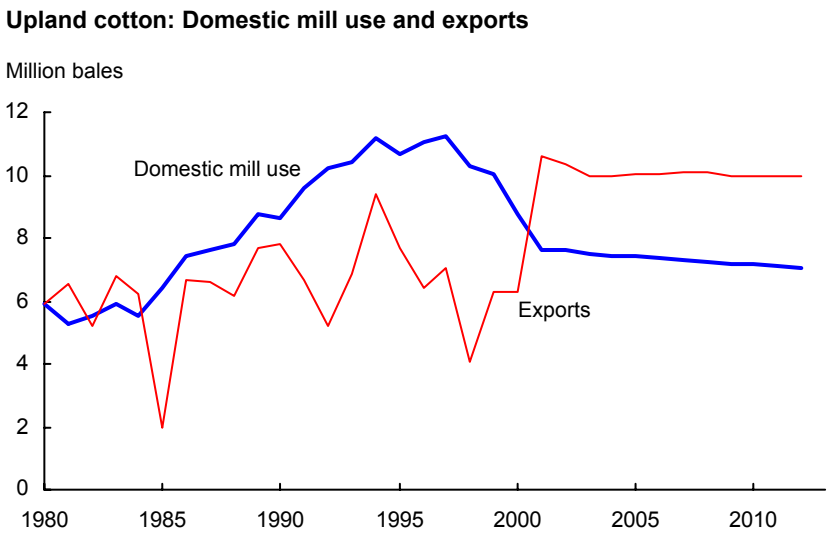
- U.S. wheat exports decline through 2005/06 as wheat production in Canada and Australia rebounds from drought-reduced levels in 2002 and competition continues from the EU and from nontraditional exporters of the Black Sea region. As global wheat trade expands over the remainder of the baseline, U.S. exports rise as well, but the U.S. market share remains relatively low at near 21 percent as all major wheat exporters gain proportionately.



- Growth in domestic soybean crush is largely driven by increasing demand for domestic soybean meal, mostly because of rising feed demand for expanding pork and poultry production.

- U.S. soybean exports show little or no growth in the baseline and decline towards the end of the projections, largely due to strong competition from Brazil. Consequently, the soybean trade market share for the United States continues to decline.

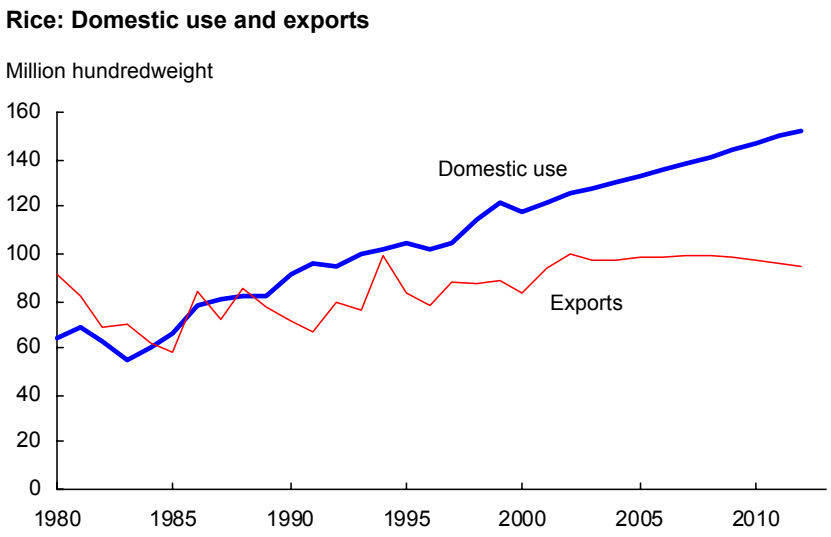
- U.S. exports of soybean meal and soybean oil also face competition from South American producers. Product market trade competition comes relatively more from Argentina, reflecting the predominantly export orientation of crushing in that country.



Domestic mill use of upland cotton declines slowly through the projection period. Annual exports of about 10 million bales remain above domestic mill use as cotton is exported for processing in developing countries with lower labor costs.

- After 2004, import quotas that have protected the U.S. textile industry will be completely eliminated, per the Uruguay Round's Agreement on Textiles and Clothing. Without the quotas originally instituted under the Multi-Fiber Arrangement (MFA), apparel imports rise, reducing the apparel industry's demand for fabric and yarn produced in the United States, and the U.S. spinning industry contracts.

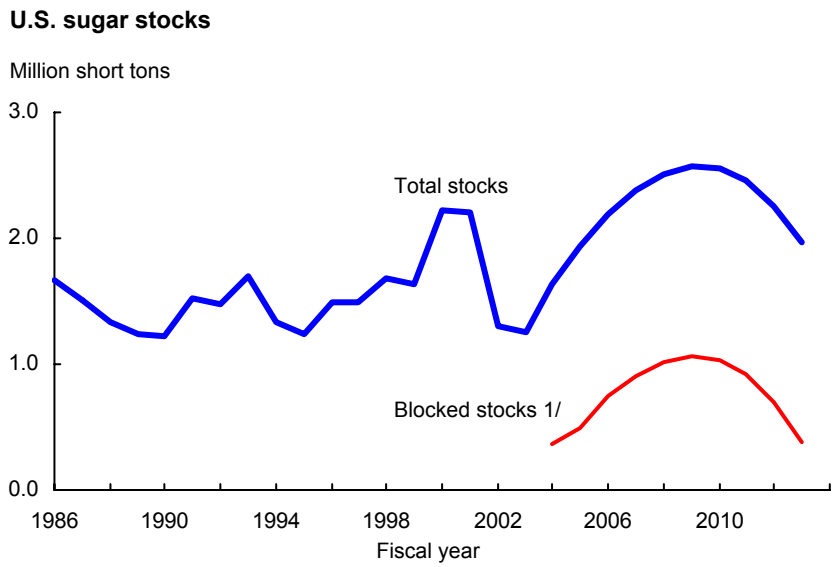
- Some increase in U.S. yarn and fabric exports is likely as a result of tariff reductions in other countries. However, the effects of these tariff adjustments are not expected to offset the impact of reduced U.S. apparel production on domestic mill use.



Steady growth in domestic food use of rice is projected. U.S. rice exports rise somewhat from 2003 to 2007 as large per-acre yields raise production and total supplies. Rising supplies reduce the price differential between U.S and foreign rice. By the latter part of the projections, continued expansion in domestic use outstrips supply growth, causing U.S. rice exports to contract.

- The expansion in domestic food use of rice reflects a growing share of U.S. population of Asian and Latin American descent, a continuing emphasis on healthier life styles, and the greater use of rice for processed foods, including pet foods.

- Continued expansion in domestic use of rice pushes U.S. prices higher relative to Asian competitors later in the projection period, a factor underlying weaker exports after 2008.



1/ Blocked stocks are stocks held by processors that cannot be marketed because of marketing allotments.

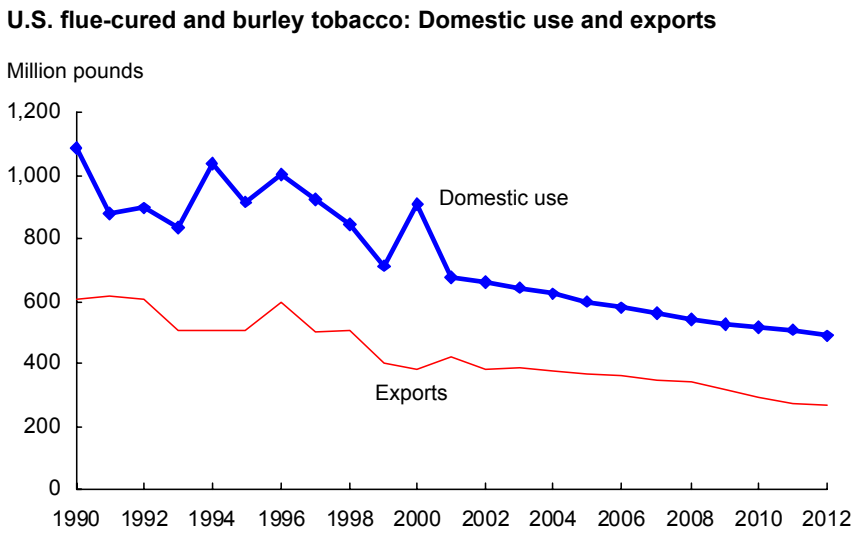
Slowly declining relative prices of U.S. sugar crops compared with alternative crops result in modest reductions in area planted and harvested in the baseline. Nominal sugar and sugar crop prices are expected to be at or above levels consistent with current sugar loan rates. Prices of alternative crops are projected to decline from recent high levels through fiscal year (FY) 2005, but are then expected to increase modestly to FY 2013.

- Despite declining acreage, U.S. sugar production will grow over the next 10 years. Trend improvements in sugarcane and sugarbeet growing, harvesting, and processing are reflected in projected gains in sugar produced per acre and technical improvements result in higher sugar yields.

- Total domestic deliveries are projected to increase slightly faster than the rate of population growth in the baseline, rising from about 10 million short tons, raw value (STRV) in FY 2004 to 11.2 million STRV in FY 2013.

- Baseline projections for sugar are very sensitive to sweetener developments in Mexico. The Mexican tax on soft drinks that use high fructose corn syrup increases Mexican demand for domestically produced sugar. Sugar available for export to the United States is projected to average 253,000 STRV a year in FY 2004-13.

- In the United States, total sugar imports less imports for re-export programs average 1.496 million STRV a year, below the 1.532 million STRV trigger for the suspension of marketing allotments. Application of marketing allotments guarantees that U.S. sugar prices are at, or above, the minimum price level to avoid forfeitures to the Commodity Credit Corporation. Stocks held by processors that cannot be marketed because of the allotments (blocked stocks) average 761,000 STRV a year in FY 2004-13.



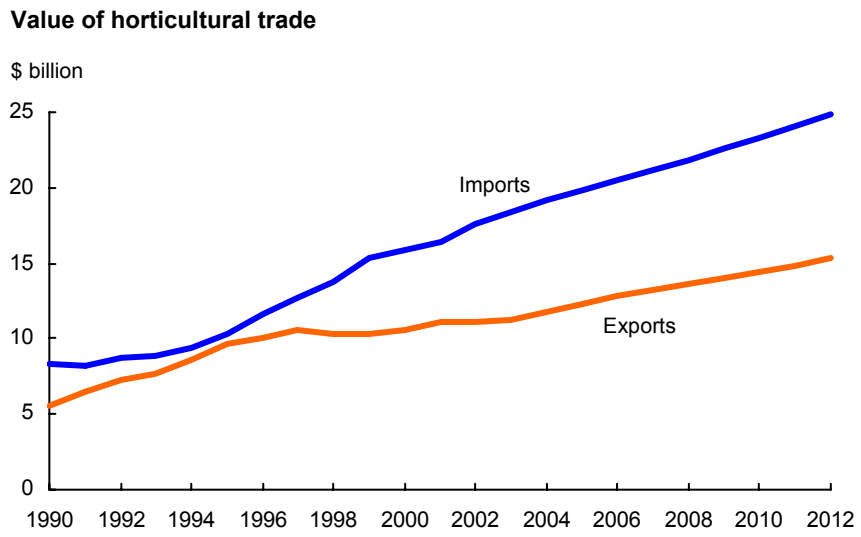
Both flue-cured and burley tobacco production, which together account for 95 percent of total U.S. leaf production, are expected to decline during the baseline period. Both are grown under a quota program. The marketing quota for both is determined by manufacturers' purchase intentions, the last 3 years' average exports, and an adjustment to maintain a specified reserve stock level. Manufacturers' purchase intentions have declined as cigarette output levels have fallen and imported tobacco use has risen. Furthermore, exports of both flue-cured and burley have slipped in the past 5 years as world leaf stocks are at sufficient levels and U.S. tobacco faces strong price competition from foreign producers such as Brazil and Zimbabwe. Loan reserve stocks have been adequate recently and adjustments have further reduced quota levels. Tobacco prices will continue to edge up as price supports increase.

- Declining cigarette consumption and exports combined with increased use of imported leaf reduce the volume of domestic leaf used by the cigarette manufacturing industry.

- U.S. cigarette consumption is falling 1 to 2 percent per year. As cigarette smoking in public places becomes more restricted and both prices and taxes increase, cigarette smokers are reducing per capita and total consumption even though about the same proportion of the population smokes.

- Cigarette exports peaked in 1996 and have been declining steadily since then. Exports during calendar 2002 are expected to be about 135 billion pieces, about the same as 2001. Exports are expected to maintain this level.

- Use of imported cigarette leaf has ballooned in the last few years. The imported component of U.S.-manufactured cigarettes reached 51 percent in 2000, then slipped to 48 percent in 2001. Manufacturers use less expensive imported leaf to produce more economical blends and reduce manufacturing costs. Imported leaf is expected to continue to displace domestic leaf in U.S. cigarettes.



The United States remains a net importer of horticultural products (fruit and nuts, vegetables, and greenhouse and nursery products). Exports continue to be crucial to the success of the U.S. horticultural sector, averaging about 22 percent of production value during the baseline period.

- Grapes, oranges, apples, fresh and processed potatoes, and processed tomatoes are among the leading horticultural export commodities.

- Major export markets for U.S. horticultural products include Canada, Japan, and Southeast Asian nations.

- Imports will continue to play an important role in the domestic supply of fresh vegetables during the winter months and, increasingly, during other times of the year.

- Major U.S. horticultural imports include bananas, grapes, frozen concentrated orange juice, potatoes, and tomatoes from Mexico, Chile, Canada, and Brazil.

Table 4. Summary baseline policy variables

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Target prices						*Dollars* [1]					
Corn	2.60	2.60	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
Sorghum	2.54	2.54	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57
Barley	2.21	2.21	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24
Oats	1.40	1.40	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
Wheat	3.86	3.86	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
Rice	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Upland cotton	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724
Soybeans	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80
Marketing assistance loan rates											
Corn	1.98	1.98	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Sorghum	1.98	1.98	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Barley	1.88	1.88	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
Oats	1.35	1.35	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Wheat	2.80	2.80	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Rice	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Upland cotton	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Soybeans	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Direct payment rates											
Corn	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Sorghum	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Barley	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Oats	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
Wheat	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Rice	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35
Upland cotton	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667
Soybeans	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Counter-cyclical payment rates [2]											
Corn	0.00	0.12	0.25	0.25	0.20	0.15	0.10	0.10	0.05	0.00	0.00
Sorghum	0.00	0.09	0.22	0.27	0.22	0.17	0.12	0.12	0.07	0.00	0.00
Barley	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oats	0.00	0.026	0.086	0.086	0.086	0.086	0.066	0.066	0.016	0.00	0.00
Wheat	0.00	0.09	0.45	0.55	0.55	0.50	0.40	0.30	0.20	0.15	0.10
Rice	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Soybeans	0.00	0.21	0.36	0.31	0.26	0.16	0.01	0.00	0.00	0.00	0.00

1/ Units are dollars per bushel except for upland cotton (per pound) and rice (per hundredweight).
2/ Counter-cyclical payment rates for upland cotton are not shown because USDA is prohibited from publishing cotton price projections.

Table 5. Conservation Reserve Program acreage assumptions

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
						Million acres						
Crop allocation												
Corn	4.9	5.0	5.0	5.2	5.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Sorghum	1.0	1.0	1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Barley	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Oats	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Wheat	7.2	7.3	7.4	7.7	8.3	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Upland cotton	1.4	1.4	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Soybeans	4.7	4.8	4.8	5.0	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Subtotal	20.5	20.7	20.9	21.7	23.6	23.9	23.9	23.9	23.9	23.9	23.9	23.9
Other	13.1	13.3	13.4	14.0	15.1	15.3	15.3	15.3	15.3	15.3	15.3	15.3
Total	33.6	34.0	34.4	35.7	38.7	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

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
						Million acres						
Planted area, 8 major crops												
Corn	75.8	78.8	80.5	80.0	79.0	79.0	79.0	79.5	80.0	80.0	80.0	80.5
Sorghum	10.3	9.3	9.0	9.1	9.2	9.2	9.3	9.3	9.4	9.5	9.5	9.6
Barley	5.0	5.1	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Oats	4.4	5.0	5.0	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Wheat	59.6	60.4	65.0	62.0	60.5	60.5	60.5	60.5	60.5	60.5	61.0	61.5
Rice	3.3	3.2	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Upland cotton	15.5	14.1	13.8	14.1	14.2	14.2	14.1	14.1	14.0	14.0	13.9	13.9
Soybeans	74.1	73.0	71.5	72.5	72.5	72.8	72.8	72.8	73.0	73.0	73.0	73.3
Total	248.0	248.9	253.1	250.7	248.2	248.5	248.5	249.0	249.7	249.8	250.2	251.6
Harvested area, 8 major crops												
Corn	68.8	70.5	73.5	73.0	72.0	72.0	72.0	72.5	73.0	73.0	73.0	73.5
Sorghum	8.6	7.5	7.7	7.8	7.9	7.9	8.0	8.0	8.1	8.2	8.2	8.3
Barley	4.3	4.1	4.4	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Oats	1.9	2.1	2.5	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Wheat	48.6	45.8	54.2	51.8	50.5	50.5	50.5	50.5	50.5	50.5	50.9	51.4
Rice	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Upland cotton	13.6	12.6	12.4	12.7	12.8	12.8	12.7	12.7	12.6	12.6	12.5	12.5
Soybeans	73.0	71.8	70.2	71.2	71.2	71.4	71.4	71.4	71.7	71.7	71.7	71.9
Total	222.1	217.6	228.1	226.3	224.1	224.3	224.3	224.8	225.6	225.7	226.0	227.3

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

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Yields[1]												
Corn	138.2	127.6	139.7	141.4	143.1	144.8	146.5	148.2	149.9	151.6	153.3	155.0
Sorghum	59.9	50.7	67.8	68.3	68.8	69.3	69.8	70.3	70.8	71.3	71.8	72.3
Barley	58.2	54.9	62.1	62.7	63.3	63.9	64.5	65.1	65.7	66.3	66.9	67.5
Oats	61.4	56.8	61.0	61.4	61.8	62.2	62.6	63.0	63.4	63.8	64.2	64.6
Wheat	40.2	35.4	40.5	40.8	41.1	41.4	41.7	42.0	42.3	42.6	42.9	43.2
Rice	6,429	6,611	6,675	6,741	6,809	6,871	6,926	6,978	7,031	7,084	7,137	7,191
Upland cotton	694	653	640	642	644	646	648	650	652	654	656	658
Soybeans	39.6	37.5	39.7	40.1	40.5	40.9	41.3	41.7	42.1	42.5	42.9	43.3
Production[2]												
Corn	9,507	9,003	10,270	10,320	10,305	10,425	10,550	10,745	10,945	11,065	11,190	11,395
Sorghum	515	381	520	535	545	545	560	560	575	585	590	600
Barley	249	227	275	275	285	290	290	295	295	300	300	305
Oats	117	119	155	135	125	125	125	125	125	130	130	130
Wheat	1,957	1,616	2,195	2,115	2,075	2,090	2,105	2,120	2,135	2,150	2,185	2,220
Rice	213.0	212.0	215.4	217.8	219.5	221.2	222.8	224.5	225.6	227.3	228.7	230.3
Upland cotton	19,602	17,180	16,500	17,000	17,200	17,200	17,100	17,200	17,100	17,200	17,100	17,100
Soybeans	2,891	2,690	2,785	2,855	2,885	2,920	2,950	2,975	3,020	3,045	3,075	3,115
Exports[2]												
Corn	1,889	1,925	2,000	2,100	2,200	2,275	2,325	2,400	2,500	2,600	2,650	2,700
Sorghum	241	245	240	250	255	260	265	270	275	280	285	290
Barley	27	20	30	30	30	30	30	30	30	30	30	30
Oats	3	2	2	2	2	2	2	2	2	2	2	2
Wheat	961	950	900	875	875	925	950	975	1,000	1,000	1,025	1,050
Rice	94.1	100.0	97.0	97.5	98.0	98.5	99.0	99.0	98.0	97.0	96.0	95.0
Upland cotton	10,603	10,325	10,000	10,000	10,050	10,050	10,100	10,100	10,000	10,000	10,000	10,000
Soybeans	1,063	890	910	935	940	940	940	940	935	930	925	925
Soybean meal	7,475	6,200	6,700	6,900	7,100	7,250	7,325	7,400	7,475	7,525	7,600	7,675
Ending stocks[2]												
Corn	1,599	848	1,148	1,348	1,348	1,308	1,258	1,243	1,243	1,178	1,103	1,098
Sorghum	59	36	56	66	76	76	76	71	71	71	71	71
Barley	93	73	80	85	99	111	117	121	119	115	110	108
Oats	63	58	83	87	80	82	83	83	82	85	82	83
Wheat	777	358	534	656	713	710	692	659	611	578	574	575
Rice	39.0	39.0	41.9	44.4	45.9	46.4	45.6	44.1	42.3	40.8	39.2	37.6
Upland cotton	7,098	6,412	5,450	5,000	4,750	4,550	4,250	4,100	4,000	4,050	4,050	4,100
Soybeans	208	185	190	205	210	210	210	200	200	200	200	205
Prices[3]												
Corn	1.97	2.40	2.20	2.10	2.10	2.15	2.20	2.25	2.25	2.30	2.40	2.40
Sorghum	1.95	2.45	2.10	2.00	1.95	2.00	2.05	2.10	2.10	2.15	2.25	2.25
Barley	2.22	2.60	2.35	2.30	2.30	2.30	2.35	2.40	2.40	2.45	2.50	2.50
Oats	1.59	1.80	1.35	1.25	1.25	1.30	1.30	1.35	1.35	1.40	1.45	1.45
Wheat	2.78	3.80	3.25	2.95	2.85	2.85	2.90	3.00	3.10	3.20	3.25	3.30
Rice	4.17	3.85	3.82	3.88	3.95	4.05	4.18	4.34	4.53	4.72	4.92	5.13
Soybeans	4.35	5.40	5.15	5.00	5.05	5.10	5.20	5.35	5.40	5.50	5.60	5.60
Soybean oil	0.165	0.210	0.238	0.240	0.235	0.230	0.225	0.225	0.228	0.233	0.240	0.248
Soybean meal	167.7	170.0	158.5	150.0	154.0	158.0	163.5	169.0	169.5	170.5	170.0	166.0

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).

Table 8. U.S. corn baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area (million acres):												
Planted acres	75.8	78.8	80.5	80.0	79.0	79.0	79.0	79.5	80.0	80.0	80.0	80.5
Harvested acres	68.8	70.5	73.5	73.0	72.0	72.0	72.0	72.5	73.0	73.0	73.0	73.5
Yields (bushels per acre):												
Yield/harvested acre	138.2	127.6	139.7	141.4	143.1	144.8	146.5	148.2	149.9	151.6	153.3	155.0
Supply and use (million bushels):												
Beginning stocks	1,899	1,599	848	1,148	1,348	1,348	1,308	1,258	1,243	1,243	1,178	1,103
Production	9,507	9,003	10,270	10,320	10,305	10,425	10,550	10,745	10,945	11,065	11,190	11,395
Imports	10	15	10	10	10	10	10	10	10	10	10	10
Supply	11,416	10,618	11,128	11,478	11,663	11,783	11,868	12,013	12,198	12,318	12,378	12,508
Feed & residual	5,874	5,675	5,700	5,700	5,750	5,800	5,850	5,900	5,950	6,000	6,050	6,100
Food, seed, & industrial	2,054	2,170	2,280	2,330	2,365	2,400	2,435	2,470	2,505	2,540	2,575	2,610
Fuel alcohol use	714	820	915	950	970	990	1,010	1,030	1,050	1,070	1,090	1,110
Domestic use	7,928	7,845	7,980	8,030	8,115	8,200	8,285	8,370	8,455	8,540	8,625	8,710
Exports	1,889	1,925	2,000	2,100	2,200	2,275	2,325	2,400	2,500	2,600	2,650	2,700
Total use	9,817	9,770	9,980	10,130	10,315	10,475	10,610	10,770	10,955	11,140	11,275	11,410
Ending stocks	1,599	848	1,148	1,348	1,348	1,308	1,258	1,243	1,243	1,178	1,103	1,098
Stocks/use ratio, percent	16.3	8.7	11.5	13.3	13.1	12.5	11.9	11.5	11.3	10.6	9.8	9.6
Prices (dollars per bushel):												
Farm price	1.97	2.40	2.20	2.10	2.10	2.15	2.20	2.25	2.25	2.30	2.40	2.40
Loan rate	1.89	1.98	1.98	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	171.33	170.94	175.18	177.97	180.85	184.12	187.41	190.62	193.62	196.50	199.46	202.48
Per bushel	1.24	1.34	1.25	1.26	1.26	1.27	1.28	1.29	1.29	1.30	1.30	1.31
Returns over variable costs (dollars per acre):												
Net returns[1]	117.51	135.30	132.16	126.04	126.82	127.20	134.89	142.83	143.66	152.18	168.46	169.52

1/ Net returns include estimates of marketing loan benefits.

Table 9. U.S. sorghum baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area (million acres):												
Planted acres	10.3	9.3	9.0	9.1	9.2	9.2	9.3	9.3	9.4	9.5	9.5	9.6
Harvested acres	8.6	7.5	7.7	7.8	7.9	7.9	8.0	8.0	8.1	8.2	8.2	8.3
Yields (bushels per acre):												
Yield/harvested acre	59.9	50.7	67.8	68.3	68.8	69.3	69.8	70.3	70.8	71.3	71.8	72.3
Supply and use (million bushels):												
Beginning stocks	42	59	36	56	66	76	76	76	71	71	71	71
Production	515	381	520	535	545	545	560	560	575	585	590	600
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Supply	556	441	556	591	611	621	636	636	646	656	661	671
Feed & residual	211	115	205	215	215	215	220	215	215	215	210	210
Food, seed, & industrial	45	45	55	60	65	70	75	80	85	90	95	100
Domestic	256	160	260	275	280	285	295	295	300	305	305	310
Exports	241	245	240	250	255	260	265	270	275	280	285	290
Total use	497	405	500	525	535	545	560	565	575	585	590	600
Ending stocks	59	36	56	66	76	76	76	71	71	71	71	71
Stocks/use ratio, percent	11.9	8.9	11.2	12.6	14.2	13.9	13.6	12.6	12.3	12.1	12.0	11.8
Prices (dollars per bushel):												
Farm price	1.95	2.45	2.10	2.00	1.95	2.00	2.05	2.10	2.10	2.15	2.25	2.25
Loan rate	1.71	1.98	1.98	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	97.79	96.98	99.22	100.85	102.45	104.21	105.96	107.68	109.34	110.97	112.64	114.31
Per bushel	1.63	1.91	1.46	1.48	1.49	1.50	1.52	1.53	1.54	1.56	1.57	1.58
Returns over variable costs (dollars per acre):												
Net returns[1]	19.61	27.23	48.58	45.99	45.47	44.78	44.11	43.46	42.88	42.32	48.91	48.36

1/ Net returns include estimates of marketing loan benefits.

Table 10. U.S. barley baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area (million acres):												
Planted acres	5.0	5.1	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Harvested acres	4.3	4.1	4.4	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Yields (bushels per acre):												
Yield/harvested acre	58.2	54.9	62.1	62.7	63.3	63.9	64.5	65.1	65.7	66.3	66.9	67.5
Supply and use (million bushels):												
Beginning stocks	106	93	73	80	85	99	111	117	121	119	115	110
Production	249	227	275	275	285	290	290	295	295	300	300	305
Imports	24	25	35	35	35	35	35	35	35	35	40	40
Supply	380	345	383	390	405	424	436	447	451	454	455	455
Feed & residual	88	80	100	100	100	105	110	115	120	125	130	130
Food, seed, & industrial	172	172	173	175	176	178	179	181	182	184	185	187
Domestic	260	252	273	275	276	283	289	296	302	309	315	317
Exports	27	20	30	30	30	30	30	30	30	30	30	30
Total use	287	272	303	305	306	313	319	326	332	339	345	347
Ending stocks	93	73	80	85	99	111	117	121	119	115	110	108
Stocks/use ratio, percent	32.4	26.8	26.4	27.9	32.4	35.5	36.7	37.1	35.8	33.9	31.9	31.1
Prices (dollars per bushel):												
Farm price	2.22	2.60	2.35	2.30	2.30	2.30	2.35	2.40	2.40	2.45	2.50	2.50
Loan rate	1.65	1.88	1.88	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	88.49	87.85	89.95	91.49	93.01	94.71	96.42	98.10	99.67	101.20	102.76	104.34
Per bushel	1.52	1.60	1.45	1.46	1.47	1.48	1.49	1.51	1.52	1.53	1.54	1.55
Returns over variable costs (dollars per acre):												
Net returns[1]	44.21	54.89	70.27	68.40	68.41	68.23	68.05	67.91	67.86	67.87	67.83	67.78

1/ Net returns include estimates of marketing loan benefits.

Table 11. U.S. oats baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area (million acres):												
Planted acres	4.4	5.0	5.0	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Harvested acres	1.9	2.1	2.5	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Yields (bushels per acre):												
Yield/harvested acre	61.4	56.8	61.0	61.4	61.8	62.2	62.6	63.0	63.4	63.8	64.2	64.6
Supply and use (million bushels):												
Beginning stocks	73	63	58	83	87	80	82	83	83	82	85	82
Production	117	119	155	135	125	125	125	125	125	130	130	130
Imports	96	100	110	110	110	115	115	115	120	120	120	125
Supply	286	282	323	328	322	320	322	323	328	332	335	337
Feed & residual	148	150	165	165	165	160	160	160	165	165	170	170
Food, seed, & industrial	72	72	73	74	75	76	77	78	79	80	81	82
Domestic	220	222	238	239	240	236	237	238	244	245	251	252
Exports	3	2	2	2	2	2	2	2	2	2	2	2
Total use	223	224	240	241	242	238	239	240	246	247	253	254
Ending stocks	63	58	83	87	80	82	83	83	82	85	82	83
Stocks/use ratio, percent	28.3	25.9	34.6	36.1	33.1	34.5	34.7	34.6	33.3	34.4	32.4	32.7
Prices (dollars per bushel):												
Farm price	1.59	1.80	1.35	1.25	1.25	1.30	1.30	1.35	1.35	1.40	1.45	1.45
Loan rate	1.21	1.35	1.35	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	54.42	53.95	55.39	56.24	57.16	58.18	59.18	60.15	61.08	61.99	62.94	63.89
Per bushel	0.89	0.95	0.91	0.92	0.92	0.94	0.95	0.95	0.96	0.97	0.98	0.99
Returns over variable costs (dollars per acre):												
Net returns[1]	44.43	48.29	39.16	37.70	37.39	36.99	36.60	36.24	35.92	35.62	35.29	34.95

1/ Net returns include estimates of marketing loan benefits.

Table 12. U.S. wheat baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area (million acres):												
Planted acres	59.6	60.4	65.0	62.0	60.5	60.5	60.5	60.5	60.5	60.5	61.0	61.5
Harvested acres	48.6	45.8	54.2	51.8	50.5	50.5	50.5	50.5	50.5	50.5	50.9	51.4
Yields (bushels per acre):												
Yield/harvested acre	40.2	35.4	40.5	40.8	41.1	41.4	41.7	42.0	42.3	42.6	42.9	43.2
Supply and use (million bushels):												
Beginning stocks	876	777	358	534	656	713	710	692	659	611	578	574
Production	1,957	1,616	2,195	2,115	2,075	2,090	2,105	2,120	2,135	2,150	2,185	2,220
Imports	108	80	100	105	110	115	115	115	115	120	120	120
Supply	2,941	2,474	2,653	2,754	2,841	2,918	2,930	2,927	2,909	2,881	2,883	2,914
Food	928	930	935	940	945	950	955	960	965	970	975	980
Seed	82	86	84	83	83	83	83	83	83	83	84	84
Feed & residual	193	150	200	200	225	250	250	250	250	250	225	225
Domestic	1,203	1,166	1,219	1,223	1,253	1,283	1,288	1,293	1,298	1,303	1,284	1,289
Exports	961	950	900	875	875	925	950	975	1,000	1,000	1,025	1,050
Total use	2,164	2,116	2,119	2,098	2,128	2,208	2,238	2,268	2,298	2,303	2,309	2,339
Ending stocks	777	358	534	656	713	710	692	659	611	578	574	575
Stocks/use ratio, percent	35.9	16.9	25.2	31.3	33.5	32.2	30.9	29.1	26.6	25.1	24.9	24.6
Prices (dollars per bushel):												
Farm price	2.78	3.80	3.25	2.95	2.85	2.85	2.90	3.00	3.10	3.20	3.25	3.30
Loan rate	2.58	2.80	2.80	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	66.31	65.51	67.30	68.49	69.71	71.08	72.44	73.75	74.98	76.17	77.40	78.64
Per bushel	1.65	1.85	1.66	1.68	1.70	1.72	1.74	1.76	1.77	1.79	1.80	1.82
Returns over variable costs (dollars per acre):												
Net returns[1]	49.06	69.01	64.33	55.95	55.64	55.19	54.75	54.35	56.15	60.15	62.02	63.92

1/ Net returns include estimates of marketing loan benefits.

Table 13. U.S. rice baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area (million acres):												
Planted	3,335	3,231	3,250	3,254	3,247	3,242	3,240	3,240	3,232	3,231	3,228	3,225
Harvested	3,314	3,207	3,227	3,231	3,224	3,219	3,217	3,217	3,209	3,208	3,205	3,202
Yields (pounds per acre):												
Yield/harvested acre	6,429	6,611	6,675	6,741	6,809	6,871	6,926	6,978	7,031	7,084	7,137	7,191
Supply and use (million cwt):												
Beginning stocks	28.5	39.0	39.0	41.9	44.4	45.9	46.4	45.6	44.1	42.3	40.8	39.2
Production	213.0	212.0	215.4	217.8	219.5	221.2	222.8	224.5	225.6	227.3	228.7	230.3
Imports	13.2	13.0	12.0	12.4	12.7	13.1	13.5	13.9	14.3	14.8	15.2	15.7
Total supply	254.7	264.0	266.4	272.0	276.6	280.3	282.7	284.0	284.0	284.4	284.7	285.1
Domestic use and residual	121.7	125.0	127.5	130.1	132.7	135.4	138.1	140.9	143.7	146.6	149.5	152.5
Exports	94.1	100.0	97.0	97.5	98.0	98.5	99.0	99.0	98.0	97.0	96.0	95.0
Total use	215.8	225.0	224.5	227.6	230.7	233.9	237.1	239.9	241.7	243.6	245.5	247.5
Ending stocks (million cwt.)	39.0	39.0	41.9	44.4	45.9	46.4	45.6	44.1	42.3	40.8	39.2	37.6
Stocks/use ratio, percent	18.1	17.3	18.6	19.5	19.9	19.8	19.2	18.4	17.5	16.7	15.9	15.2
Milling rate, percent	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0
Prices (dollars per cwt.):												
Premium	0.84	0.45	0.22	0.17	0.13	0.12	0.13	0.17	0.23	0.29	0.36	0.43
World price	3.33	3.40	3.60	3.71	3.82	3.93	4.05	4.17	4.30	4.43	4.56	4.70
Average market price	4.17	3.85	3.82	3.88	3.95	4.05	4.18	4.34	4.53	4.72	4.92	5.13
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	322	320	327	332	338	344	350	356	362	368	374	380
Per cwt.	5.01	4.84	4.89	4.93	4.96	5.01	5.06	5.11	5.15	5.19	5.24	5.28
Returns over variable costs (dollars per acre):												
Net returns[1]	160	140	122	117	114	111	109	109	111	113	116	119

1/ Net returns include estimates of marketing loan benefits.

Table 14. U.S. upland cotton baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area (million acres):												
Planted acres	15.5	14.1	13.8	14.1	14.2	14.2	14.1	14.1	14.0	14.0	13.9	13.9
Harvested acres	13.6	12.6	12.4	12.7	12.8	12.8	12.7	12.7	12.6	12.6	12.5	12.5
Yields (pounds per acre):												
Yield/harvested acre	694	653	640	642	644	646	648	650	652	654	656	658
Supply and use (thousand bales):												
Beginning stocks	5,880	7,098	6,412	5,450	5,000	4,750	4,550	4,250	4,100	4,000	4,050	4,050
Production	19,602	17,180	16,500	17,000	17,200	17,200	17,100	17,200	17,100	17,200	17,100	17,100
Imports	5	10	5	5	5	5	5	5	5	5	5	5
Supply	25,487	24,288	22,917	22,455	22,205	21,955	21,655	21,455	21,205	21,205	21,155	21,155
Domestic use	7,617	7,595	7,500	7,450	7,400	7,350	7,300	7,250	7,200	7,150	7,100	7,050
Exports	10,603	10,325	10,000	10,000	10,050	10,050	10,100	10,100	10,000	10,000	10,000	10,000
Total use	18,220	17,920	17,500	17,450	17,450	17,400	17,400	17,350	17,200	17,150	17,100	17,050
Ending stocks	7,098	6,412	5,450	5,000	4,750	4,550	4,250	4,100	4,000	4,050	4,050	4,100
Stocks/use ratio, percent	39.0	35.8	31.1	28.7	27.2	26.1	24.4	23.6	23.3	23.6	23.7	24.0
Prices (dollars per pound):												
Farm price[1]	0.298	---	---	---	---	---	---	---	---	---	---	---
Loan rate	0.5192	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	317.42	319.09	322.20	327.96	333.30	339.42	345.76	352.09	358.04	363.81	369.65	375.67
Per pound	0.46	0.49	0.50	0.51	0.52	0.53	0.53	0.54	0.55	0.56	0.56	0.57
Returns over variable costs (dollars per acre):												
Net returns[2]	123.41	90.67	99.37	110.08	106.75	103.02	105.11	103.43	97.78	98.04	95.72	93.28

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

Table 15. U.S. soybean and products baseline

Item	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Soybeans												
Area (million acres):												
Planted	74.1	73.0	71.5	72.5	72.5	72.8	72.8	72.8	73.0	73.0	73.0	73.3
Harvested	73.0	71.8	70.2	71.2	71.2	71.4	71.4	71.4	71.7	71.7	71.7	71.9
Yield/harvested acre (bushels)	39.6	37.5	39.7	40.1	40.5	40.9	41.3	41.7	42.1	42.5	42.9	43.3
Supply (million bushels)												
Beginning stocks, Sep. 1	248	208	185	190	205	210	210	210	200	200	200	200
Production	2,891	2,690	2,785	2,855	2,885	2,920	2,950	2,975	3,020	3,045	3,075	3,115
Imports	2	2	5	5	7	4	7	7	6	6	8	10
Total supply	3,141	2,900	2,975	3,050	3,097	3,134	3,167	3,192	3,226	3,251	3,283	3,325
Disposition (million bushels)												
Crush	1,700	1,660	1,705	1,740	1,775	1,810	1,840	1,875	1,910	1,940	1,975	2,010
Seed and residual	171	165	170	170	172	175	176	178	180	181	183	184
Exports	1,063	890	910	935	940	940	940	940	935	930	925	925
Total disposition	2,933	2,715	2,785	2,845	2,887	2,925	2,956	2,993	3,025	3,051	3,083	3,119
Carryover stocks, Aug. 31												
Total ending stocks	208	185	190	205	210	210	210	200	200	200	200	205
Stocks/use ratio, percent	7.1	6.8	6.8	7.2	7.3	7.2	7.1	6.7	6.6	6.6	6.5	6.6
Prices (dollars per bushel)												
Loan rate	5.26	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	4.35	5.40	5.15	5.00	5.05	5.10	5.20	5.35	5.40	5.50	5.60	5.60
Variable costs of production (dollars):												
Per acre	82.56	83.65	85.17	86.46	87.71	89.22	90.79	92.34	93.76	95.09	96.43	97.83
Per bushel	2.08	2.23	2.15	2.16	2.17	2.18	2.20	2.21	2.23	2.24	2.25	2.26
Returns over variable costs (dollars per acre):												
Net returns[1]	136.82	118.85	121.27	122.06	122.89	123.46	123.97	130.75	133.58	138.66	143.81	144.65
Soybean oil (million pounds)												
Beginning stocks, Oct. 1	2,877	2,360	1,485	1,470	1,575	1,750	1,940	2,045	2,120	2,170	2,135	2,070
Production	18,898	18,760	19,265	19,680	20,095	20,505	20,865	21,280	21,700	22,060	22,475	22,895
Imports	45	65	70	75	80	85	90	95	100	105	110	115
Total supply	21,820	21,185	20,820	21,225	21,750	22,340	22,895	23,420	23,920	24,335	24,720	25,080
Domestic disappearance	16,960	17,400	17,650	17,950	18,250	18,600	18,975	19,350	19,725	20,100	20,475	20,850
Exports	2,500	2,300	1,700	1,700	1,750	1,800	1,875	1,950	2,025	2,100	2,175	2,250
Total demand	19,460	19,700	19,350	19,650	20,000	20,400	20,850	21,300	21,750	22,200	22,650	23,100
Ending stocks, Sep. 30	2,360	1,485	1,470	1,575	1,750	1,940	2,045	2,120	2,170	2,135	2,070	1,980
Soybean oil price (dollars per lb)	0.165	0.210	0.238	0.240	0.235	0.230	0.225	0.225	0.228	0.233	0.240	0.248
Soybean meal (thousand short tons)												
Beginning stocks, Oct. 1	383	240	250	250	250	250	250	250	250	250	250	250
Production	40,346	39,470	40,620	41,460	42,310	43,160	43,935	44,710	45,510	46,310	47,135	47,960
Imports	110	240	230	240	240	240	240	240	240	240	240	240
Total supply	40,840	39,950	41,100	41,950	42,800	43,650	44,425	45,200	46,000	46,800	47,625	48,450
Domestic disappearance	33,124	33,500	34,150	34,800	35,450	36,150	36,850	37,550	38,275	39,025	39,775	40,525
Exports	7,475	6,200	6,700	6,900	7,100	7,250	7,325	7,400	7,475	7,525	7,600	7,675
Total demand	40,599	39,700	40,850	41,700	42,550	43,400	44,175	44,950	45,750	46,550	47,375	48,200
Ending stocks, Sep. 30	240	250	250	250	250	250	250	250	250	250	250	250
Soybean meal price (dollars per ton)	167.73	170.00	158.50	150.00	154.00	158.00	163.50	169.00	169.50	170.50	170.00	166.00
Crushing yields (pounds per bushel)												
Soybean oil	11.12	11.30	11.30	11.31	11.32	11.33	11.34	11.35	11.36	11.37	11.38	11.39
Soybean meal	47.46	47.54	47.70	47.70	47.70	47.70	47.70	47.70	47.70	47.70	47.70	47.70
Crush margin (dollars per bushel)	1.46	1.01	1.32	1.29	1.28	1.27	1.25	1.23	1.23	1.22	1.19	1.18

1/ Net returns include estimates of marketing loan benefits.

Table 16. U.S. sugar: supply, disappearance, and prices, fiscal years 1/

Item	Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Sugarbeets													
Planted area	1,000 acres	1,371	1,409	1,414	1,405	1,411	1,406	1,404	1,405	1,404	1,401	1,396	1,390
Harvested area	1,000 acres	1,244	1,356	1,385	1,376	1,382	1,377	1,375	1,376	1,375	1,372	1,367	1,361
Yield	Tons/acre	20.7	20.7	22.0	22.2	22.4	22.6	22.7	22.9	23.1	23.3	23.4	23.6
Production	Mil. s. tons	25.8	28.0	30.5	30.6	30.9	31.1	31.2	31.5	31.7	31.9	32.0	32.1
Sugarcane													
Harvested area	1,000 acres	974	968	965	965	965	964	964	961	955	951	945	940
Yield	Tons/acre	33.9	34.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.7	35.7
Production	Mil. s. tons	33.0	33.5	34.3	34.3	34.3	34.3	34.3	34.2	34.0	33.9	33.7	33.6
Supply:													
Beginning stocks	1,000 s. tons	2,201	1,295	1,260	1,636	1,934	2,194	2,377	2,500	2,572	2,555	2,453	2,253
Production	1,000 s. tons	7,906	8,305	8,831	8,875	8,963	9,020	9,084	9,152	9,199	9,249	9,286	9,317
Beet sugar	1,000 s. tons	3,914	4,315	4,551	4,570	4,637	4,672	4,712	4,765	4,810	4,852	4,884	4,911
Cane sugar	1,000 s. tons	3,992	3,990	4,280	4,305	4,326	4,348	4,372	4,386	4,389	4,398	4,402	4,406
Total imports	1,000 s. tons	1,539	1,565	1,720	1,764	1,764	1,760	1,758	1,767	1,758	1,756	1,756	1,758
TRQ less NAFTA[2]	1,000 s. tons	1,031	1,245	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204
Mexico - NAFTA low-tier	1,000 s. tons	119	0	57	89	79	70	0	0	0	0	0	0
Mexico - NAFTA high-tier[3]	1,000 s. tons	42	10	149	161	171	176	244	253	244	242	242	244
Re-export and polyhydric	1,000 s. tons	305	260	260	260	260	260	260	260	260	260	260	260
Other imports (17029040)	1,000 s. tons	43	50	50	50	50	50	50	50	50	50	50	50
Total supply	1,000 s. tons	11,646	11,165	11,811	12,275	12,661	12,973	13,220	13,418	13,530	13,560	13,495	13,328
Use:													
Exports	1,000 s. tons	108	125	125	125	125	125	125	125	125	125	125	125
Domestic deliveries	1,000 s. tons	10,135	9,780	10,050	10,216	10,342	10,471	10,595	10,721	10,850	10,982	11,117	11,242
Miscellaneous	1,000 s. tons	107	0	0	0	0	0	0	0	0	0	0	0
Total use	1,000 s. tons	10,350	9,905	10,175	10,341	10,467	10,596	10,720	10,846	10,975	11,107	11,242	11,367
Ending stocks	1,000 s. tons	1,295	1,260	1,636	1,934	2,194	2,377	2,500	2,572	2,555	2,453	2,253	1,961
Stocks/use ratio	Percent	12.5	12.7	16.1	18.7	21.0	22.4	23.3	23.7	23.3	22.1	20.0	17.3
Raw sugar price:													
New York (No. 14)	Cents/lb.	20.65	23.35	22.27	21.52	21.52	21.53	21.54	21.49	21.53	21.54	21.53	21.52
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	39.73	41.89	40.16	38.99	38.98	39.00	39.00	38.93	38.99	39.00	38.99	38.96
Sugarcane	Dol./ton	26.02	28.83	27.99	27.23	27.19	27.17	27.14	27.07	27.07	27.05	27.02	26.97

1/ Fiscal year is October 1 through September 30.
2/ Includes 8,000 STRV allocated to Mexico as part of the raw sugar TRQ and 3,256 STRV to Mexico as part of the refined sugar TRQ.
3/ Starting in FY 2008 under NAFTA, Mexico can ship duty-free sugar to the United States with no quantitative limit.

Table 17. Flue-cured tobacco baseline

Item	Unit	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area, yield, and production:													
Planted area	1,000 acres	238	248	255	257	253	243	235	232	230	230	230	227
Harvested area	1,000 acres	238	248	255	257	253	243	235	232	230	230	230	227
Yield	lbs./acre	2,432	2,106	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Production	Mil. lbs.	579	522	536	541	530	510	494	487	483	483	483	477
Supply:													
Beginning stocks	Mil. lbs.	1,036	916	853	800	735	675	605	540	495	460	445	440
Marketings	Mil. lbs.	544	565	560	530	520	500	485	485	480	480	480	480
Total[1]	Mil. lbs.	1,581	1,481	1,413	1,330	1,255	1,175	1,090	1,025	975	940	925	920
Imports	Mil. lbs.	199	200	200	210	210	210	210	215	215	215	215	215
Use:													
Domestic	Mil. lbs.	389	380	370	360	350	340	330	320	320	315	315	310
Exports	Mil. lbs.	276	248	243	235	230	230	220	210	195	180	170	165
Total[1]	Mil. lbs.	665	628	613	595	580	570	550	530	515	495	485	475
Ending stocks:													
Total	Mil. lbs.	916	853	800	735	675	605	540	495	460	445	440	445
Price:													
Avg. to growers	$/cwt	186	183	185	188	172	175	200	203	206	209	212	215
Support	$/cwt	166	166	169	172	175	182	185	188	191	195	198	200

1/ Domestic tobacco only.

Table 18. Burley tobacco baseline

Item	Unit	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Area, yield, and production:													
Planted area	1,000 acres	164	170	175	170	170	165	165	160	160	155	155	150
Harvested area	1,000 acres	164	170	175	170	170	165	165	160	160	155	155	150
Yield	lbs./acre	2,033	1,880	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Production	Mil. lbs.	334	304	368	357	357	347	347	336	336	326	326	315
Supply:													
Beginning stocks	Mil. lbs.	690	648	561	494	441	396	355	309	259	224	204	204
Marketings	Mil. lbs.	338	325	345	347	345	330	315	300	300	295	295	290
Total[1]	Mil. lbs.	1,028	973	906	841	786	726	670	609	559	519	499	494
Imports	Mil. lbs.	270	270	270	275	275	275	280	280	280	280	280	280
Use:													
Domestic	Mil. lbs.	285	280	270	260	250	240	230	220	210	200	190	180
Exports	Mil. lbs.	140	132	142	140	140	131	131	130	125	115	105	100
Total[1]	Mil. lbs.	425	412	412	400	390	371	361	350	335	315	295	280
Ending stocks:													
Total	Mil. lbs.	648	561	494	441	396	355	309	259	224	204	204	214
Price:													
Avg. to growers	$/cwt	197	198	203	206	209	212	216	219	223	227	230	234
Support	$/cwt	183	184	191	194	197	200	203	206	209	212	214	217

1/ Domestic tobacco only.

Table 19. Fruit, vegetable, and greenhouse/nursery baseline, production and prices

Item	Unit	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Production value:													
Fruit and nuts													
Citrus	$ Mil.	2,320	2,605	2,737	2,830	2,878	2,921	2,973	3,022	3,071	3,131	3,186	3,249
Noncitrus	$ Mil.	7,873	8,259	8,502	8,796	9,108	9,464	9,829	10,197	10,561	10,918	11,267	11,611
Nuts	$ Mil.	1,612	1,720	2,052	1,930	2,215	2,174	2,266	2,320	2,369	2,429	2,613	2,437
Total	$ Mil.	11,805	12,584	13,291	13,555	14,202	14,558	15,068	15,540	16,001	16,477	17,066	17,296
Vegetables													
Fresh[1]	$ Mil.	8,488	9,282	9,654	10,006	10,374	10,761	11,163	11,581	12,016	12,467	12,936	13,423
Processed[2]	$ Mil.	1,340	1,516	1,534	1,542	1,562	1,587	1,616	1,643	1,668	1,693	1,717	1,740
Potatoes	$ Mil.	3,058	3,171	3,171	3,033	3,035	3,106	3,215	3,328	3,428	3,505	3,560	3,601
Sweet potatoes	$ Mil.	224	219	222	239	245	251	257	263	269	275	281	287
Pulses	$ Mil.	444	559	588	559	589	611	634	656	678	701	725	748
Mushrooms	$ Mil.	868	912	947	964	980	996	1,011	1,027	1,041	1,055	1,069	1,082
Total	$ Mil.	14,421	15,658	16,116	16,342	16,785	17,312	17,895	18,497	19,100	19,696	20,288	20,881
Greenhouse/Nursery	$ Mil.	13,795	13,941	14,359	14,503	14,648	14,794	14,942	15,092	15,243	15,395	15,549	15,705
Production:													
Fruit and nuts													
Citrus	1,000 MT	14,711	14,871	13,576	15,045	15,272	15,369	15,637	15,775	15,846	16,073	16,148	16,337
Noncitrus	1,000 MT	15,261	15,476	16,075	16,045	16,159	16,395	16,645	16,892	17,121	17,323	17,498	17,655
Nuts	1,000 MT	622	655	572	647	630	601	720	594	754	654	705	746
Total	1,000 MT	30,593	31,002	30,222	31,737	32,061	32,365	33,003	33,262	33,722	34,050	34,352	34,738
Vegetables													
Fresh[1]	1,000 MT	20,028	20,569	21,217	21,673	22,122	22,576	23,036	23,502	23,975	24,455	24,944	25,441
Processed[2]	1,000 MT	13,740	16,018	15,905	16,006	16,138	16,346	16,580	16,806	17,027	17,243	17,454	17,662
Potatoes	1,000 MT	19,862	20,853	22,796	24,238	24,899	25,238	25,419	25,581	25,812	26,149	26,582	27,076
Sweet potatoes	1,000 MT	661	587	621	673	684	690	698	706	714	721	730	738
Pulses	1,000 MT	1,192	1,552	1,507	1,561	1,617	1,654	1,690	1,725	1,759	1,792	1,825	1,858
Mushrooms	1,000 MT	390	386	396	405	414	424	434	444	454	464	475	486
Total	1,000 MT	55,873	59,965	62,443	64,556	65,875	66,929	67,857	68,763	69,740	70,825	72,010	73,261
Prices:													
Grower													
Fruit and nuts	1990-92=100	108	110	113	117	122	126	130	133	135	137	139	142
Vegetables	1990-92=100	126	139	129	133	135	137	139	141	143	145	147	149
Potatoes	$/MT	154	152	139	125	122	123	126	130	133	134	134	133
Dry beans	$/MT	428	397	463	419	425	432	438	445	451	458	465	472
Retail													
Fruit and vegetables	1982-84=100	212	221	227	233	239	245	251	258	264	270	277	284
Fresh fruit	1982-84=100	265	269	279	288	297	306	314	323	332	341	350	359
Fresh vegetables	1982-84=100	231	245	250	255	261	267	274	281	287	294	301	310
Processed fruit & veg.	Dec 1997=100	109	114	118	121	123	126	129	132	135	137	140	143

1/ Includes artichokes, asparagus, snap beans, broccoli, brussels sprouts, cabbage, carrots, cauliflower, celery, sweet corn, eggplant, escarole-endive, garlic, lettuce, bell peppers, onions, spinach, tomatoes, and melons.
2/ Includes asparagus, lima beans, snap beans, broccoli, beets, cabbage, carrots, cauliflower, sweet corn, cucumbers, green peas, spinach, and tomatoes.

Table 20. Fruit, vegetable, and greenhouse/nursery baseline, trade

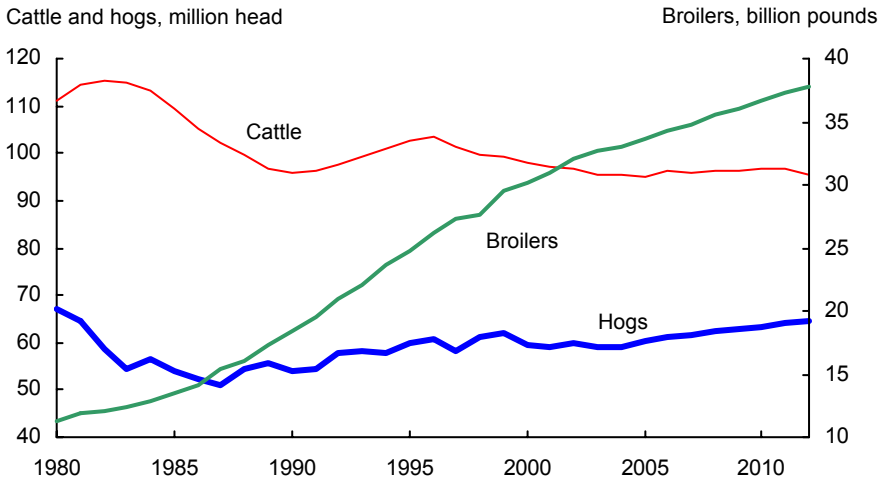
Item	Unit	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Imports													
Fruit and nuts[1]													
Fresh	$ Mil.	3,290	3,486	3,601	3,732	3,864	3,995	4,126	4,256	4,387	4,518	4,649	4,780
Processed	$ Mil.	3,584	3,809	3,969	4,045	4,193	4,349	4,512	4,682	4,861	5,047	5,243	5,447
Nuts	$ Mil.	628	660	713	727	741	756	771	787	803	819	835	852
Total	$ Mil.	7,502	7,955	8,283	8,504	8,798	9,100	9,409	9,726	10,051	10,384	10,727	11,079
Vegetables[2]													
Fresh	$ Mil.	2,569	2,355	2,509	2,617	2,723	2,829	2,935	3,042	3,149	3,256	3,364	3,472
Processed	$ Mil.	1,045	1,122	1,119	1,143	1,175	1,207	1,240	1,272	1,305	1,338	1,372	1,406
Potatoes	$ Mil.	549	623	637	671	700	728	759	792	828	865	902	941
Sweet potatoes	$ Mil.	27	29	28	29	28	29	29	30	31	32	32	33
Pulses	$ Mil.	100	104	82	85	88	92	95	99	102	106	109	113
Mushrooms	$ Mil.	179	177	179	180	182	184	186	189	191	193	196	198
Total	$ Mil.	4,468	4,410	4,555	4,725	4,897	5,069	5,245	5,424	5,606	5,790	5,975	6,162
Greenhouse/Nursery	$ Mil.	1,151	1,330	1,173	1,397	1,432	1,467	1,503	1,541	1,579	1,618	1,659	1,700
Exports													
Fruit and nuts[1]													
Fresh	$ Mil.	2,094	2,098	2,117	2,198	2,249	2,301	2,355	2,410	2,466	2,524	2,583	2,644
Processed	$ Mil.	1,829	1,861	1,980	2,045	2,114	2,187	2,263	2,342	2,425	2,513	2,604	2,699
Nuts	$ Mil.	1,133	1,190	1,222	1,252	1,283	1,312	1,342	1,371	1,399	1,427	1,455	1,483
Total	$ Mil.	5,056	5,149	5,319	5,496	5,646	5,801	5,959	6,122	6,291	6,464	6,642	6,826
Vegetables[2]													
Fresh	$ Mil.	1,183	1,124	1,243	1,231	1,298	1,308	1,359	1,379	1,421	1,446	1,485	1,513
Processed	$ Mil.	1,079	1,093	1,124	1,154	1,186	1,220	1,254	1,288	1,323	1,358	1,393	1,428
Potatoes	$ Mil.	700	659	703	788	855	900	936	969	1,002	1,038	1,078	1,123
Sweet potatoes	$ Mil.	14	14	14	15	15	15	16	17	17	18	19	20
Pulses	$ Mil.	254	280	330	332	340	347	353	359	365	371	377	384
Mushrooms	$ Mil.	23	19	27	28	29	30	31	33	34	35	36	38
Total	$ Mil.	3,253	3,189	3,441	3,548	3,723	3,820	3,949	4,044	4,163	4,267	4,389	4,504
Greenhouse/Nursery	$ Mil.	264	250	253	306	309	312	315	318	322	325	328	331

1/ Fresh fruit includes bananas, excludes melons. Processed fruit includes juices and wine.
2/ Fresh vegetables includes melons. Processed includes seed and juices.
Note: Fiscal year trade value projections for total horticultural products are shown in table 33.

Livestock

Livestock sector projections initially reflect adjustments to relatively low net returns in 2002, brought on by another drought year and increased production levels that reduced meat animal prices, coupled with higher grain prices. Total meat production falls in 2003 in the baseline, assuming normal moisture conditions, and net returns improve as meat animal prices increase and grain prices decline. In the longer run, rising farm-level livestock prices for meat animals, efficiency gains which help contain production costs, and only moderate increases in feed prices support producer returns and encourage growth in total meat production. U.S. poultry use gains a larger proportion of total meat consumption. Meat exports benefit from a rebound in foreign economic growth.

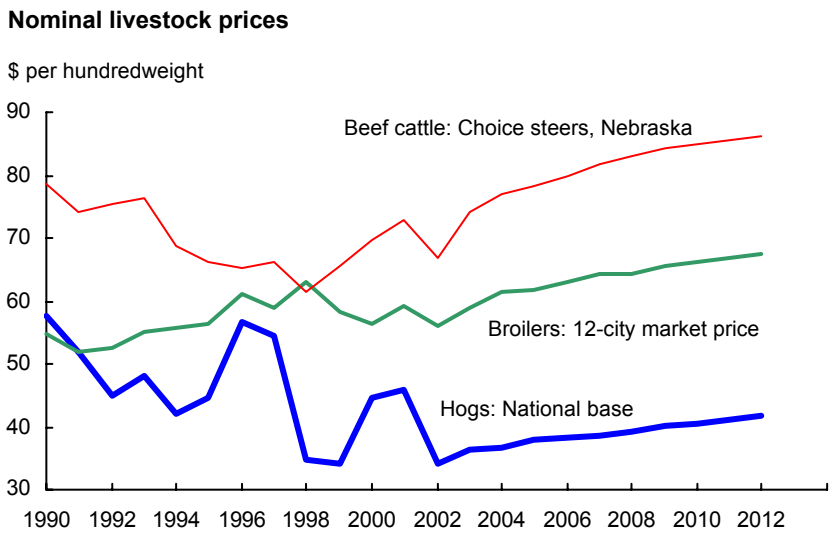
Livestock inventories and broiler production



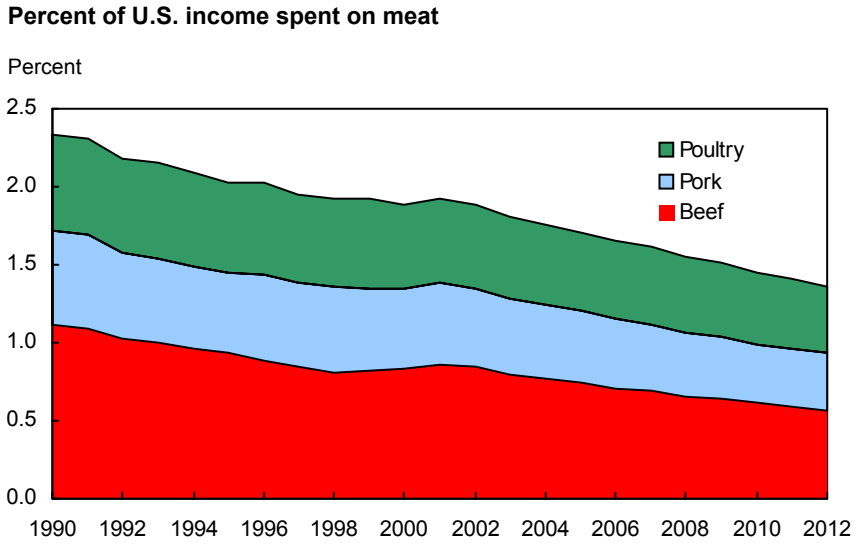
Beef production declines in the near term as producers retain cows and heifers for expansion. Cattle herds are expected to increase somewhat from cyclical lows near 95 million head in 2004-2005. Rising slaughter weights compensate for slower herd expansion. Pork production grows slowly, as the more coordinated/integrated industrial structure dampens the U.S. hog cycle. Poultry production continues to rise, but at a slightly lower rate than historically due to the maturity of the sector.

The trend toward larger and more commercialized livestock systems continues throughout the baseline period; efficiency gains allow production to expand while real prices generally decline.

- Vertical coordination increases in the beef sector as strong demand for higher quality beef continues, particularly for the export and hotel and restaurant markets.
- Transformation to a more vertically coordinated pork sector continues, with larger, more efficient producers gaining market share which limits increases in production costs.
- Poultry producers have benefited from 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.

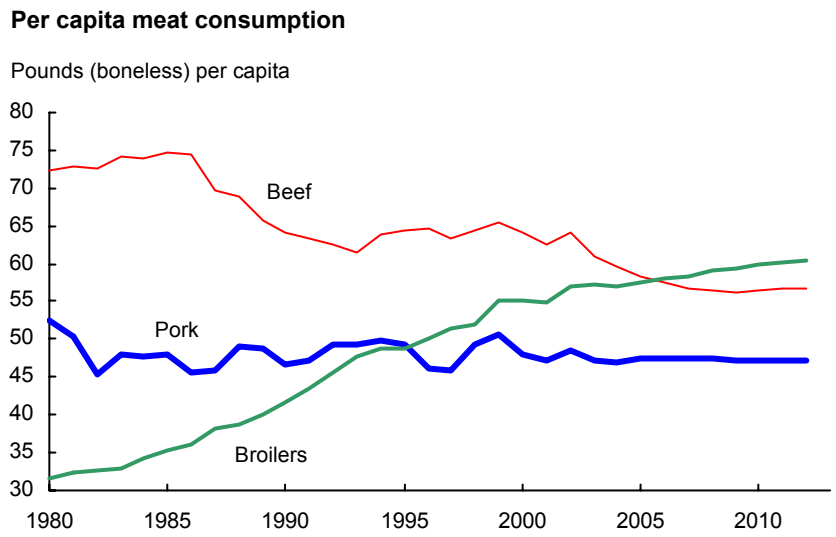


Cattle, hog, and broiler prices increase moderately in response to growing domestic market demand coupled with export gains. Projected price increases are slower than the general inflation rate.



U.S. consumers buy more meat but use 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 1.9 percent to 1.4 percent of disposable income.

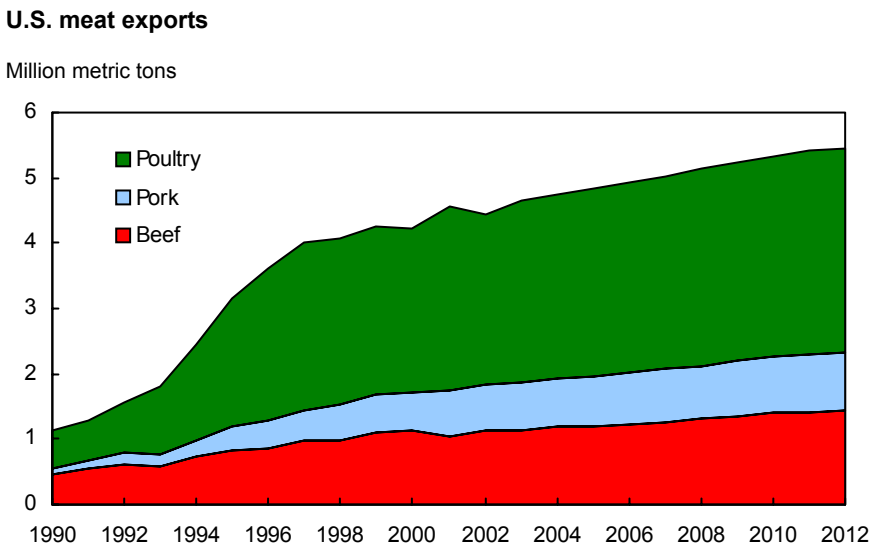
- The trend continues of poultry expenditures rising as a share of consumer spending on meats, while beef and pork expenditure shares decline.



Total per capita meat consumption (boneless weight basis) declines from a relatively high level of more than 185 pounds in 2002 to near 180 pounds over most of the projection period.

- 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.

- Per capita consumption of beef initially declines, but then stabilizes later in the projections, while pork consumption remains near 47 pounds per person throughout.



U.S. meat exports rise throughout the baseline period, reflecting improved global economic growth and rising demand for meats.

Beef

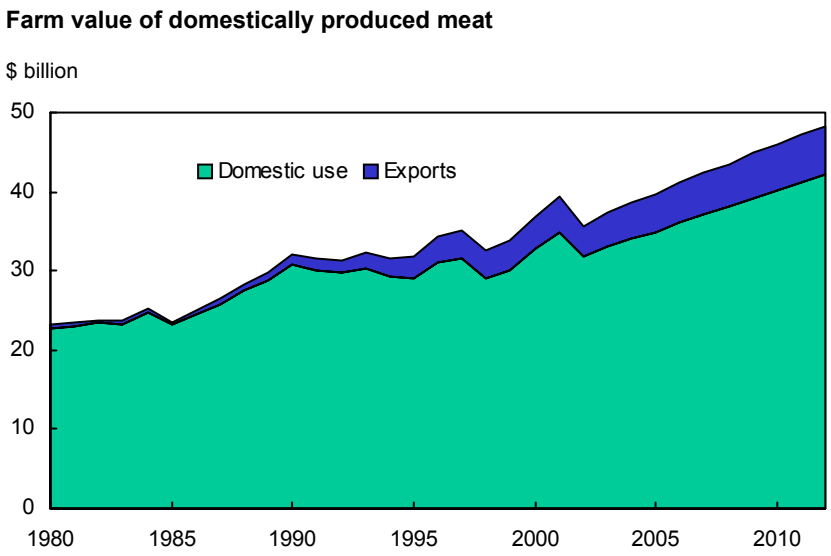
- The United States, which imports grass-fed beef from Australia and New Zealand, becomes a net beef exporter in the latter part of the projections as exports of high-quality fed beef exceed imports of lower quality processing beef.
- The United States remains the primary source of high-quality fed beef for export, largely to Pacific Rim nations.

Pork

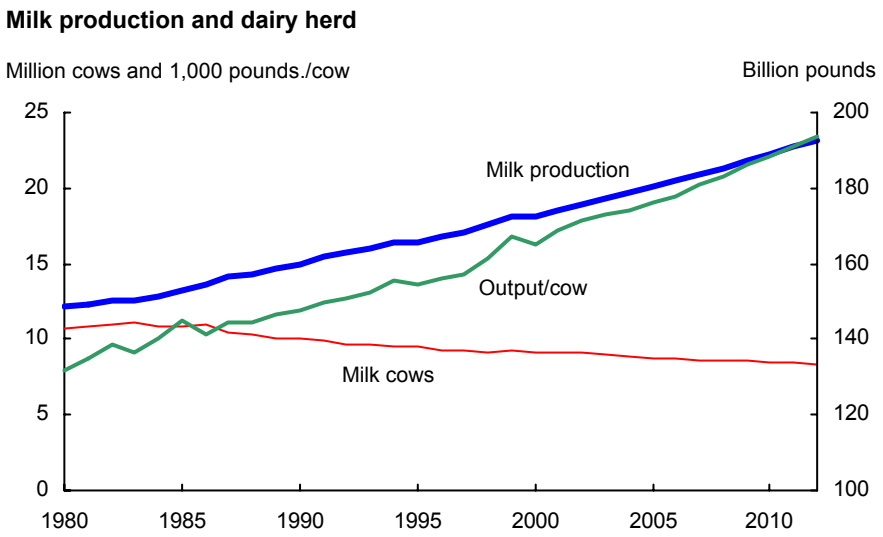
- Pacific Rim nations and Mexico remain key markets for long-term growth of U.S. pork exports. Canada continues to be a strong competitor for pork trade in these markets.
- While increased efficiency in pork production helps limit production costs, longer term gains in U.S. pork exports will be determined 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 and Mexico.

Poultry

- U.S. broiler export growth is expected to slow from the rate of the 1990s. U.S. producers will face strong competition from other major broiler exporting countries, particularly Brazil.
- Major U.S. export markets include Asia, Russia, Eastern Europe, and Mexico. Growth in U.S. poultry exports to Russia is not expected to return to the pace of the last decade, reflecting slower import growth and greater trade competition.



While U.S. meat exports grow in importance, the domestic market remains the dominant source of demand. The farm value of meat exports, about 11 percent of the total value of domestically produced meat in 2002, approaches 13 percent by the end of the projections.



Baseline projections for the dairy sector reflect adjustments made in price support purchase prices for dairy products that were announced on November 15, 2002. These changes raised the purchase price for butter and lowered the purchase price for nonfat dry milk to better reflect market conditions and to help the Commodity Credit Corporation (CCC) manage accumulated inventories and control program costs.

- Strengthening milk-feed price ratios, improved management, and dairy productivity gains continue to push milk output per cow higher and real costs lower.

- Milk production continues to increase as rising output per cow offsets declining milk cow inventories.

- Domestic dairy demand continues to grow slowly throughout the baseline period, slightly faster than the growth in population. Cheese and butter demand will benefit from greater consumption of prepared foods and increased away-from-home eating. Per capita consumption of fluid milk, however, is projected to shrink slowly.

Table 21. Per capita meat consumption, retail and boneless weight

Item	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Retail weight:													
Total beef	Pounds	66.2	67.7	64.3	62.9	61.7	60.8	60.0	59.6	59.4	59.5	59.8	60.0
Total veal	Pounds	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
Total pork	Pounds	50.2	51.6	50.1	50.0	50.4	50.4	50.4	50.5	50.3	50.3	50.2	50.3
Lamb and mutton	Pounds	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
Total red meat	Pounds	118.1	121.0	116.2	114.6	113.7	112.8	111.9	111.6	111.2	111.2	111.4	111.6
Broilers	Pounds	76.5	79.5	80.1	79.7	80.5	81.1	81.6	82.4	83.0	83.6	84.1	84.5
Other chicken	Pounds	1.2	1.4	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Turkeys	Pounds	17.5	17.5	17.5	17.6	17.8	18.0	18.1	18.3	18.4	18.5	18.6	18.7
Total poultry	Pounds	95.2	98.4	98.8	98.6	99.6	100.4	101.0	101.9	102.7	103.4	104.0	104.5
Red meat & poultry	Pounds	213.3	219.4	215.0	213.1	213.3	213.2	213.0	213.5	213.8	214.5	215.4	216.1
Boneless weight:													
Total beef	Pounds	62.7	64.1	60.9	59.6	58.4	57.6	56.8	56.5	56.3	56.4	56.6	56.8
Total veal	Pounds	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Total pork	Pounds	47.2	48.4	47.1	47.0	47.4	47.4	47.4	47.4	47.3	47.2	47.2	47.2
Lamb & mutton	Pounds	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
Total red meat	Pounds	111.1	113.9	109.3	107.8	107.0	106.2	105.4	105.0	104.7	104.7	104.9	105.1
Broilers	Pounds	54.8	56.9	57.4	57.1	57.6	58.1	58.4	59.0	59.4	59.8	60.2	60.5
Other chicken	Pounds	0.7	0.9	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Turkeys	Pounds	13.8	13.8	13.8	13.9	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8
Total poultry	Pounds	69.4	71.6	71.9	71.8	72.5	73.1	73.5	74.2	74.7	75.2	75.7	76.1
Red meat and poultry	Pounds	180.5	185.5	181.3	179.6	179.5	179.3	178.9	179.2	179.4	179.9	180.6	181.2

Table 22. Consumer expenditures for meats

Item	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beef, dollars per person	223.59	224.73	220.01	223.08	223.72	225.09	226.35	227.45	228.77	229.86	230.80	231.99
Percent of income	0.86	0.84	0.79	0.77	0.74	0.71	0.69	0.66	0.64	0.61	0.59	0.57
Percent of meat expenditures	44.85	44.25	43.86	43.76	43.51	43.16	42.80	42.52	42.27	42.11	41.95	41.75
Pork, dollars per person	135.02	137.13	134.84	135.25	137.35	138.56	139.91	141.13	142.72	143.45	144.44	145.92
Percent of income	0.52	0.51	0.49	0.47	0.46	0.44	0.43	0.41	0.40	0.38	0.37	0.36
Percent of meat expenditures	27.08	27.00	26.88	26.53	26.71	26.57	26.45	26.38	26.37	26.28	26.26	26.26
Broilers, dollars per person	120.70	127.67	128.47	132.84	134.15	138.63	143.06	146.68	150.03	152.93	155.38	158.29
Percent of income	0.47	0.47	0.46	0.46	0.44	0.44	0.43	0.43	0.42	0.41	0.40	0.39
Percent of meat expenditures	24.21	25.14	25.61	26.06	26.09	26.58	27.05	27.42	27.72	28.02	28.24	28.49
Turkeys, dollars per person	19.20	18.30	18.28	18.63	18.98	19.28	19.56	19.65	19.69	19.64	19.52	19.43
Percent of income	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05
Percent of meat expenditures	3.85	3.60	3.64	3.65	3.69	3.70	3.70	3.67	3.64	3.60	3.55	3.50
Total meat, dollars per person	498.50	507.83	501.60	509.80	514.19	521.56	528.88	534.90	541.22	545.88	550.14	555.64
Percent of income	1.93	1.89	1.81	1.76	1.70	1.66	1.61	1.55	1.50	1.45	1.40	1.36

Table 23. Beef baseline

Item	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beginning stocks	Mil. lbs.	525	606	675	350	385	385	385	385	385	385	385	385
Commercial production	Mil. lbs.	26,107	27,081	25,650	25,624	25,311	25,508	25,746	26,022	26,411	26,901	27,445	27,834
Change from previous year	Percent	-2.5	3.7	-5.3	-0.1	-1.2	0.8	0.9	1.1	1.5	1.9	2.0	1.4
Farm production	Mil. lbs.	105	105	105	105	106	106	106	106	106	106	106	106
Total production	Mil. lbs.	26,212	27,186	25,755	25,729	25,417	25,614	25,852	26,128	26,517	27,007	27,551	27,940
Imports	Mil. lbs.	3,164	3,306	3,305	3,450	3,550	3,350	3,125	3,025	2,900	2,800	2,700	2,700
Total supply	Mil. lbs.	29,901	31,098	29,735	29,529	29,352	29,349	29,362	29,538	29,802	30,192	30,636	31,025
Exports	Mil. lbs.	2,269	2,468	2,530	2,600	2,650	2,725	2,800	2,875	2,975	3,075	3,125	3,150
Ending stocks	Mil. lbs.	606	675	350	385	385	385	385	385	385	385	385	385
Total consumption	Mil. lbs.	27,026	27,955	26,855	26,544	26,317	26,239	26,177	26,278	26,442	26,732	27,126	27,490
Per capita, carcass weight	Pounds	94.5	96.7	91.9	89.9	88.1	86.9	85.7	85.2	84.9	85.0	85.4	85.7
Per capita, retail weight	Pounds	66.2	67.7	64.3	62.9	61.7	60.8	60.0	59.6	59.4	59.5	59.8	60.0
Change from previous year	Percent	-2.4	2.3	-5.0	-2.2	-2.0	-1.4	-1.4	-0.6	-0.4	0.1	0.5	0.4
Prices:													
Beef cattle, farm	$/cwt	71.20	66.75	74.28	76.99	78.16	79.95	81.81	83.09	84.33	85.04	85.61	86.23
Calves, farm	$/cwt	106.70	97.03	105.34	100.69	101.17	102.64	104.32	105.30	105.80	105.79	105.41	104.70
Choice steers, Nebraska	$/cwt	72.71	66.77	74.25	76.96	78.13	79.92	81.78	83.06	84.29	85.00	85.57	86.20
Deflated price	$/cwt	41.06	36.93	40.10	40.55	40.16	40.08	40.01	39.65	39.26	38.62	37.93	37.28
Yearling steers, Okla. City	$/cwt	88.20	79.32	86.25	82.44	82.83	84.04	85.41	86.22	86.62	86.62	86.31	85.72
Deflated price	$/cwt	49.80	43.87	46.58	43.44	42.58	42.15	41.79	41.15	40.34	39.35	38.26	37.07
Retail: Beef and veal	1982-84=100	160.5	160.5	164.0	170.0	174.0	177.4	180.9	182.9	184.6	185.3	185.1	185.4
Retail: Other meats	1982-84=100	156.4	162.0	163.0	165.2	167.4	169.8	172.2	174.7	177.4	179.8	182.2	184.9
ERS retail beef	$/lb.	3.38	3.32	3.42	3.54	3.63	3.70	3.77	3.81	3.85	3.86	3.86	3.87
Costs and returns, cow-calf enterprise:													
Variable expenses	$/cow	201.26	211.26	215.70	217.15	219.04	222.94	228.02	233.35	238.75	242.50	247.45	253.40
Fixed expenses	$/cow	124.12	122.64	122.42	126.51	131.71	135.71	138.40	141.25	144.17	147.04	149.93	152.95
Total cash expenses	$/cow	325.38	333.90	338.12	343.66	350.75	358.65	366.42	374.61	382.92	389.54	397.38	406.35
Returns above cash costs	$/cow	79.02	34.77	70.44	54.77	56.43	60.41	65.49	67.32	67.26	66.85	63.50	57.82
Cattle inventory	1,000 head	97,277	96,704	95,450	95,400	95,200	96,094	96,028	96,164	96,469	96,647	96,643	95,514
Beef cow inventory	1,000 head	33,397	33,100	33,060	32,869	32,955	33,498	34,060	34,717	35,502	36,325	37,176	37,125
Total cow inventory	1,000 head	42,580	42,209	42,140	41,814	41,815	42,278	42,770	43,362	44,092	44,860	45,651	45,540

Table 24. Pork baseline

Item	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beginning stocks	Mil. lbs.	478	536	575	600	550	500	500	500	500	500	500	500
Commercial production	Mil. lbs.	19,138	19,751	19,420	19,508	19,908	20,187	20,407	20,634	20,782	20,982	21,192	21,423
Change from previous year	Percent	1.1	3.2	-1.7	0.5	2.0	1.4	1.1	1.1	0.7	1.0	1.0	1.1
Farm production	Mil. lbs.	22	22	22	22	22	22	22	22	22	22	22	22
Total production	Mil. lbs.	19,160	19,773	19,442	19,530	19,930	20,209	20,429	20,656	20,804	21,004	21,214	21,445
Imports	Mil. lbs.	951	1,057	1,080	1,104	1,129	1,155	1,181	1,207	1,234	1,262	1,290	1,319
Total supply	Mil. lbs.	20,588	21,366	21,097	21,234	21,609	21,864	22,110	22,363	22,538	22,766	23,004	23,264
Exports	Mil. lbs.	1,560	1,588	1,620	1,656	1,694	1,732	1,771	1,811	1,851	1,893	1,936	1,979
Ending stocks	Mil. lbs.	536	575	600	550	500	500	500	500	500	500	500	500
Total consumption	Mil. lbs.	18,492	19,203	18,877	19,028	19,415	19,632	19,839	20,052	20,187	20,373	20,568	20,785
Per capita, carcass weight	Pounds	64.7	66.4	64.6	64.4	65.0	65.0	65.0	65.0	64.8	64.8	64.7	64.8
Per capita, retail weight	Pounds	50.2	51.6	50.1	50.0	50.4	50.4	50.4	50.5	50.3	50.3	50.2	50.3
Change from previous year	Percent	-2.0	2.7	-2.8	-0.3	0.9	0.0	0.0	0.1	-0.3	-0.1	0.0	0.1
Prices:													
Hogs, farm	$/cwt	44.08	34.68	35.03	34.60	35.69	35.91	36.37	36.78	37.77	38.10	38.62	39.32
National base, live equivalent	$/cwt	45.81	34.08	36.50	36.81	37.97	38.20	38.69	39.12	40.18	40.53	41.08	41.83
Deflated price	$/cwt	25.87	18.85	19.71	19.39	19.52	19.16	18.93	18.67	18.71	18.41	18.21	18.09
Retail: pork	1982-84=100	162.4	161.7	163.0	164.0	165.0	166.4	168.1	169.5	171.9	172.9	174.2	175.9
ERS retail pork	$/lb.	2.69	2.66	2.69	2.71	2.72	2.75	2.77	2.80	2.84	2.85	2.88	2.90
Costs and returns, farrow to finish:													
Variable expenses	$/cwt	28.24	28.19	30.52	28.49	27.07	27.27	27.75	28.28	28.97	29.18	29.70	30.48
Fixed expenses	$/cwt	5.21	4.97	4.99	5.02	5.04	5.07	5.09	5.12	5.14	5.17	5.19	5.22
Total cash expenses	$/cwt	33.45	33.16	35.51	33.51	32.11	32.33	32.84	33.40	34.11	34.35	34.90	35.70
Returns above cash costs	$/cwt	12.36	0.92	0.99	3.30	5.86	5.87	5.85	5.72	6.07	6.18	6.19	6.13
Hog inventory, Dec. 1, previous year	1,000 head	59,138	59,804	58,900	59,150	60,285	61,077	61,701	62,345	62,766	63,333	63,929	64,586

Table 25. Young chicken baseline

Item	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beginning stocks	Mil. lbs.	798	712	825	775	775	775	775	775	775	775	775	775
Federally inspected slaughter	Mil. lbs.	31,266	32,333	33,000	33,305	33,986	34,600	35,215	35,869	36,482	37,076	37,638	38,154
Change from previous year	Percent	2.5	3.4	2.1	0.9	2.0	1.8	1.8	1.9	1.7	1.6	1.5	1.4
Production	Mil. lbs.	30,938	31,987	32,647	32,948	33,622	34,230	34,838	35,486	36,092	36,679	37,235	37,746
Total supply	Mil. lbs.	31,749	32,710	33,484	33,735	34,409	35,017	35,625	36,273	36,879	37,466	38,022	38,533
Change from previous year	Percent	2.4	3.0	2.4	0.8	2.0	1.8	1.7	1.8	1.7	1.6	1.5	1.3
Exports	Mil. lbs.	5,555	5,108	5,450	5,550	5,650	5,750	5,840	5,935	6,005	6,075	6,135	6,195
Ending stocks	Mil. lbs.	712	825	775	775	775	775	775	775	775	775	775	775
Consumption	Mil. lbs.	25,482	26,777	27,259	27,410	27,984	28,492	29,010	29,563	30,099	30,616	31,112	31,563
Per capita, carcass weight	Pounds	89.1	92.6	93.3	92.8	93.7	94.4	95.0	95.9	96.6	97.3	97.9	98.4
Per capita, retail weight	Pounds	76.5	79.5	80.1	79.7	80.5	81.1	81.6	82.4	83.0	83.6	84.1	84.5
Change from previous year	Percent	-0.4	3.9	0.8	-0.5	1.0	0.7	0.6	0.9	0.7	0.7	0.6	0.5
Prices:													
Broilers, farm	Cents/lb.	39.5	33.2	35.0	36.9	37.7	39.1	39.8	39.9	40.6	41.1	41.4	41.8
12-city market price	Cents/lb.	59.1	55.9	59.0	61.5	61.8	63.1	64.2	64.4	65.5	66.2	66.7	67.4
Deflated wholesale price	Cents/lb.	33.3	30.9	31.9	32.4	31.8	31.6	31.4	30.7	30.5	30.1	29.6	29.1
Change from previous year	Percent	2.1	-7.2	3.1	1.7	-1.9	-0.4	-0.7	-2.2	-0.8	-1.3	-1.8	-1.4
Composite retail broiler price	Cents/lb.	157.7	160.5	160.3	166.6	166.7	171.0	175.3	178.1	180.8	183.0	184.8	187.3
Costs and returns:													
Total costs	Cents/lb.	45.37	46.48	51.29	49.29	47.74	48.13	48.98	49.93	50.89	51.05	51.69	52.66
Net returns	Cents/lb.	13.73	9.42	7.71	12.20	14.09	14.97	15.25	14.48	14.61	15.19	15.02	14.72

Table 26. Turkey baseline

Item	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beginning stocks	Mil. lbs.	241	241	325	325	325	325	325	325	325	325	325	325
Federally inspected slaughter	Mil. lbs.	5,562	5,670	5,675	5,789	5,910	6,030	6,140	6,250	6,348	6,448	6,551	6,652
Change from previous year	Percent	3.0	1.9	0.1	2.0	2.1	2.0	1.8	1.8	1.6	1.6	1.6	1.5
Production	Mil. lbs.	5,489	5,596	5,601	5,713	5,833	5,951	6,060	6,168	6,265	6,364	6,466	6,565
Total supply	Mil. lbs.	5,732	5,837	5,927	6,039	6,159	6,277	6,386	6,494	6,591	6,690	6,792	6,891
Change from previous year	Percent	2.6	1.8	1.5	1.9	2.0	1.9	1.7	1.7	1.5	1.5	1.5	1.5
Exports	Mil. lbs.	487	456	490	500	514	520	528	536	544	551	556	562
Ending stocks	Mil. lbs.	241	325	325	325	325	325	325	325	325	325	325	325
Consumption	Mil. lbs.	5,004	5,056	5,112	5,214	5,320	5,432	5,533	5,633	5,722	5,814	5,911	6,004
Per capita	Pounds	17.5	17.5	17.5	17.6	17.8	18.0	18.1	18.3	18.4	18.5	18.6	18.7
Change from previous year	Percent	0.9	-0.1	0.0	0.9	0.9	1.0	0.7	0.8	0.6	0.6	0.7	0.6
Prices:													
Turkey, farm	Cents/lb.	39.1	37.0	38.0	40.5	40.9	41.1	41.4	41.2	41.1	40.8	40.2	39.8
Hen turkey (whsle.) East	Cents/lb.	66.3	64.9	66.8	67.5	68.1	68.5	69.0	68.7	68.5	67.9	67.1	66.4
Deflated hen turkey	Cents/lb.	37.4	35.9	36.1	35.5	35.0	34.4	33.8	32.8	31.9	30.9	29.7	28.7
Retail frozen turkey	Cents/lb.	109.7	104.6	104.5	105.5	106.6	107.2	107.9	107.5	107.2	106.3	104.9	103.8
Retail: poultry	1982-84=100	164.9	167.2	170.0	177.7	179.1	183.0	187.0	189.2	191.4	192.9	193.9	195.6
Costs and returns:													
Total costs	Cents/lb.	57.83	58.28	60.80	59.72	59.16	59.44	59.96	60.54	61.11	61.26	61.66	62.23
Net returns	Cents/lb.	8.47	6.62	6.00	7.74	8.96	9.06	9.02	8.21	7.41	6.67	5.39	4.15

Table 27. Egg baseline

Item	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beginning stocks	Mil. doz.	11	10	12	12	12	12	12	12	12	12	12	12
Production	Mil. doz.	7,152	7,216	7,240	7,334	7,429	7,526	7,616	7,708	7,793	7,878	7,965	8,053
Change from previous year	Percent	1.7	0.9	0.3	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
Imports	Mil. doz.	9	14	8	8	8	8	8	8	8	8	8	8
Total supply	Mil. doz.	7,172	7,240	7,260	7,354	7,449	7,546	7,636	7,728	7,813	7,898	7,985	8,073
Change from previous year	Percent	1.7	0.9	0.3	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
Hatching use	Mil. doz.	953	960	975	987	1,000	1,013	1,026	1,039	1,052	1,064	1,074	1,085
Exports	Mil. doz.	190	183	168	173	178	183	188	193	198	203	208	213
Ending stocks	Mil. doz.	10	12	12	12	12	12	12	12	12	12	12	12
Consumption	Mil. doz.	6,019	6,086	6,105	6,182	6,259	6,338	6,410	6,483	6,551	6,620	6,691	6,763
Per capita	Number	252.6	252.7	250.7	251.1	251.5	251.9	251.9	252.3	252.4	252.5	252.7	252.9
Change from previous year	Percent	0.3	0.0	-0.8	0.2	0.1	0.2	0.0	0.1	0.0	0.1	0.1	0.1
Prices:													
Eggs, farm	Cents/doz.	60.5	60.7	61.7	63.6	65.0	66.8	68.6	70.5	72.7	75.0	76.9	78.7
New York, Grade A large	Cents/doz.	67.2	66.5	67.8	69.5	71.0	73.0	75.0	77.0	79.5	82.0	84.0	86.0
Deflated wholesale prices	Cents/doz.	37.9	36.8	36.6	36.6	36.5	36.6	36.7	36.8	37.0	37.3	37.2	37.2
Retail, Grade A, large	Cents/doz.	93	101	100	102	104	106	108	111	115	118	121	124
Retail: Eggs	1982-84=100	136.4	137.8	137.0	140.6	143.7	147.7	151.6	156.7	162.8	168.9	174.1	179.1
Costs and returns:													
Total costs	Cents/doz.	61.19	62.68	69.18	66.48	65.07	66.28	68.13	70.14	72.20	73.14	74.77	76.90
Net returns	Cents/doz.	6.01	3.82	-1.38	3.02	5.93	6.72	6.87	6.86	7.30	8.86	9.23	9.10

Table 28. Dairy baseline*

Item	Units	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Production data:													
Number of cows	1,000	9,130	9,080	8,945	8,860	8,780	8,710	8,645	8,590	8,535	8,475	8,415	8,355
Milk per cow	Pounds	18,511	18,875	19,315	19,675	20,080	20,475	20,960	21,350	21,790	22,240	22,725	23,170
Milk production	Bil. lbs.	169.0	171.4	172.8	174.3	176.3	178.3	181.2	183.4	186.0	188.5	191.2	193.6
Commercial use:													
Milkfat basis	Bil. lbs.	170.1	176.0	176.1	177.5	179.5	181.6	184.4	186.7	189.4	191.9	194.7	197.1
Skim solids	Bil. lbs.	162.9	167.1	171.1	173.6	176.9	180.4	183.2	185.8	188.5	191.1	193.8	196.3
Net removals:													
Milkfat basis	Bil. lbs.	0.3	0.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Skim solids	Bil. lbs.	9.6	8.1	5.3	4.6	3.5	2.2	1.8	1.8	1.8	1.8	1.8	1.8
Prices:													
All milk	$/cwt	12.76	11.60	12.60	13.10	13.30	13.55	14.00	14.45	14.70	14.80	15.00	15.35
Manufactured milk value[1]	$/cwt	11.40	10.75	11.60	11.90	12.10	12.35	12.80	13.20	13.45	13.55	13.75	14.05
Retail, all dairy products	1982-84=100	169.1	168.8	176.5	182.5	187.0	192.0	198.0	204.0	209.5	214.5	219.5	226.0
Costs and returns:													
Ration value	$/cwt	7.23	7.98	7.50	7.25	7.30	7.50	7.65	7.80	7.90	8.00	8.30	8.35
Returns above concentrate costs	$/cwt	9.76	8.29	9.49	10.09	10.27	10.44	10.83	11.21	11.42	11.48	11.56	11.88
Milk-feed ratio	ratio	1.76	1.45	1.68	1.81	1.82	1.81	1.83	1.85	1.86	1.85	1.81	1.84

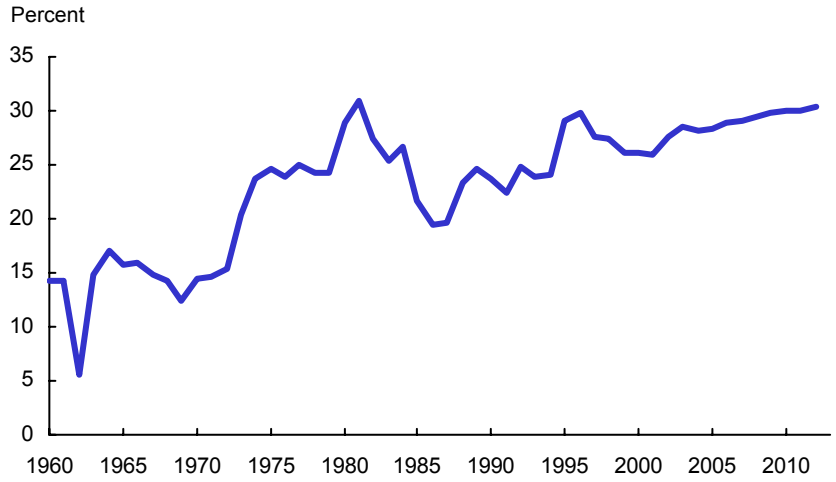
*Commercial use projections corrected from version published on February 7, 2003.

1/ Estimated value of milk used in manufactured products.

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

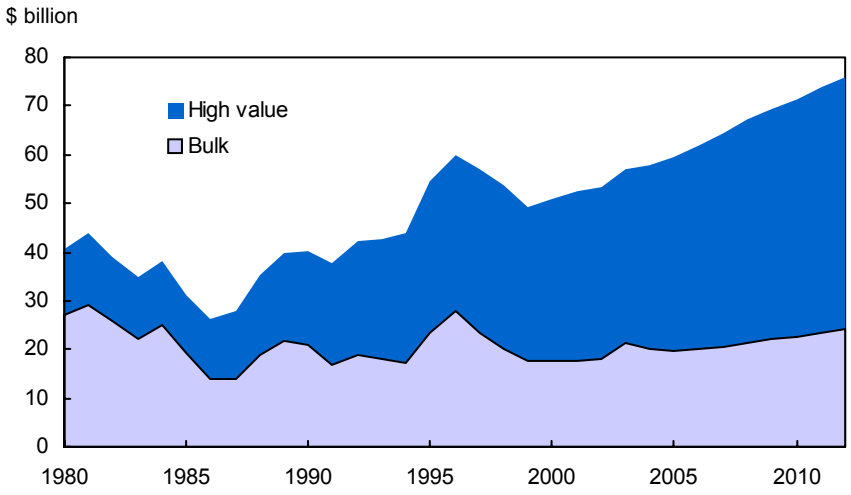
Long run developments for the farm sector reflect strengthening domestic and international economic growth which support gains in consumption, trade, and prices. While export competition and a strong U.S. dollar are projected to continue, improving world economic growth, particularly in developing countries, provides a foundation for gains in global trade and U.S. agricultural exports. The results are rising market prices and farm income as well as improvement in the financial condition of the agricultural sector. Consumer food prices are projected to continue a long-term trend of rising more slowly than the general rate of inflation.

U.S. agricultural export value relative to total market cash receipts



Export revenues account for an increasing share of total U.S. farm cash receipts. With the productivity of U.S. agriculture growing faster than domestic demand, farmers rely increasingly on export market growth.

U.S. agricultural export value: bulk and high value



Bulk commodities include wheat, rice, feed grains, soybeans, cotton, and tobacco. HVP's includes semi-processed and processed grains and oilseeds, animals and products, horticultural products, and sugar and tropical products.

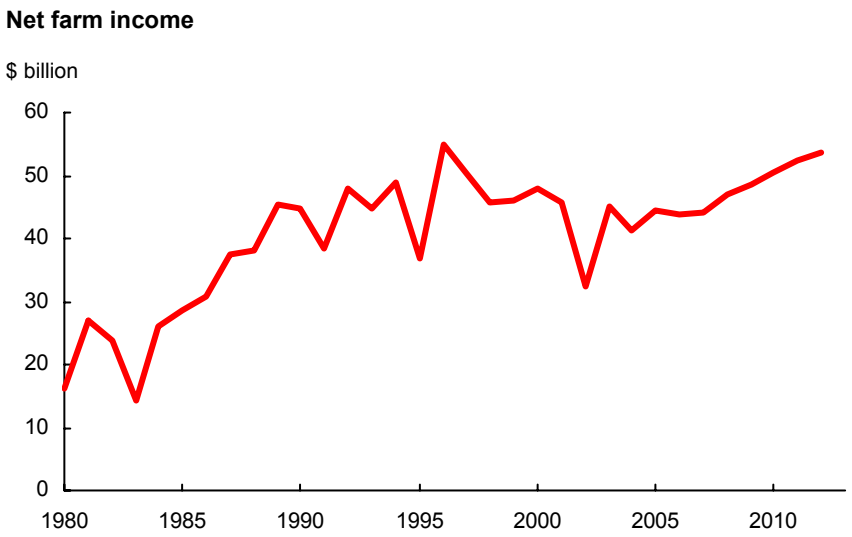
U.S. agricultural export value is projected to grow an average of 3.6 percent annually from about $53 billion in fiscal year 2002 to $76 billion in 2012. High-value product (HVP) exports continue to grow, accounting for more than two-thirds of total U.S. exports.

- 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.

- Much of the growth in HVP exports is for horticultural products and animal products.

- After declining from near-term high levels, growth in the value of bulk product exports (grains, oilseeds, cotton, and tobacco) reflects expected price increases and some gain in bulk volume.

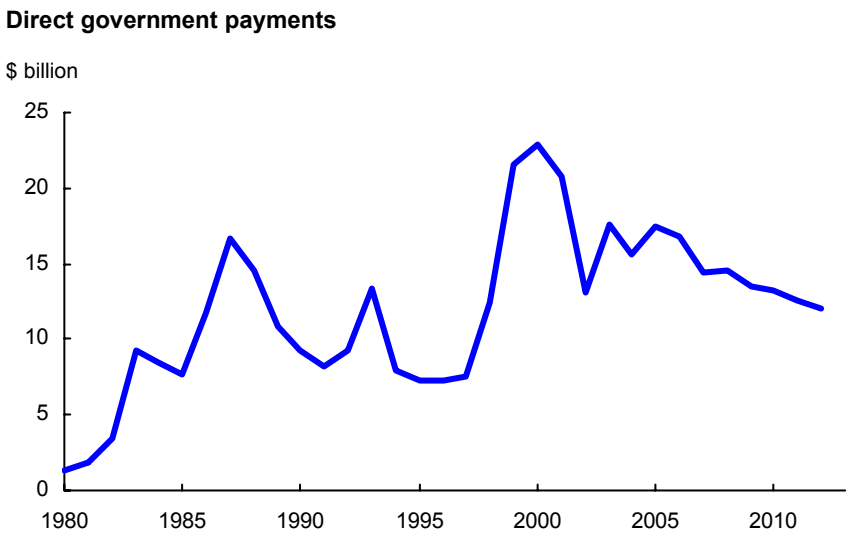
- U.S. agricultural exports rise more than imports, with the agricultural trade surplus rising to $21 billion in fiscal year 2012.



Income projections for the next decade average near $47 billion, compared to about $46 billion in the 1990s. Net farm income increases to over $53 billion at the end of the baseline.

- Net farm income was relatively low in 2002. Large supplies and low prices for meat animals and dairy products reduced livestock receipts. Government payments to farmers declined as relatively high prices for many crops reduced marketing loan benefits and limited counter-cyclical payments, while some payments were shifted into 2003 as the 2002 Farm Act was implemented. Additionally, emergency assistance payments were lower than in 1999-2001.

- Net farm income generally rises through the projections. Longer run gains reflect strengthening domestic demand and exports, which lead to improvements in financial conditions of the sector.

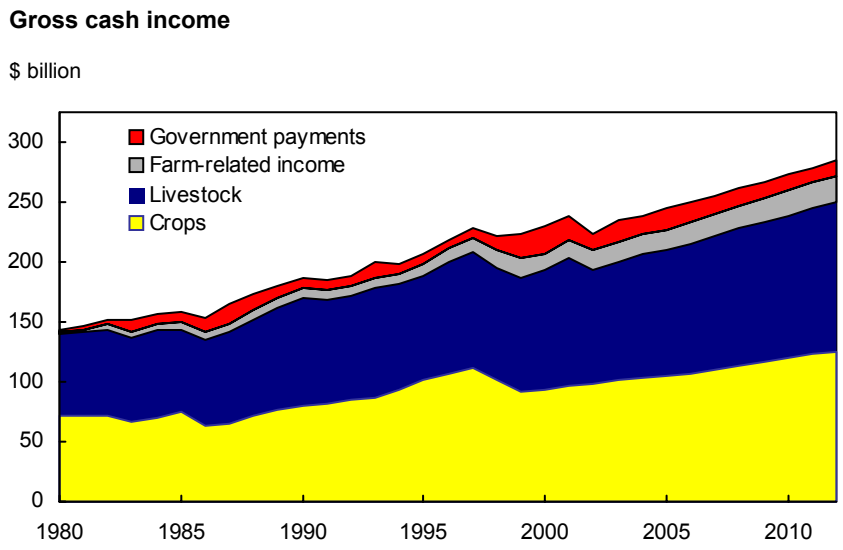


Government payments generally decline through the projections, largely due to rising market prices for program commodities which reduce marketing loan benefits and counter-cyclical payments.

- Direct government payments are projected to fall from over $17 billion in 2003 to $12 billion in 2012.

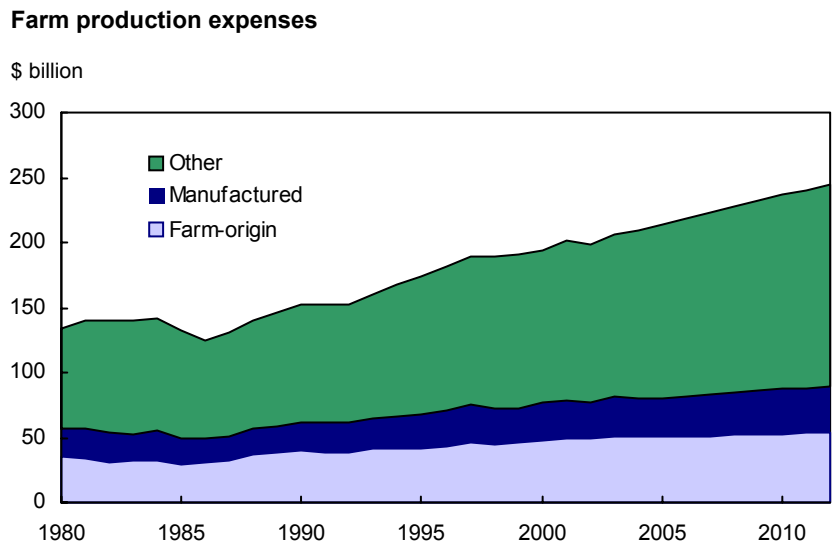
- In the longer run, government payments largely reflect direct payments under the 2002 Farm Act, payments for the Conservation Reserve Program, and financial assistance for other conservation programs.

- Some variability in government payments occurs in the early years of the projections. Marketing loan benefits and counter-cyclical payments are affected by market price movements for many program commodities, which fall from recent high levels before gradually rising through the remainder of the projections. Also, payments are shifted across calendar years early in the projections as different provisions of the 2002 Farm Act are implemented.



Gross cash income gradually rises through the projections. Both crop and livestock receipts increase, reflecting growing domestic and export demands.

- The agriculture sector relies on the market for most of its income. The share of income provided by government payments declines through the projections. Government payments, which represented almost 10 percent of gross cash income in 2000, account for 4 to 5 percent at the end of the projections.

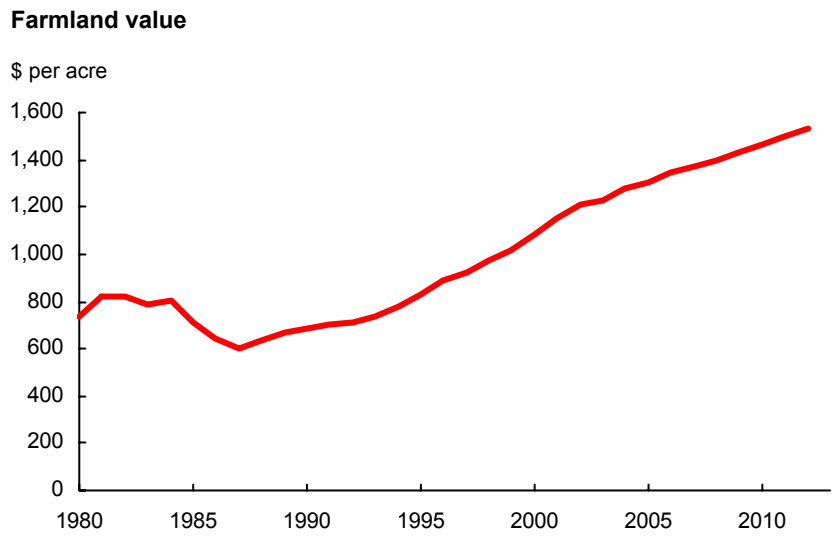


Production expenses increase modestly from 2003-12, at slightly less than the general inflation rate. These expenses are divided into three categories in the accompanying chart: farm-origin (seed, feed, and feeder livestock), manufactured (fuel, fertilizer, pesticides, and electricity), and other (labor, interest, and other expenses).

- The largest percentage increase is for the other expenses category, 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 farm incomes.

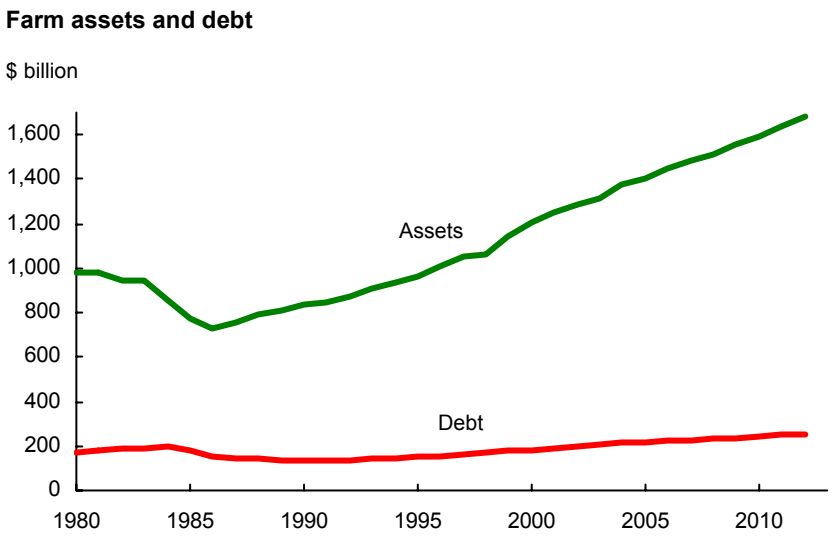
- Manufactured input expenses increase through the projections as oil prices rise and planted acreage expands.

- Cash operating margins are stable in the projections with cash expenses at 77-79 percent of gross cash income.



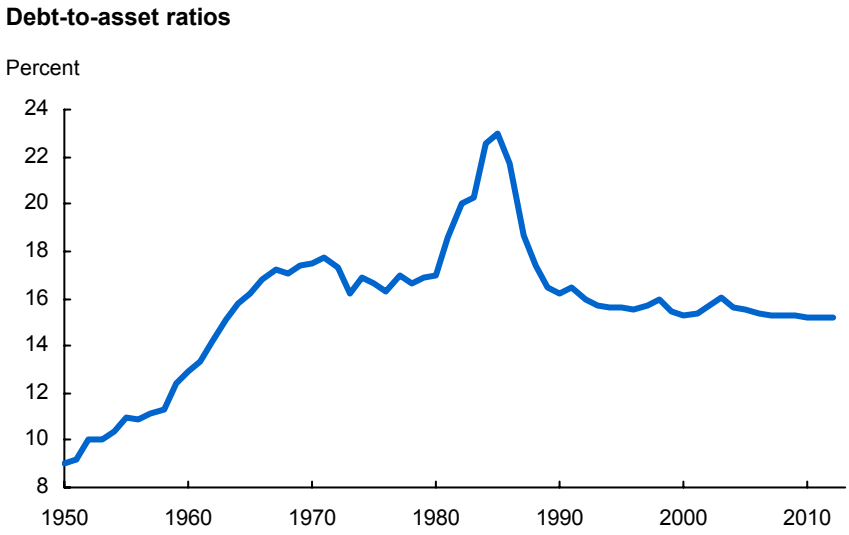
Strengthening farm income through the projections supports gains in farmland values.

- Increasing demand for land use from non-agricultural sources, such as housing and recreation, also affects farmland values.



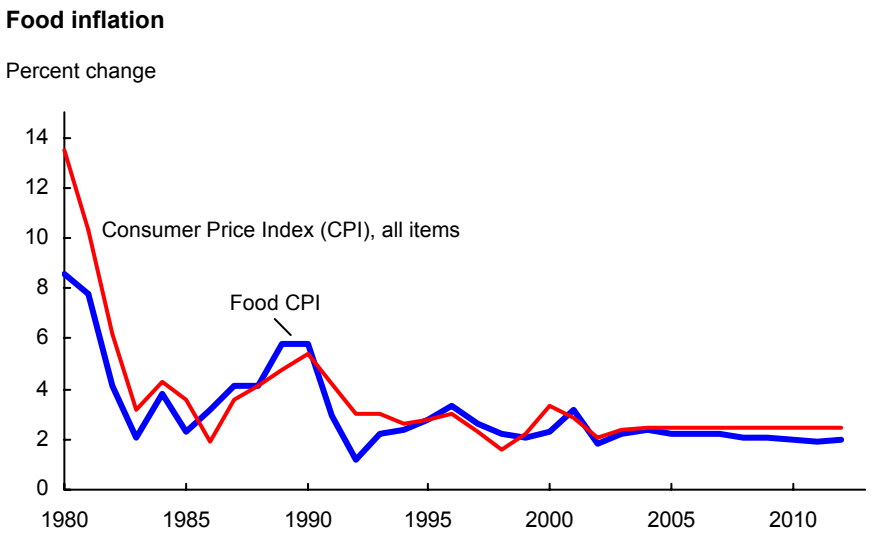
Increasing farm incomes and relatively low interest rates through the baseline assist in asset accumulation and debt management.

- Farm debt moves up less rapidly than asset values in the projections, rising an average of about 2.4 percent a year compared with an increase of 2.7 percent annually for assets.



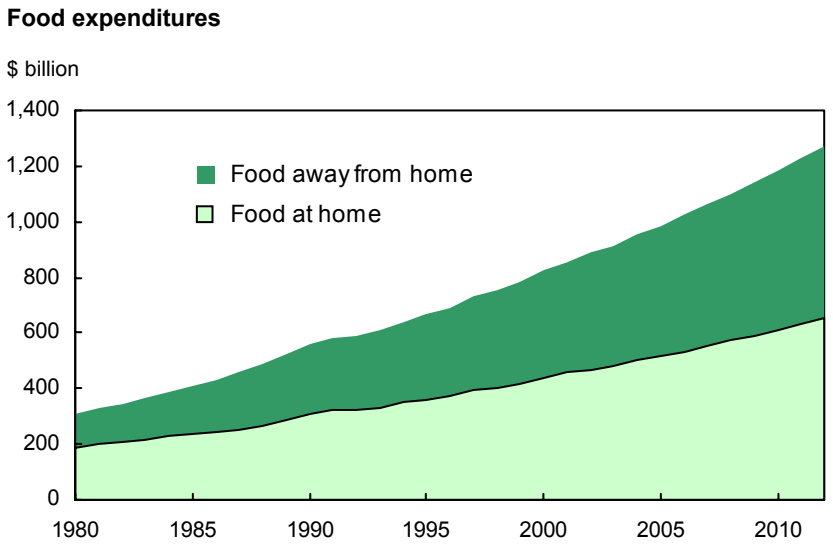
Increasing farm income and rising farm equity lead to improved financial conditions in the agricultural sector.

- Debt-to-asset ratios decline over the next few years and then remain near 15 percent, compared with over 20 percent in the mid-1980s.



Retail food prices continue a long-term trend of increasing less than the general inflation rate.

- Among foods purchased for consumption at home, price increases are generally strongest for more highly processed foods such as cereals and bakery products. 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.



Expenditures for meals prepared away from home account for a growing share of food spending, reaching about 49 percent of total food expenditures by 2012.

- Increases in away-from-home food spending, which contains a large service component, are held down by competition in the fast-food and food-service industries.

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

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
						Billion dollars						
Cash receipts:												
Crops	96.4	97.6	101.6	103.4	104.3	106.7	110.0	113.2	116.3	119.3	122.6	125.7
Livestock and products	106.4	95.9	98.9	102.4	105.1	107.9	111.4	114.3	117.3	119.8	122.4	125.1
All commodities	202.8	193.5	200.5	205.8	209.4	214.6	221.3	227.6	233.7	239.0	245.0	250.8
Farm-related income	14.9	15.9	16.9	17.4	17.8	18.3	18.8	19.3	19.8	20.3	20.9	21.4
Government payments	20.7	13.1	17.6	15.6	17.5	16.8	14.4	14.5	13.5	13.2	12.6	12.0
Gross cash income	238.5	222.5	234.9	238.8	244.6	249.6	254.5	261.4	267.0	272.6	278.4	284.2
Cash expenses	178.8	176.2	183.6	187.1	190.1	195.3	199.7	204.0	208.1	211.7	215.7	220.2
Net cash income	59.7	46.3	51.3	51.7	54.5	54.4	54.8	57.4	58.9	60.8	62.7	64.0
Value of inventory change	-3.2	-2.8	4.7	0.5	1.0	0.3	0.3	0.6	0.8	0.8	0.8	0.8
Non-money income	11.2	11.2	11.4	11.7	12.0	12.3	12.6	12.8	13.1	13.3	13.6	13.8
Gross farm income	246.5	230.9	251.0	251.0	257.7	262.3	267.4	274.8	280.8	286.7	292.8	298.9
Noncash expenses	16.0	16.1	16.2	16.3	16.5	16.7	16.9	17.1	17.3	17.5	17.7	17.9
Operator dwelling expenses	6.0	6.2	6.3	6.4	6.5	6.5	6.6	6.7	6.8	6.9	7.0	7.1
Total production expenses	200.8	198.5	206.0	209.9	213.1	218.5	223.3	227.9	232.2	236.2	240.4	245.3
Net farm income	45.7	32.4	44.9	41.2	44.5	43.8	44.1	46.9	48.6	50.5	52.4	53.6
Farm assets	1,251.0	1,288.5	1,309.3	1,371.7	1,401.0	1,447.2	1,483.1	1,515.3	1,558.1	1,596.2	1,637.8	1,679.4
Farm debt	192.0	201.9	209.7	213.9	218.1	222.5	227.0	231.9	237.5	243.2	249.3	255.5
Farm equity	1,059.0	1,086.6	1,099.7	1,157.9	1,182.9	1,224.7	1,256.1	1,283.3	1,320.6	1,353.0	1,388.5	1,423.9
						Percent						
Debt/equity ratio	18.1	18.6	19.1	18.5	18.4	18.2	18.1	18.1	18.0	18.0	18.0	17.9
Debt/assets ratio	15.3	15.7	16.0	15.6	15.6	15.4	15.3	15.3	15.2	15.2	15.2	15.2

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

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
						Billion 1996 dollars [1]						
Cash receipts:												
Crops	88.1	88.2	90.2	90.0	88.8	88.7	89.2	89.6	89.8	89.8	90.1	90.1
Livestock and products	97.3	86.6	87.8	89.0	89.5	89.7	90.3	90.5	90.5	90.2	90.0	89.7
All commodities	185.4	174.8	178.0	179.0	178.3	178.4	179.5	180.0	180.3	180.0	180.0	179.8
Farm-related income	13.7	14.3	15.0	15.1	15.1	15.2	15.2	15.3	15.3	15.3	15.3	15.4
Government payments	18.9	11.9	15.6	13.6	14.9	13.9	11.7	11.5	10.4	9.9	9.2	8.6
Gross cash income	218.0	201.0	208.6	207.7	208.4	207.5	206.4	206.8	206.0	205.3	204.6	203.7
Cash expenses	163.4	159.2	163.0	162.7	162.0	162.3	162.0	161.4	160.6	159.4	158.5	157.9
Net cash income	54.6	41.8	45.6	44.9	46.4	45.2	44.4	45.4	45.4	45.8	46.1	45.9
Value of inventory change	-2.9	-2.6	4.1	0.4	0.8	0.3	0.3	0.5	0.6	0.6	0.6	0.6
Non-money income	10.2	10.2	10.1	10.2	10.3	10.3	10.2	10.1	10.1	10.0	10.0	9.9
Gross farm income	225.3	208.6	222.9	218.3	219.5	218.1	216.9	217.4	216.7	215.9	215.1	214.2
Noncash expenses	14.6	14.5	14.4	14.2	14.1	13.9	13.7	13.5	13.3	13.2	13.0	12.8
Operator dwelling expenses	5.5	5.6	5.6	5.6	5.5	5.4	5.4	5.3	5.3	5.2	5.2	5.1
Total production expenses	183.5	179.3	183.0	182.5	181.5	181.7	181.1	180.3	179.2	177.8	176.7	175.8
Net farm income	41.8	29.3	39.9	35.8	37.9	36.4	35.8	37.1	37.5	38.0	38.5	38.4
Farm assets	1,143.3	1,163.9	1,162.8	1,192.8	1,193.4	1,203.0	1,202.8	1,198.8	1,202.2	1,201.9	1,203.4	1,203.9
Farm debt	175.5	182.4	186.2	186.0	185.8	185.0	184.1	183.5	183.3	183.1	183.2	183.2
Farm equity	967.8	981.6	976.6	1,006.8	1,007.6	1,018.1	1,018.7	1,015.3	1,019.0	1,018.8	1,020.2	1,020.7

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

Table 31. Consumer food price indexes and food expenditures baseline

CPI category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Consumer price indexes:							*1982-84=100*						
All food	167.8	173.1	176.2	180.0	184.3	188.3	192.3	196.5	200.7	205.0	209.1	213.3	217.6
Food away from home	169.0	173.9	178.3	181.8	185.4	189.1	192.9	196.8	200.7	204.7	208.8	213.0	217.2
Food at home	167.9	173.4	175.6	179.6	184.4	188.5	192.7	197.1	201.5	205.9	210.2	214.3	218.6
Meats	150.7	159.3	160.4	162.9	166.6	169.4	172.1	174.8	176.7	178.8	179.9	180.7	181.9
Beef and veal	148.1	160.5	160.5	164.0	170.0	174.0	177.4	180.9	182.9	184.6	185.3	185.1	185.4
Pork	156.5	162.4	161.7	163.0	164.0	165.0	166.4	168.1	169.5	171.9	172.9	174.2	175.9
Other meats	152.0	156.4	162.0	163.0	165.2	167.4	169.8	172.2	174.7	177.4	179.8	182.2	184.9
Poultry	159.8	164.9	167.2	170.0	177.7	179.1	183.0	187.0	189.2	191.4	192.9	193.9	195.6
Fish and seafood	190.4	191.1	188.1	190.8	195.6	200.5	205.5	210.6	215.9	221.3	226.8	232.5	238.3
Eggs	131.9	136.4	137.8	137.0	140.6	143.7	147.7	151.6	156.7	162.8	168.9	174.1	179.1
Dairy products	160.7	167.1	168.5	170.7	178.0	183.6	188.3	193.5	199.5	205.4	210.8	215.8	221.1
Fats and oils	147.4	155.7	155.6	158.8	163.6	168.0	172.3	176.8	181.5	186.3	191.1	195.8	200.6
Fruits and vegetables	204.6	212.2	220.5	227.0	232.9	239.0	245.1	251.2	257.7	263.8	270.2	276.6	283.6
Sugar and sweets	154.0	155.7	159.0	165.2	166.7	168.5	171.6	174.8	178.0	181.2	184.6	188.0	191.4
Cereals and bakery products	188.3	193.8	198.2	203.7	206.6	210.4	215.1	220.2	225.7	231.4	237.3	243.2	249.1
Nonalcoholic beverages	137.8	139.2	139.1	142.0	145.0	148.0	151.1	154.3	157.5	160.8	164.2	167.6	171.1
Other foods	172.2	176.0	177.2	181.3	185.6	190.0	194.6	199.3	204.1	209.0	214.0	219.1	224.3
Food expenditures:							*Billion dollars*						
All food	824.8	857.3	888.6	914.6	951.8	986.8	1,023.2	1,061.4	1,100.5	1,140.8	1,181.8	1,224.3	1,268.7
Food at home	437.9	457.0	470.2	479.6	499.5	516.4	534.0	552.5	571.3	590.5	609.5	629.0	649.8
Food away from home	386.9	400.3	418.4	435.0	452.3	470.4	489.2	508.9	529.2	550.3	572.3	595.3	618.9

Table 32. Changes in consumer food prices, baseline

CPI category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
							Percent						
All food	2.3	3.2	1.8	2.2	2.4	2.2	2.1	2.2	2.1	2.1	2.0	2.0	2.0
Food away from home	2.4	2.9	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Food at home	2.3	3.3	1.3	2.3	2.7	2.2	2.2	2.3	2.2	2.2	2.1	2.0	2.0
Meats	5.9	5.7	0.7	1.6	2.3	1.7	1.6	1.6	1.1	1.2	0.6	0.4	0.7
Beef and veal	6.4	8.4	0.0	2.2	3.7	2.4	2.0	2.0	1.1	0.9	0.4	-0.1	0.2
Pork	7.3	3.8	-0.4	0.8	0.6	0.6	0.8	1.0	0.8	1.4	0.6	0.8	1.0
Other meats	2.6	2.9	3.6	0.6	1.3	1.3	1.4	1.4	1.5	1.5	1.4	1.3	1.5
Poultry	1.2	3.2	1.4	1.7	4.5	0.8	2.2	2.2	1.2	1.2	0.8	0.5	0.9
Fish and seafood	2.8	0.4	-1.6	1.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Eggs	3.0	3.4	1.0	-0.6	2.6	2.2	2.8	2.6	3.4	3.9	3.7	3.1	2.9
Dairy products	0.7	4.0	0.8	1.3	4.3	3.1	2.6	2.8	3.1	3.0	2.6	2.4	2.5
Fats and oils	-0.6	5.6	-0.1	2.1	3.0	2.7	2.6	2.6	2.7	2.6	2.6	2.5	2.5
Fruits and vegetables	0.7	3.7	3.9	2.9	2.6	2.6	2.6	2.5	2.6	2.4	2.4	2.4	2.5
Sugar and sweets	1.1	1.1	2.1	3.9	0.9	1.1	1.8	1.9	1.8	1.8	1.9	1.8	1.8
Cereals and bakery products	1.8	2.9	2.3	2.8	1.4	1.8	2.2	2.4	2.5	2.5	2.5	2.5	2.4
Nonalcoholic beverages	2.6	1.0	-0.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Other foods	2.0	2.2	0.7	2.3	2.4	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

	2000	2001	2002	2003 1/	2004	2005	2006	2007	2008	2009	2010	2011	2012	2002-2012 growth rate
							Billion dollars							*Percent*
Agricultural exports:														
Animals and products	11.7	12.4	11.9	12.4	13.4	14.0	14.6	15.3	16.0	16.6	17.2	17.7	18.2	4.3
Grains, feeds, and products	13.9	13.9	14.1	16.6	15.5	15.3	15.7	16.5	17.3	18.1	18.8	19.6	20.6	3.8
Oilseeds and products	8.6	8.8	9.7	9.6	9.9	10.2	10.8	11.3	11.9	12.3	12.5	12.8	13.1	3.0
Horticultural products	10.5	11.1	11.1	11.3	11.8	12.3	12.8	13.2	13.7	14.1	14.5	14.9	15.3	3.2
Tobacco, unmanufactured	1.2	1.2	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	0.9	-2.3
Cotton and linters	1.8	2.1	2.1	2.6	2.8	2.9	3.1	3.1	3.1	3.2	3.2	3.3	3.3	4.9
Other exports	3.0	3.3	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.6	3.8
Total agricultural exports	50.7	52.7	53.3	57.0	58.0	59.6	61.8	64.4	67.1	69.5	71.5	73.7	76.0	3.6
Bulk commodities exports	17.7	17.6	18.2	21.2	20.0	19.7	20.1	20.7	21.4	22.2	22.7	23.4	24.2	2.9
High-value product exports	33.0	35.1	35.1	35.8	38.0	39.8	41.7	43.7	45.7	47.3	48.8	50.3	51.8	4.0
High-value product share	65.0%	66.5%	65.9%	62.8%	65.5%	66.9%	67.5%	67.9%	68.1%	68.1%	68.2%	68.2%	68.1%	
Agricultural imports:														
Animals and products	8.1	9.0	9.1	9.3	9.7	10.1	10.1	10.1	10.2	10.3	10.4	10.5	10.7	1.6
Grains, feeds, and products	3.1	3.2	3.6	3.9	3.9	3.9	4.0	4.1	4.2	4.4	4.5	4.6	4.7	2.8
Oilseeds and products	1.9	1.7	1.7	1.8	2.1	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.4	3.5
Horticultural products	15.8	16.4	17.5	18.4	19.1	19.8	20.5	21.2	21.9	22.6	23.3	24.1	24.8	3.5
Tobacco, unmanufactured	0.7	0.6	0.7	0.8	0.8	0.9	0.8	0.8	0.9	0.9	0.9	1.0	1.0	2.9
Sugar and related products	1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	3.1
Coffee, cocoa, and rubber	5.2	3.8	4.0	4.2	4.3	4.4	4.5	4.6	4.8	4.9	5.0	5.1	5.2	2.8
Other imports	2.6	2.6	2.6	2.7	2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.5	3.6	3.1
Total agricultural imports	38.9	39.0	41.0	43.0	44.9	46.1	47.1	48.1	49.4	50.7	52.0	53.3	54.8	2.9
Net agricultural trade balance	11.8	13.7	12.3	14.0	13.2	13.4	14.7	16.3	17.7	18.8	19.6	20.4	21.2	5.6
							Million metric tons							
Agricultural exports (volume):														
Bulk commodity exports	115.5	111.9	113.6	112.2	112.8	115.2	117.8	120.4	121.9	124.5	127.4	130.0	131.9	1.5

1/ The projections were completed in November 2002 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 December.

Note: Other exports consists of seeds, sugar and tropical products, and beverages and preparations. Essential oils are included in horticultural products. Bulk commodities include wheat, rice, feed grains, soybeans, cotton, and tobacco. The high-value products (HVP's) export value is calculated as total exports less the bulk commodities. HVP's include semi-processed and processed grains and oilseeds, animals and products, horticultural products, and sugar and tropical products. Other imports includes seeds, beverages except beer and wine, and miscellaneous commodities.

Agricultural Trade

With strengthening 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 economies of developing countries provide a foundation for gains in demand for agricultural products and increases in trade (see GDP growth chart, page 10). 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.

However, international trade in animal products remains heavily dependent on demand from developed countries and from market access achieved under existing global trade agreements. Strong regional preferences for domestically produced meat are expected to motivate growth in feed grain trade, especially to those regions where limited land availability or agro-climatic conditions preclude expanding domestic crop production, such as North Africa, the Middle East, and East and Southeast Asia.

Strong agricultural trade competition is expected in international commodity markets, not only from traditional exporters such as Argentina, Australia, and Canada, but also from countries that are in the process of investing in previously underdeveloped resources including Brazil, Hungary, Romania, Russia, Ukraine, and Kazakhstan.

Foreign Agricultural Policy Assumptions and Projection Highlights

Baseline trade projections to 2012/13 incorporate long-term assumptions concerning foreign trend yields and foreign use. The baseline also assumes normal weather throughout the projection period. As a result, there are no shocks due to abnormal weather or other factors affecting global supply and demand in the projections.

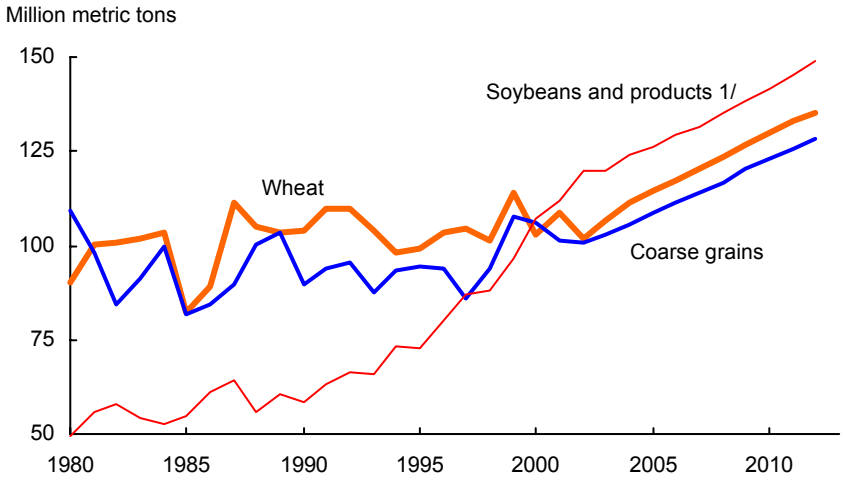
Policy assumptions underlying both U.S. and foreign projections are based on full compliance with all bilateral and multilateral agreements affecting agriculture and agricultural trade as of November 2002, including the Uruguay Round Agreement on Agriculture and the North American Free Trade Agreement.

The baseline does not incorporate any effects of agreements not formally ratified by November 2002. Examples of potential multilateral agreements that could have significant impacts on agricultural trade during the projection period but are not reflected in the baseline include:

- Accession to the World Trade Organization (WTO) by Russia or any other country not formally admitted as of November 2002;
- Enlargement of the European Union (EU) to add one or more Central or East European countries;
- Implementation of more liberalized trade among the Asia-Pacific Economic Cooperation (APEC) countries;
- Expansion of NAFTA to include additional countries; and
- Implementation of any reforms under consideration in the current (Doha) round of WTO negotiations.

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 reform underway in many developing countries is assumed to continue. Similarly, the development and use of agricultural technology and changes in consumer preferences are assumed to continue to evolve based on past performance and analyst's judgment regarding future developments.

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



1/ Soybeans and soybean meal in soybean equivalent units.

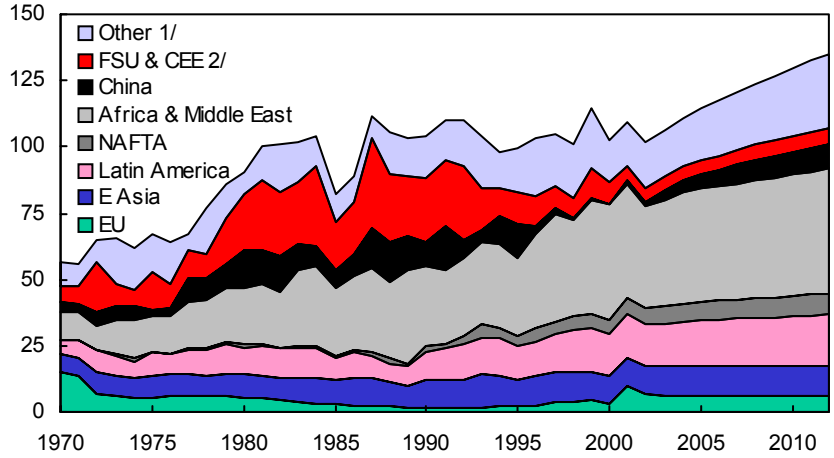
Rising unabated since the late 1980s, global trade in soybeans and products surpassed wheat—the traditional leader in agricultural commodity trade—and total coarse grains in 2000. Continued strong growth in global demand for vegetables oils and protein meal feedstuffs is expected to maintain the trade supremacy of soybeans and its products throughout the next decade.

- These three major commodity groupings—wheat, coarse grains, and oilseeds (including soybeans)—compete with each other as well as with other crops for increasingly limited temperate cropland. Of the major crops, only oilseeds—notably soybeans in central Brazil and palm oil in Indonesia's Kalimantan—are successfully tapping into new reserves of virgin tropical soils. As a result, oilseed production and trade can be expected to expand with growth in demand for vegetable oils and protein meals.

- Virtually no growth in overall global wheat and coarse grains trade occurred in the 1990s, largely reflecting reductions in imports by the transition economies of the former Soviet Union (FSU) and Central and Eastern Europe (CEE). With those demand adjustments largely complete, the continuing growth in import demand from other countries leads to overall gains in global grain trade. Both the FSU and CEE countries are expected to be increasingly important export competitors in future grain trade.

Global wheat imports

Million metric tons



1/ Predominantly South and Southeast Asia. 2/ Former Soviet Union and Central and Eastern Europe.

Growth in wheat imports is concentrated in the developing countries, primarily Africa, the Middle East, and Asia, where robust growth in income and population underpins increases in demand. Important growth markets include China, Brazil, Algeria, Egypt, Indonesia, and the Philippines.

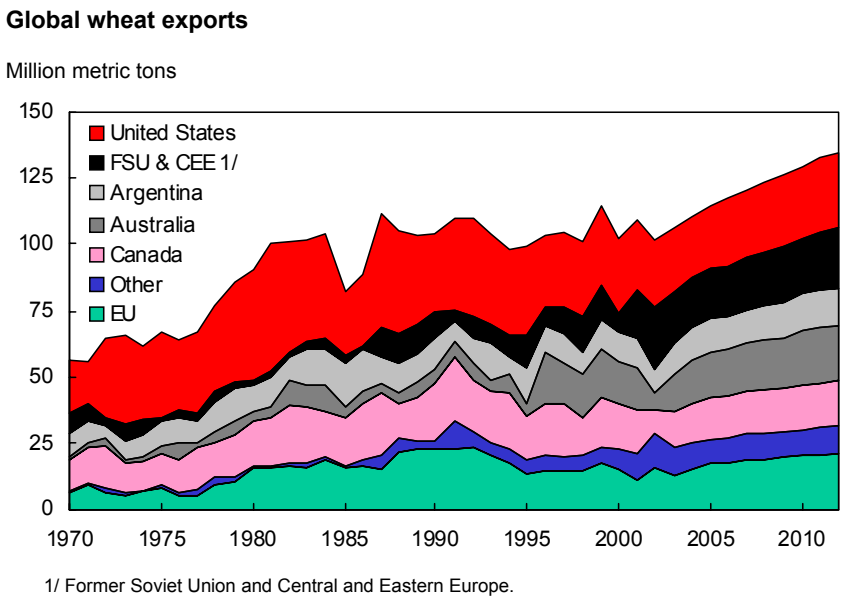
- World wheat trade (including flour) expands by nearly 29 million tons (27 percent) from 2003 to 2012.

- Developing countries in Sub-Saharan Africa, North Africa, and the Middle East account for over one-third of world wheat imports.

- Limited domestic wheat production growth in the face of strong income growth maintains Brazil as the world's leading wheat importer through most of the baseline.

- China experiences rapid growth in wheat imports over the period and overtakes Brazil as the world's leading wheat import market late in the period. Land-use competition and increasing water limitations are projected to slow growth in domestic wheat production. As a result, China turns to the international market to supplement internal supplies.

- Due to mounting costs, Iran is projected to lower consumer subsidies for bread wheat (currently at about 90 percent of total value) through the projection period. As subsidies fall, per capita consumption will also fall resulting in lower imports and consumption.



The top five wheat exporting nations (Argentina, Australia, Canada, EU, and the United States) account for about 75 percent of world trade through 2012. This is down from an average of 83 percent during 1996-2001 due to increasing international competition from non-traditional sources. However, it represents a substantial recovery from the drought-reduced share forecast for 2002.

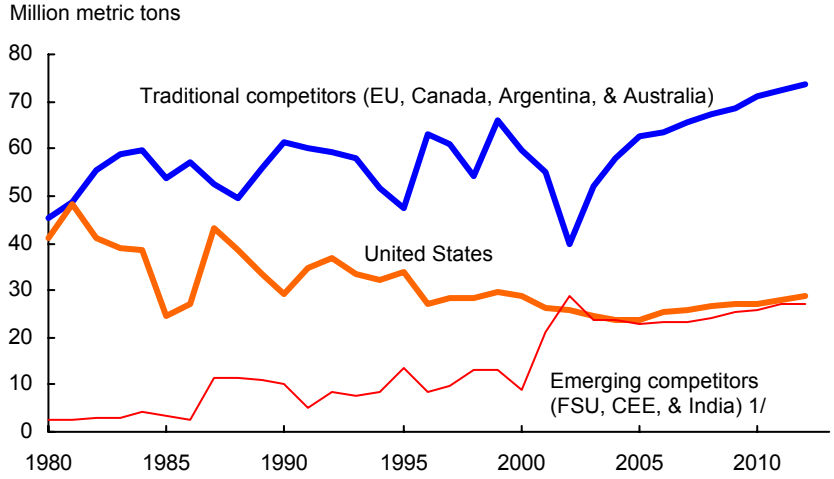
- The United States remains the world's leading wheat exporter through the projection period.

- Wheat production in Argentina, Australia, and Canada recovers from drought-reduced levels in 2002. Wheat export shares for Argentina and Canada remain fairly stable from 2003 to 2012. The EU and Australia benefit from plentiful supplies and favorable exchange rates to expand wheat exports and gain market share throughout the period.

- Several former Soviet bloc countries of Central and Eastern Europe (CEE) and the former Soviet Union (FSU), particularly Ukraine, Kazakhstan, Russia, and Hungary, emerge as steady suppliers of wheat to international markets. The Black Sea is an important outlet for wheat exports from the FSU and CEE. Wheat exports from the FSU in 2002 have been very competitively priced and have gained international market share at the expense of traditional exporters.

- Wheat trade represents a combination of both food and feed demand. While food demand for wheat is generally stable and only minimally responsive to price fluctuations, feed demand links wheat trade to coarse grain trade and is a major source of variability in grain trade patterns.

Wheat exports: Competitors and United States



1/ FSU = former Soviet Union; CEE = Central and Eastern Europe.

The U.S. market share of global wheat trade holds steady at about 21 percent under intense competition from the traditional four other major wheat exporters—the European Union (EU), Canada, Argentina, and Australia—and from an emerging set of competitors that includes Ukraine, Kazakhstan, Russia, Hungary, and India. Recent market-share gains by this latter set of non-traditional exporters signal increased competitiveness in international wheat markets.

- In Canada, increased demand for barley and oilseeds are expected to keep wheat area from expanding. Only modest yield improvements curtail production growth, while expanding domestic demand limits export growth.

- In Australia, wheat competes with barley, oilseeds, and wool for a land base that is characterized by limited rainfall for crop production and grazing. Yield gains are the principal factor behind rising Australian wheat production and exports during the baseline.

- Wheat exports from the former Soviet Union (FSU) and Central and Eastern Europe (CEE) surged in 2002, helping to offset drought-reduced crops in the United States, Australia, and Canada. Low costs of production and on-going investment in their agricultural sectors are expected to support FSU and CEE wheat export market share at about 17 percent through the period, compared with an average of less than 11 percent during 1996 to 2001.

- In India, huge government-held stocks and strong government production incentives maintain large domestic supplies through the period. In an effort to bring down stocks, the government is expected to continue efforts to boost domestic consumption as well as to export from government-held stocks, thereby maintaining a steady flow of low-quality wheat exports through the baseline.

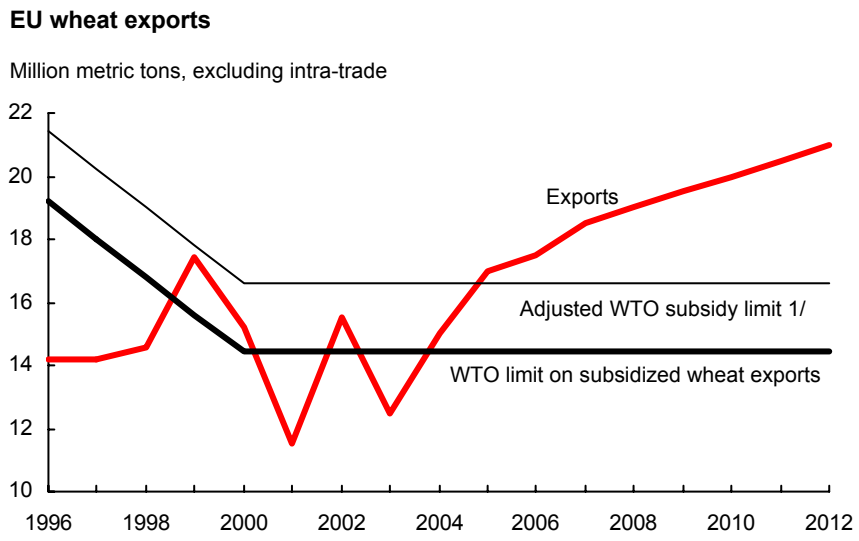
EU Wheat Exports

A projected decline in the cereal area set-aside rate, continued internal production incentives that favor wheat, abundant wheat stocks, and a favorable exchange rate fuel EU wheat exports through 2012. However, increases in domestic use limit export gains. Nonetheless, the EU share of world wheat trade is projected to increase from 13.5 percent in 2003 to 15.5 percent by 2012.

- Under the WTO agreement, the EU's volume of wheat exported with subsidies is subject to ceilings. The need for export subsidies hinges on the relationship between internal EU prices, international market prices, and the EU exchange rate. Although the euro appreciates early in the period, weakness through the latter half combines with the reduced levels of EU internal cereal support prices implemented under Agenda 2000 reforms and rising global wheat prices to allow the EU to export wheat without subsidy throughout the projections. Thus, EU wheat exports are not constrained by WTO subsidized-volume limits.

- Under Agenda 2000 reforms, the set-aside rate for cereals was set at 10 percent. However, since the EU is projected to be able to export all wheat and some coarse grains without subsidies, based on market conditions, internal producer pressure is assumed to result in a reduction of the mandatory 10 percent set-aside to 7.5 percent in 2003 and to 5 percent by 2005.

- Despite the smaller set-aside rate, wheat stocks are not expected to rebuild to the excessive levels of the past. Instead, surplus production is absorbed by increases in domestic demand and exports. Wheat is fed extensively to hogs in the EU. By allowing the set-aside rate to fall, the EU keeps feed consumption high while exporting without subsidy.



1/ Includes food aid as well as feed wheat exports to neighboring countries made without subsidy due to geographic proximity.

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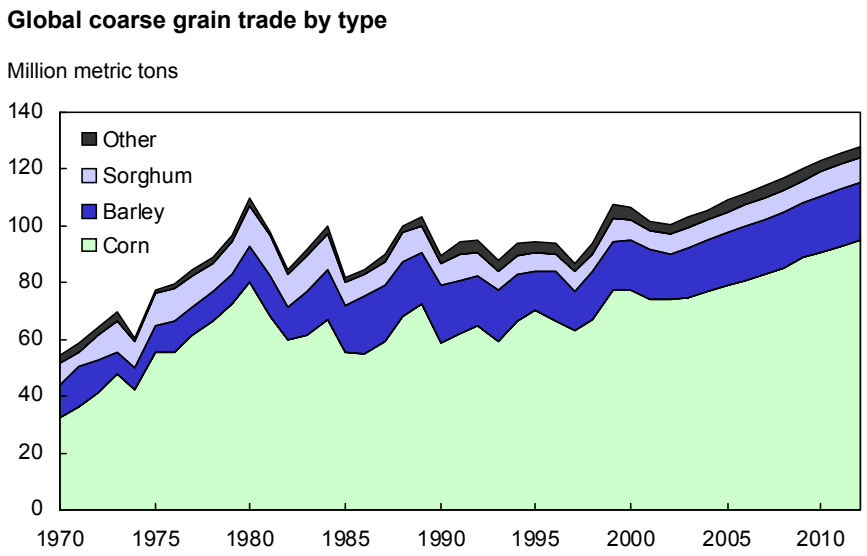
EU Wheat Exports--continued

- Under the baseline, the EU is assumed to restrict wheat imports to 6 million tons through the projection period to meet domestic policy goals.

- By equalizing compensatory payments between cereals and oilseeds, and by maintaining a single cereals intervention price, Agenda 2000 put an emphasis on wheat production. Apart from the assumed set-aside decline and limitation on wheat imports, no additional incentives to expand wheat area are projected.



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, particularly North Africa, the Middle East, and East and South East Asia.

- Corn is the dominant feed grain traded in international markets. Corn accounts for an average of 72 percent of all coarse grain trade through the projection period, followed by barley (17 percent), and sorghum (7 percent).

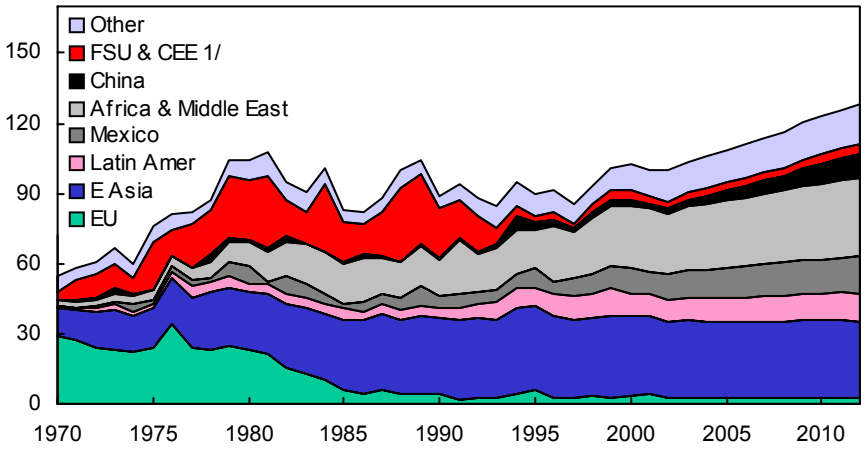
- Ruminants and hogs are capable of digesting a broad range of feedstuffs, making their demand relatively price sensitive across alternate feed sources. However, as pork and poultry production become increasingly commercialized, they also demand a higher minimum quality of feedstuffs, particularly related to energy and protein content. This commercialization of livestock activities has been a driving force behind the gains in global protein meal markets and the growing dominance of corn in international feed grain markets.

- Since feed wheat can substitute for feed grains in many livestock production activities, global coarse grain markets are influenced by the availability of feed wheat in international markets. Feed- versus milling-quality wheat is a function of the plant variety, as well as growing and harvesting conditions. Poor harvest-time weather can unexpectedly convert a milling-quality wheat crop into feed-quality wheat that depresses the general level of grain market prices. As a result, weather and the availability of feed wheat in international markets play a major role in the variability of grain trade.

- Trade in barley, sorghum, and other coarse grains is becoming increasingly specialized and driven by specific end-use demands.

Global coarse grain imports

Million metric tons



1/ Former Soviet Union and Central and Eastern Europe.

Rising incomes and associated gains in per capita meat consumption, particularly in developing countries, are important drivers of projected gains in coarse grain use and trade. Key growth markets include China, North Africa, the Middle East, and Mexico.

- World coarse grain trade expands by nearly 25 million tons (24 percent) from 2003 to 2012.

- About two-thirds of global coarse grain supplies is used as animal feed. Coarse grain that is traded is also primarily used as feed. Industrial uses, such as starch production, ethanol, and malting, are relatively small but growing. Food use of coarse grains is concentrated in parts of Latin America, Africa, and Asia and has generally declined over time as consumers tend to shift consumption toward wheat, rice, or other foods as their incomes rise.

- A key factor that weakened global coarse grain demand during the 1990s was the drop in livestock numbers and feeding that occurred in the FSU and CEE as these economies underwent structural reform. These adjustments are largely completed. In the projections, steady long-run growth in the livestock sectors of developing countries in Asia, Latin America, North Africa, and the Middle East is expected to overtake and replace the lost feed demand of the FSU and CEE.

- East Asian imports remain mostly steady, as countries in this region tend to maintain stable domestic livestock and poultry production, while meat imports satisfy most internal demand growth.

- Already a major destination for global feedstuffs, North Africa and the Middle East (NAME) experience continued growth in import demand for grain and protein meals

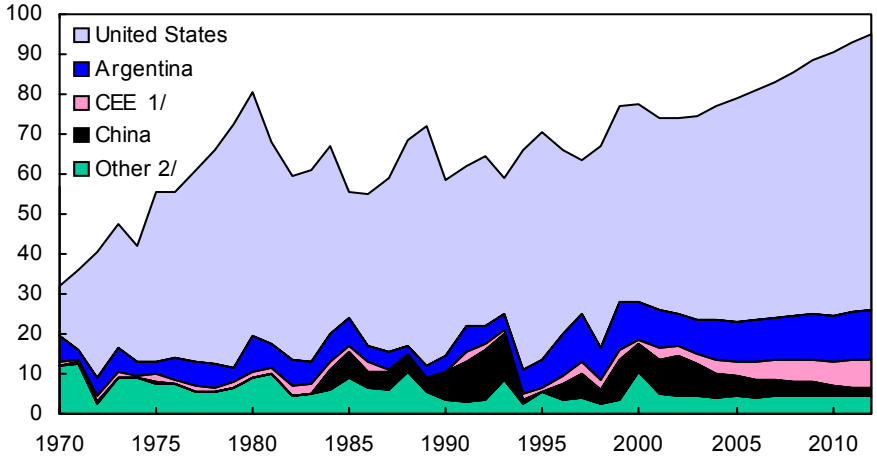
through 2012 as rising populations and an increasing average real GDP growth rate sustain strong demand growth for home-grown animal products.

- Currently, many of the countries within NAME maintain restrictive policies on imports of poultry and red meat, including outright bans and/or high import duties, in order to bolster domestic production. Most Muslim countries have a strong preference for home-grown livestock in order to ensure that the animals are *Halal* (lawful) and *Zabihah* (slaughtered according to Islamic Rites) in order to be suitable for consumption.

- Feed requirements have grown in step with livestock and poultry sectors in NAME countries. However, most countries of this region share the common circumstance of limited arable land and inadequate water resources which constrain their capacity to produce feed grains and oilseeds. The widening imbalance between feed requirements (especially those providing high energy and crude protein) and feed production has translated into increasing dependency on international markets for coarse grains and oilseeds.

Global corn exports

Million metric tons



1/ Central and Eastern Europe.
2/ Republic of South Africa, Brazil, EU, former Soviet Union, and others.

The United States dominates world trade in coarse grains, particularly corn. The U.S. share of world corn trade is expected to grow to over 72 percent by 2012 as few countries have similar capabilities to respond to rising international demand for corn. China's trade share drops, but the U.S. corn sector faces increased competition from Argentina and Eastern Europe, which also increase their shares of the global corn market.

- Argentina, with a small domestic market, remains an important corn exporter as its economy recovers and area and investments gradually return to corn production over the baseline.

- China's corn exports decline from initially high levels to 2 million tons by the end of the baseline as strengthening domestic demand driven by rapidly expanding livestock sectors overtakes production.

- The Republic of South Africa continues exporting some corn to neighboring countries in southern Africa, but amounts remain small (less than 2 million tons) compared with global totals.

- Corn exports from CEE countries nearly triple to about 7 million tons by 2012. Favorable resource endowments, increasing economic openness, and greater investment in their agricultural sectors are behind projected gains in production and trade.

- Brazil continues to export small amounts (less than 1 million tons) of corn through the period in response to niche market demand for non-GMO grain, but strong growth in domestic demand prevents corn exports from increasing.

China Corn Imports and Exports

China remains a net corn exporter through most of the projections period, reflecting abundant domestic supplies and strong producer preferences in production. It is not until later in the period that increased domestic livestock production and demand for feed overtake China's internal supplies and total corn imports exceed exports. However, China continues to export corn throughout the projection period, although a declining amount, due to regional supply and demand differences—Northern China runs a corn surplus while Southern China is corn deficit.

Corn is the favored crop in Northeast China. The proximity to South Korea and other Asian markets provides a ready source of demand, while various government measures—including subsidies for sales of corn from state grain reserves, 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.

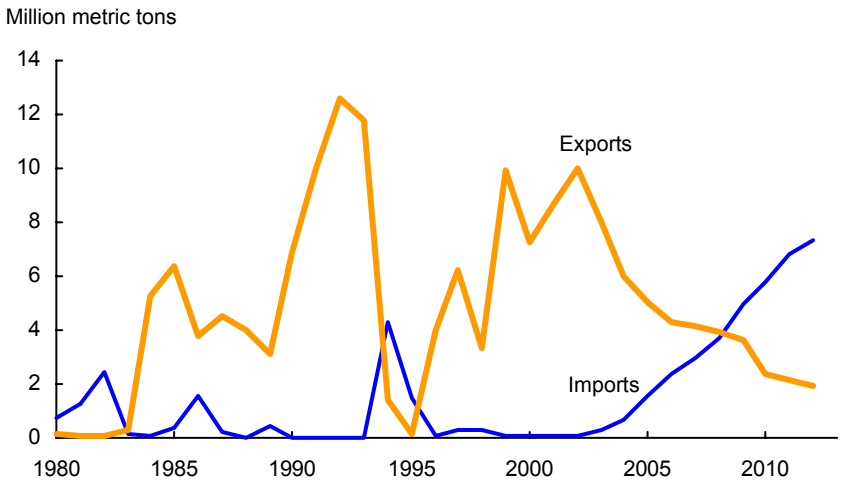
China experienced a large buildup of corn stocks in the mid- to late-1990s due to a combination of favorable weather and local self-sufficiency policies that boosted grain production to record levels. As a result of the large stocks coupled with continued strong domestic production, domestic corn supplies remain in excess of domestic needs through most of the projection period.

Growth in China's domestic meat production

Domestic income growth and meat demand are the keys to projecting China's net trade position. Projections of strong per capita GDP growth in China are expected to drive the growth in domestic meat demand and production.

Regional patterns of meat demand in China suggest that urban demand is showing signs of abating, while rural demand probably will rise further but only with increases in rural incomes.

China: corn imports and exports



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China Corn Imports and Exports--continued

The rates of growth in total meat production and the share of commercial meat output are key factors in determining long run domestic feed needs for China. The transition from backyard to commercial animal production is expected to have two central influences on feed demand.

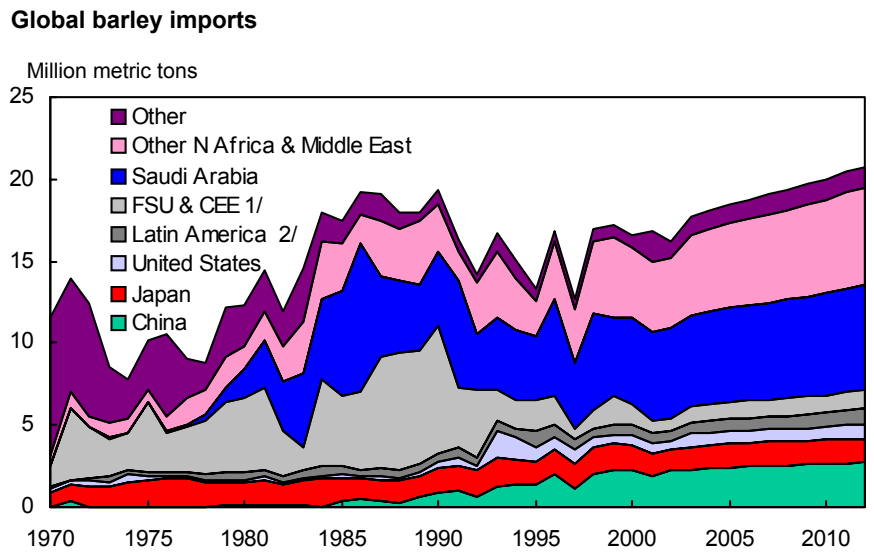
- First, expanding animal populations will increase the demand for feedstuffs.

- Second, as production shifts from backyard units to more specialized production that relies on commercial feed concentrates, the amount of commercial feed needed is expected to increase. This transition from backyard-to-commercial animal production is occurring at varying speeds across China.

Growing concerns for China's livestock sector include high chemical residues and antibiotic contents in meat products, as well as disease and poor sanitation. These issues have limited China's meat product exports and are raising concerns among domestic consumers about safety.

China's aquaculture is also an important source of feed demand and has been driven by gains in domestic consumption, as well as by large exports of seafood products to the EU and Japan. However, both the EU and Japan have recently imposed temporary bans on imports of seafood products from China due to the presence of significant antibiotic and chemical residues. This is expected to slow aquaculture's feed demand in the near term.

In the longer term, the baseline assumes that China is able to overcome these problems and the livestock and aquaculture sectors, along with their associated feed demand, continue to grow.



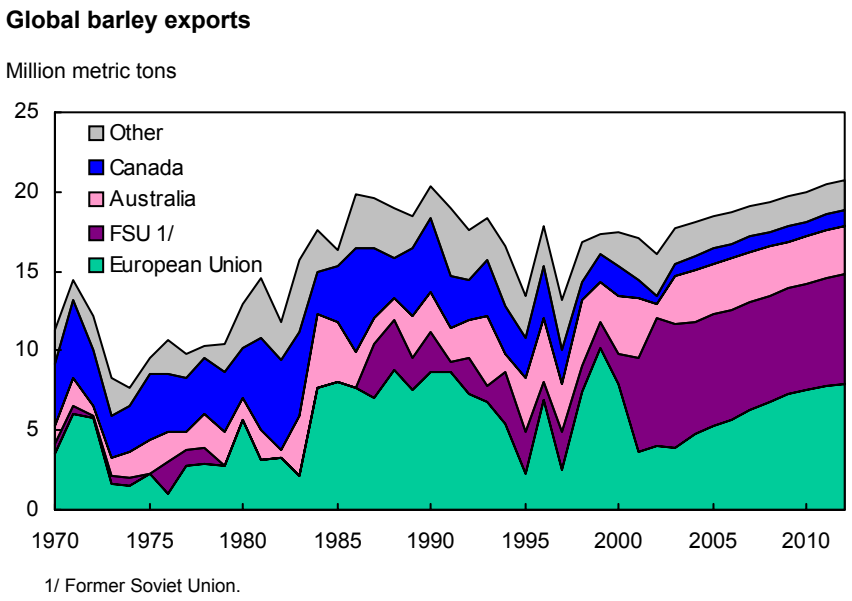
1/ Former Soviet Union and Central and Eastern Europe. 2/ Includes Mexico.

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 specialty 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 North Africa and Middle East (NAME) countries, due mainly to rising poultry production. This pattern is expected to continue through the baseline. However, the NAME region is expected to remain the world's largest barley importing block.

- 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 a ruminant feed.

- 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 since the mid-1990s. Malting barley is the leading ingredient used by brewers to produce beer, and China's beer demand is rising steadily with growth in incomes and population.



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.

- The EU, with abundant barley supplies, doubles its barley exports over the projection period to 7.8 million tons accounting for over 38 percent of world trade.

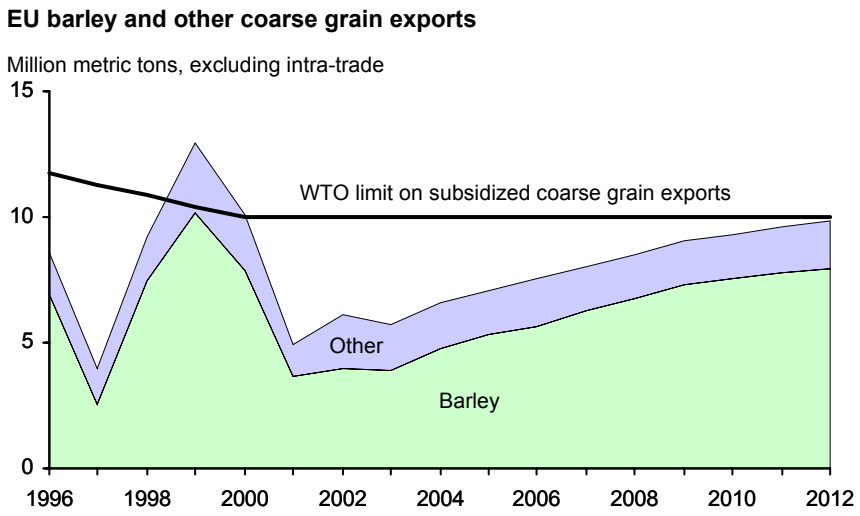
- The FSU remains a major barley exporter throughout the baseline. However, exports decline from record levels in 2002 to under 7 million tons by 2012 as production in Australia and Canada recovers from 2002 crop-year droughts and exports return to more normal levels in both countries. Together, the FSU and EU account for over 70 percent of world barley trade by the end of the period.

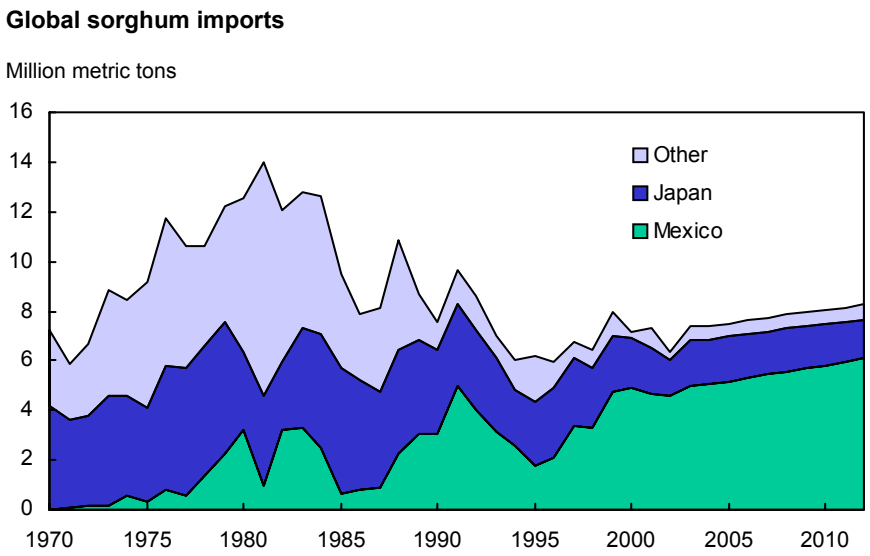
- Malting barley is of much higher quality and commands a substantial price premium over feed barley. In the long run, malting barley's price premium is expected to feature strongly in planting decisions in Canada and Australia, and malting barley's share of total barley area rises in the latter half of the period.

EU Coarse Grain Exports

- A declining set-aside for cereals and relative returns that favor barley production in some areas of the EU lead to rising production through the baseline. However, EU coarse grain stocks are not expected to rebuild to the excessive levels of the past. Instead, growing production is absorbed by increases in domestic demand and exports, thereby lessening the need for EU land set aside.

- EU exports of rye and oats require subsidies to compete in international markets throughout the baseline. Most EU barley exports, on the other hand, are not expected to need export subsidies.





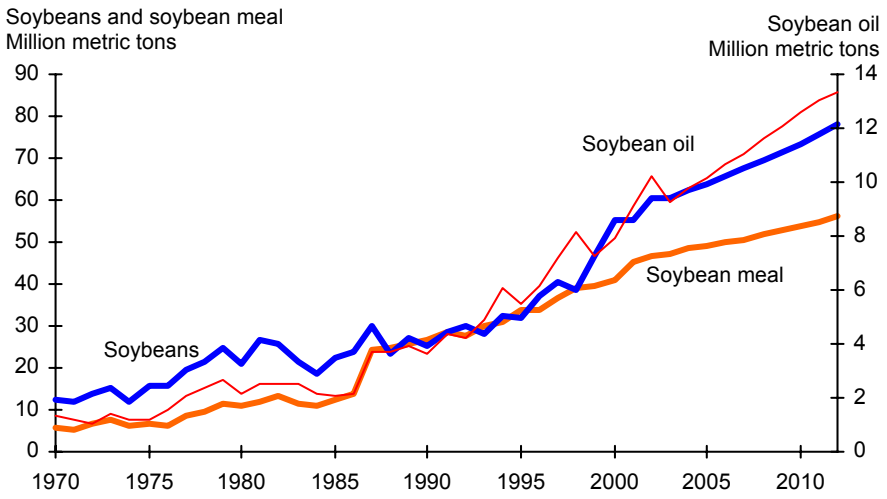
World sorghum trade increases gradually through the baseline, driven entirely by Mexico which favors sorghum imports as less politically sensitive than corn imports for domestic feed rations.

- Mexico—the world's leading sorghum importer—increases its sorghum imports to over 6 million tons by 2012 (almost 74 percent of world import demand).

- Japan imports a fairly stable volume of sorghum through the period in an effort to diversify its feed grains.

- The United States accounts for an increasing share of world sorghum exports during the period, rising to almost 90 percent in 2012. Australia's and Argentina's combined share falls from 14 to 7 percent during the period as sorghum becomes less profitable relative to other cropping choices in both of those countries.

Global exports: Soybeans, soybean meal, and soybean oil



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 oil trade grows at a robust 4 percent through the baseline compared with rates of 2.8 and 1.9 percent for soybeans and soybean meal.

- The profitability of oilseed crushing is determined, in large part, by the relative prices of the output products (meal and oil) versus the inputs (oilseeds). Crushing profitability varies across oilseeds based on their oil and meal yield. Soybeans, for example, yield a greater percentage of meal than of oil, so meal prices typically have a greater influence on soybean crushing margins.

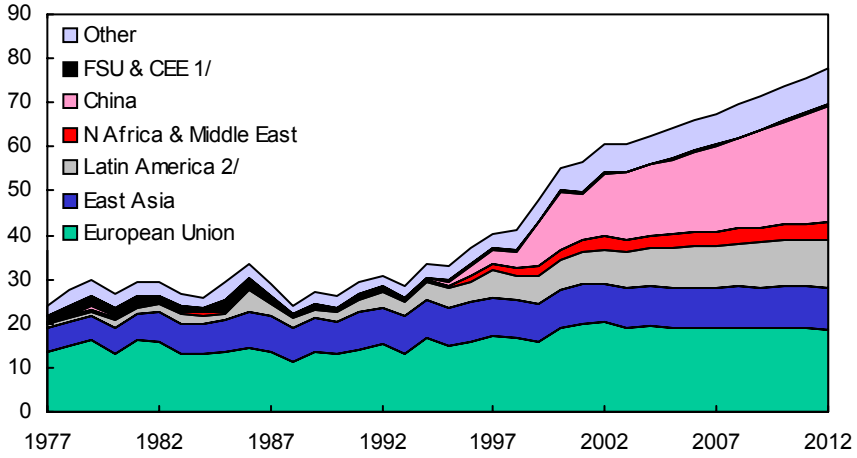
- Many countries with limited opportunity to expand oilseed production continue investment in oilseed crushing capacity—e.g., China, North Africa, the Middle East, and South and Southeast Asia. As a result, oilseed import demand is maintained above protein meal import demand throughout the baseline. 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.

- This steady competitive pressure forces many inefficient crushers out of business. Many importing markets remain deficit in vegetable oils and the growth in vegetable oil import demand exceeds the growth in import demand for either oilseeds or protein meals. Incentives to produce high-oil content oilseeds—e.g., rapeseed and sunflower seed—and palm oil strengthen through the baseline.

- Because of its prominent role in world commodity markets, China's policy of expanding domestic crushing capacity instead of importing protein meal and vegetable oil significantly influences the composition of world trade—international import demand for soybeans and other oilseeds is greater than would otherwise be the case.

Global soybean imports

Million metric tons

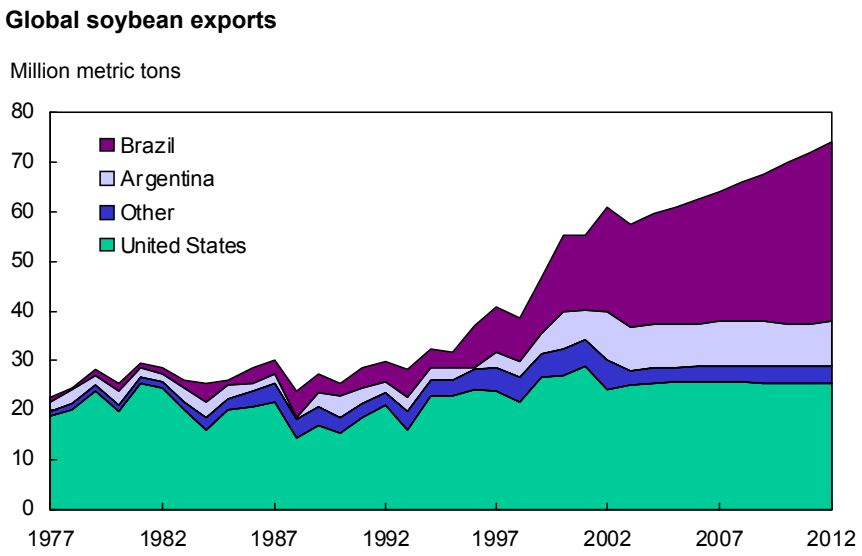


1/ Former Soviet Union and Central and Eastern Europe. 2/ Includes Mexico.

- The EU is traditionally the world's leading importer of soybeans and soybean meal. However, abundant EU grain stocks and lower internal grain prices (due to Agenda 2000 reforms) combine to reduce the relative cost of feeding grains versus soybean meal. As a result, increases in grain feeding are expected to slow the growth in EU soybean meal consumption. This results in slightly declining soybean imports.

- China accounts for over 63 percent of the world's growth in soybean imports over the next 10 years. Significant investment in oilseed crushing infrastructure by China, seeking to capture the value-added from processing oilseeds into protein meal and vegetable oil, drive strong gains in soybean imports through the baseline.

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



- The three leading soybean exporters—the United States, Brazil, and Argentina—account for 90 percent of world trade through the baseline.

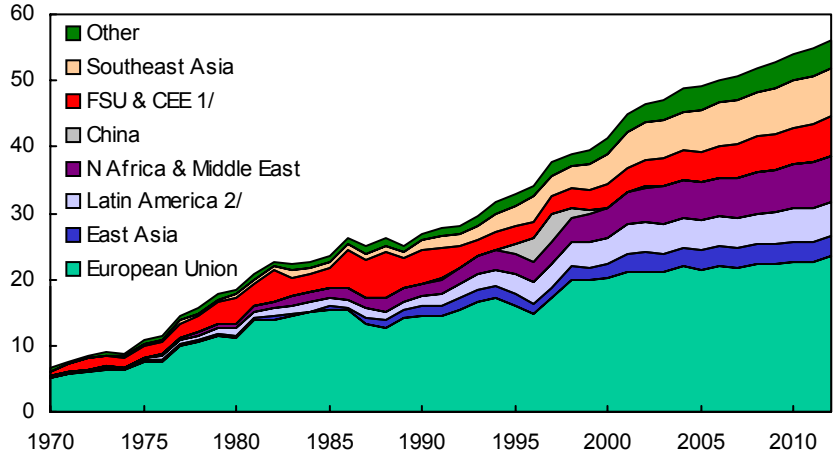
- Driven by continuous area gains, Brazil overtakes the United States as the world's leading exporter of soybeans mid-way through the baseline period.

- Limited expansion of acreage and increasing domestic use eventually constrict exportable U.S. supplies.

- Argentina's substantial crush capacity and an export tax structure that favors domestic crushing of whole seeds and exporting of the products hold soybean exports steady at just under 9 million tons.

Global soybean meal imports

Million metric tons

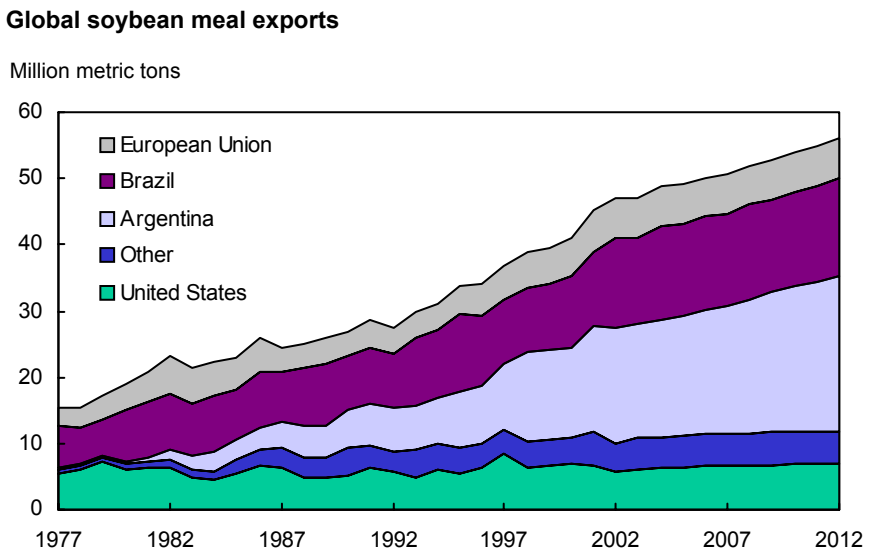


1/ Former Soviet Union and Central and Eastern Europe. 2/ Includes Mexico.

- Despite increased domestic grain feeding, the EU remains the world's principal destination for soybean meal through the baseline as favorable import prices for meal relative to soybeans pressure crush margins and curtail soybean imports in favor of the products.

- Southeast Asia, Latin America, North Africa, the Middle East, the former Soviet Union, and Central and Eastern Europe remain important growth markets for soybean meal through the baseline.

- Significant expansion in domestic crushing in China and large imports of oilseeds in the baseline replace the temporary period of soybean meal imports seen in the late-1990s. By the end of the period, China becomes a net exporter of over 1 million tons of soybean meal.



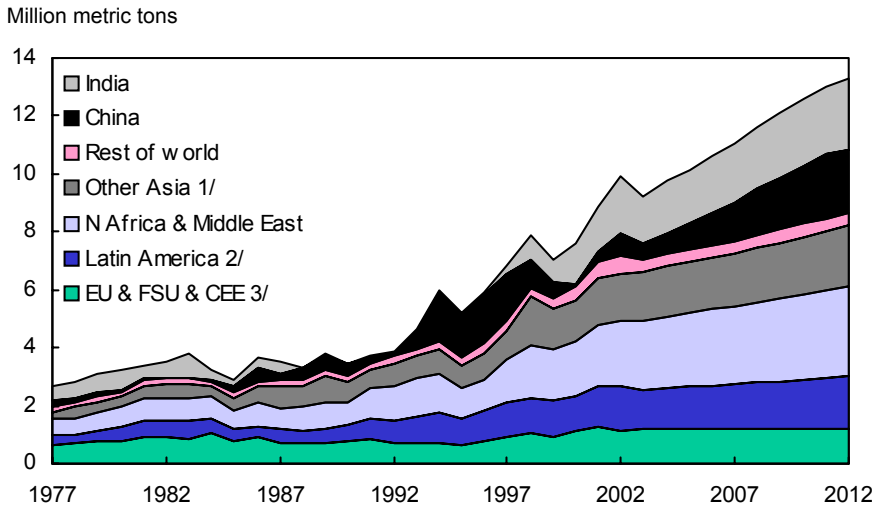
- In international protein meal markets the three major exporters—the United States, Brazil, and Argentina—see their share of world trade grow from 75 to about 80 percent through the baseline.

- Small but steady soybean meal exports from the EU and India are joined by increasing exports from other South American countries (mostly Paraguay) and China to keep international protein meal markets very competitive.

- Argentina increases its world-leading share of soybean meal exports from 36 to almost 42 percent, while the export shares of Brazil and the United States remain steady during the baseline.

- Strong growth in domestic meal consumption due to rapid expansion of the poultry and pork sectors limits growth in Brazil's soybean meal exports.

Global soybean oil imports



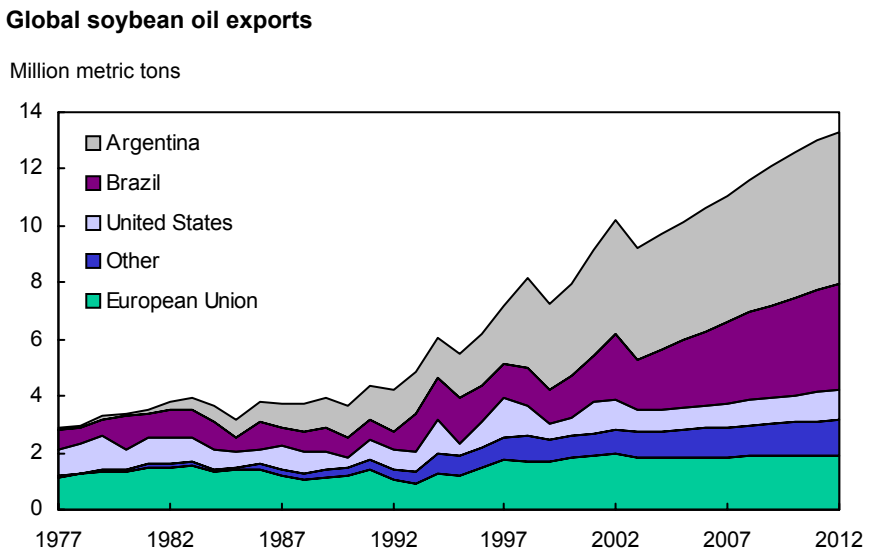
1/ Asia less India and China. 2/ Includes Mexico. 3/ European Union, former Soviet Union, and Central and Eastern Europe.

- Income and population growth drive strong soybean oil import demand gains in North Africa, the Middle East, Latin America (particularly Mexico, the Caribbean, and Central America), and Southeast Asia. However, these gains are partially offset by slower growth in the mature markets of Europe, Japan, and the United States.

- India and China account for an increasing share of world soybean oil imports due to burgeoning domestic demand for vegetable oils and limitations on domestic production of oilseeds.

- In China, growing demand for high-quality vegetable oils outpace domestic oil production and fuel expanding soybean oil imports. Land-use competition from other crops constrains area planted to vegetable oil crops in China.

- In India there is no strong preference for soybean oil *per se*; however, relatively lower tariffs on soybean oil (held in check by WTO tariff binding commitments) than on other vegetable oils favor continued strong imports of soybean oil through the period. Land-use competition also limits oilseed area in India.



A strong emphasis on exporting soybean products pushes Argentina's and Brazil's combined share of world soybean oil exports from 62 to 68 percent by the end of the baseline.

Soybean and Soybean Meal Exports: United States Compared to Argentina and Brazil

Competition from South America in soybean and soybean meal trade becomes stronger, continuing a long-term trend and reducing the U.S. trade share in global soybean and product markets. Increases in both Argentina's and Brazil's soybean production reflect gains in both yields and area. Soybean area gains are strongest in Brazil.

- Argentina's total crop area expands slowly (about 1 percent per year) over the period due to extensive double-cropping, further adjustments to crop-pasture rotations, and the addition of marginal lands in the Salta-Tucuman region. Soybeans are the major beneficiary of land expansion.

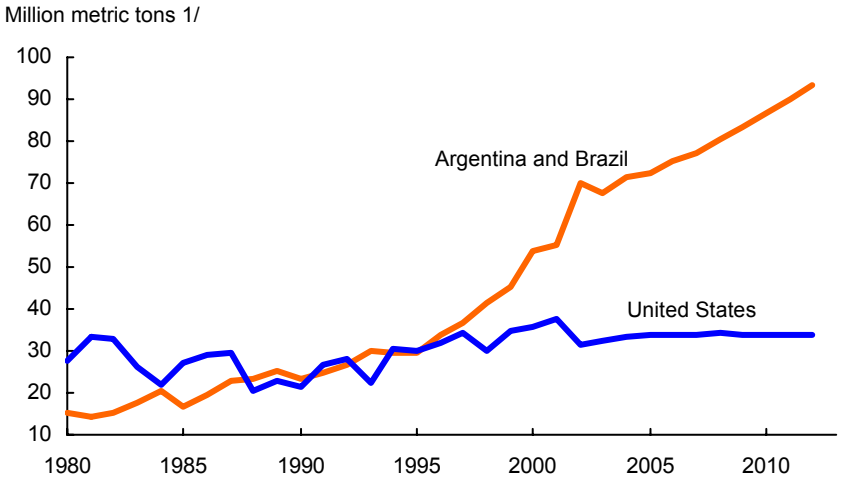
- In Brazil, total crop area expands at a rapid 2.5-percent annual rate as agricultural production continues to push onto undeveloped land in the country's vast interior regions. As in Argentina, soybeans are the major beneficiary of land expansion and planted soybean area increases over 3 percent per year.

- Transportation infrastructure development remains the key to the pace of area expansion in Brazil and the competitiveness in international markets of agricultural production from the country's interior regions.

- Brazil exports significant amounts of both soybeans and soybean meal, with its share of global trade in these markets on a combined basis growing from 24 to 29 percent.

- Argentina exports more soybean meal than Brazil and more soybean meal than soybeans, reflecting the country's substantial crush capacity as well as its small domestic consumption of soybean meal.

Soybean and soybean meal exports: United States compared with Argentina and Brazil



1/ Soybeans plus soybean meal converted to soybean-equivalent weight.

Argentine Exports of Wheat, Corn, and Soybeans

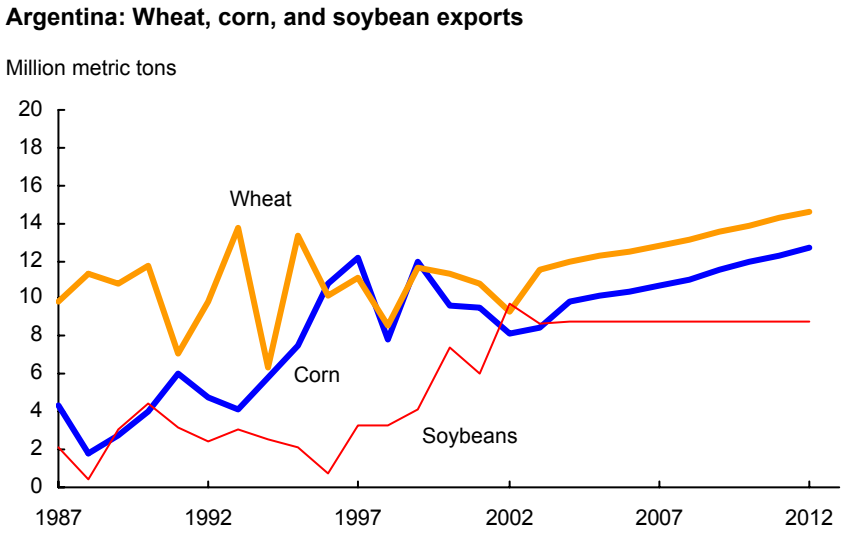
Argentina's economy is assumed in the baseline to contract in 2003, grow slowly in 2004, and then begin to recover in 2005. Economic growth provides the basis for renewed investment in Argentina's agricultural sector and a resurgence of Argentina's agricultural exports.

- Argentina's rich soils and mild, temperate climate allow for a broad range of field crop and livestock activities. Argentine producers receive little direct government support. As a result, relative returns across competing agricultural activities, rotational considerations, and long-run investment plans determine the evolution of cropping patterns.

- Soybeans—the lowest-cost, lowest-risk crop among Argentina's alternative field crops—are favored by producers during periods of economic crisis and uncertainty. Economic recovery is expected to influence the return to more input-intensive crop production, particularly corn. Strong growth in wheat and corn exports from Argentina reflects rebounding production over the next 10 years.

- Rising wheat production is due mostly to higher yields rather than area expansion following a recovery from abnormally low plantings in 2002. Wheat plantings fell victim in 2002 to the immediacy of the breaking economic crisis (coinciding with Argentina's principal wheat planting season in May-June), a shortage of petrol and credit, and widespread uncertainty regarding export taxes and value-added tax (VAT) restitutions to major trading companies.

- Corn production benefits from both area gains (returning to levels of the mid-1990s) and higher yields. Corn yields in Argentina are considerably lower than in the United States, but with continued adoption of higher yielding plant varieties and more intensive input use, Argentina's yields grow significantly through the baseline.

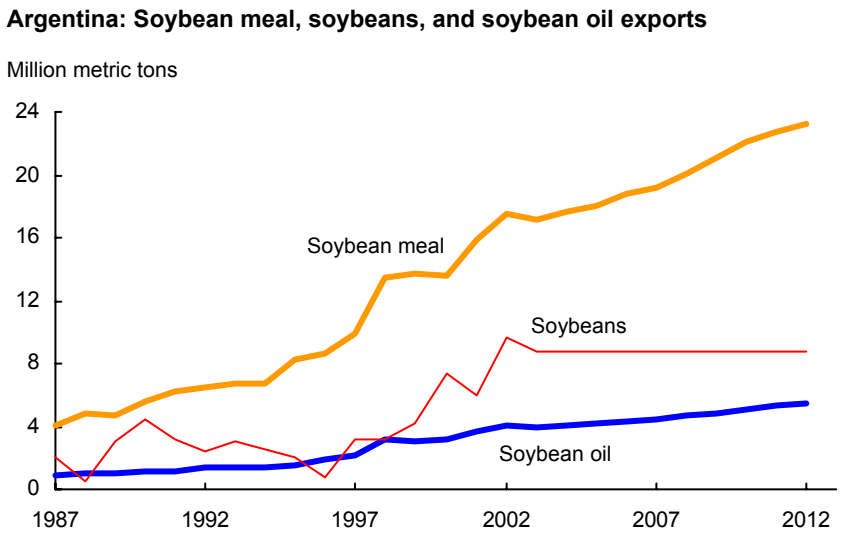


Argentine Exports of Soybean Meal, Soybeans, and Soybean Oil

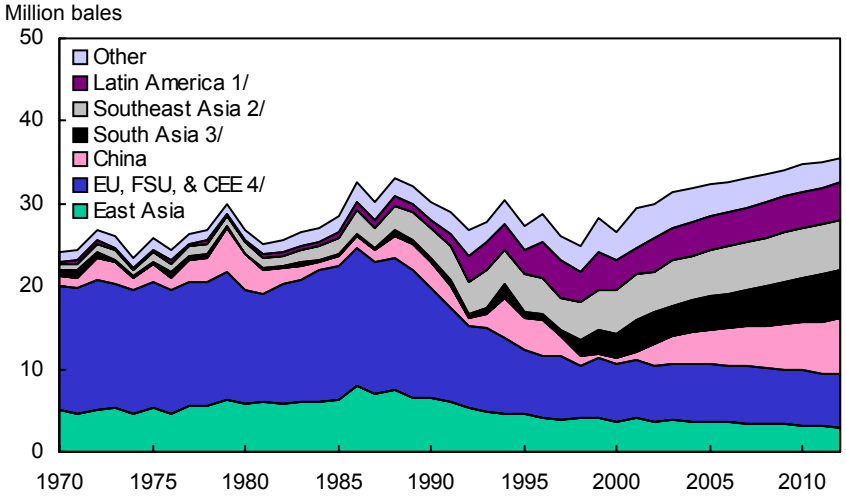
- Argentina imposed a system of export taxes in March of 2002, partially in response to the economic crisis and the government's fiscal deficit. Argentina's export taxes are assumed to continue throughout the baseline. Under the existing export-tax structure, domestic crushing receives a slight boost as vegetable oils and meals are taxed at a 20-percent rate compared with a 23.5-percent rate for oilseeds. As a result, exports of soybean products (meal and oil) grow through the baseline, while soybean exports are flat.

- In early 2002, Argentina abandoned its fixed exchange rate with the U.S. dollar and allowed the peso to float freely in international exchange markets. The peso had been linked one-to-one with the U.S. dollar since 1991. This artificial linkage resulted in less competitive peso-priced commodities in international markets following the strong appreciation of the U.S. dollar beginning in 1996.

- The peso has depreciated nearly 75 percent against the dollar since the exchange rate float began, making peso-priced commodities more competitive in international markets but also raising the cost of imported inputs. In the long run, the devaluation will benefit Argentina's agricultural sector in the form of increased exports and inward foreign direct investment.



Global cotton imports



1/ Includes Mexico. 2/ Malaysia, Philippines, Thailand, and Vietnam. 3/ Bangladesh, India, and Pakistan. 4/ European Union, former Soviet Union, and Central and Eastern Europe.

Completion of the Multi-Fiber Arrangement (MFA) phaseout on December 31, 2004 will eliminate quotas and other trade restrictions that have governed international trade in textiles and apparel for more than 30 years. These restrictions are being removed as part of WTO commitments and are having a major influence on world cotton trade patterns. For apparel production, labor is the decisive input factor. As a result, cloth and raw cotton consumption will increase in developing countries where labor costs are lowest. In contrast, high-cost labor markets in Europe and East Asia continue to reduce their cotton imports through the baseline.

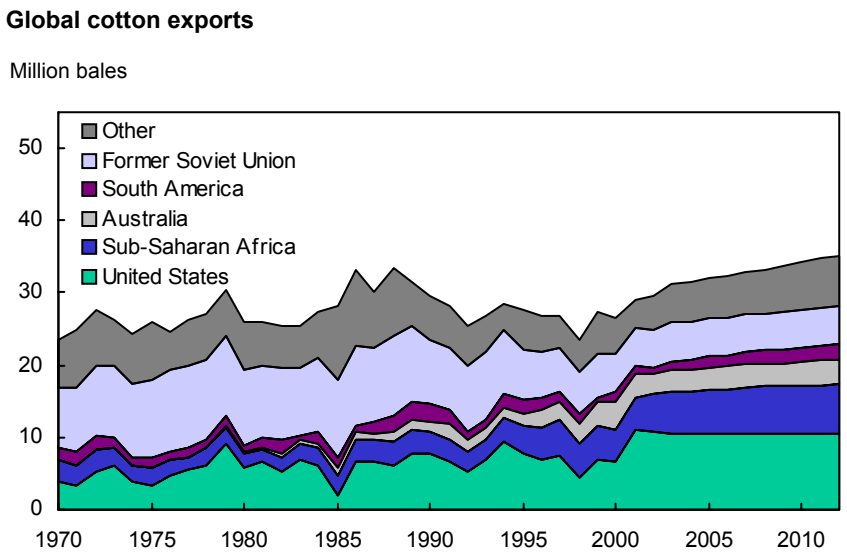
- The textile industries in China and South and Southeast Asia are the major beneficiaries of MFA phaseout. Much of the increase in world imports is attributable to China, whose textile industry begins to import record amounts of cotton in the latter half of the forecast period.

- India overtakes Indonesia as the world's second-largest cotton importer about mid-way through the forecast period. India's textile industry grew in the wake of domestic policy reforms early in the 1990s, and will continue to benefit from additional recent reforms.

- Other countries with low labor costs that are most likely to gain from MFA phaseout include Bangladesh, Indonesia, Philippines, Thailand, and Vietnam.

- In contrast, Turkey relinquishes its place as one of the world's largest cotton importers. 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 these EU markets.

- Similarly, 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.

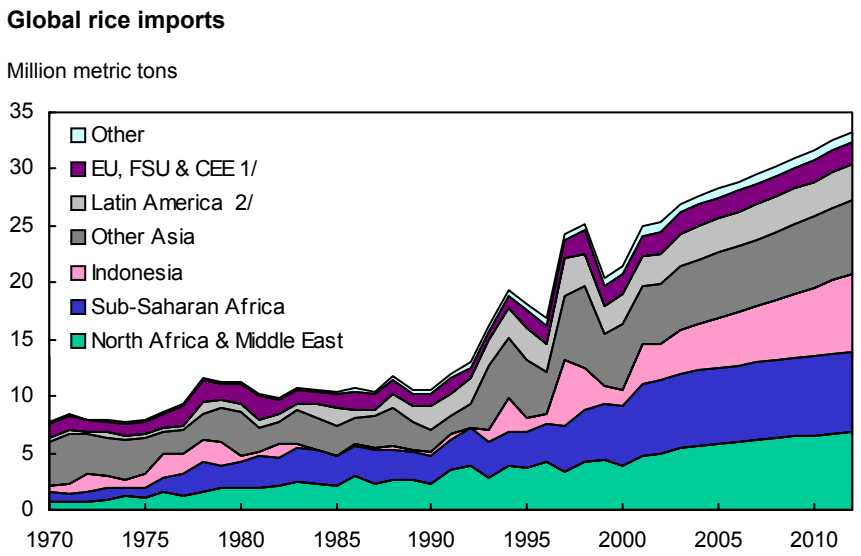


The MFA phaseout is expected to speed the transfer of raw cotton production to countries where resource endowments and technology result in the lowest cost production. Land is a key input factor. Traditional producers with large land bases suitable for cotton production are expected to benefit from the post-MFA phaseout trade patterns. Such producer/exporter regions include the United States, Sub-Saharan Africa, the former Soviet Union, Australia, and Brazil.

- The United States remains the world's leading cotton exporter throughout the baseline period with annual exports (upland and extra-long staple) of between 10.5 and 10.6 million bales.

- Central Asia, the principle competitor with the United States on world raw cotton markets for the last decade, is overtaken by Sub-Saharan Africa early in the forecast period. Government policies in Central Asia promoting investment in textiles have increasingly resulted in exports of textile products rather than exports of raw cotton. Central Asia's textile industries continue to grow faster than cotton production in the region, and exports decline slowly during the forecast period.

- Sub-Saharan Africa's exports have risen in large part due to economic reforms. A large correction in the foreign exchange value of the currency (the CFA Franc) 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 like ending marketing board monopolies. Continued increases in output are expected as producers take advantage of more export-oriented government policies.



1/ European Union, former Soviet Union, and Central and Eastern Europe. 2/ Includes Mexico.

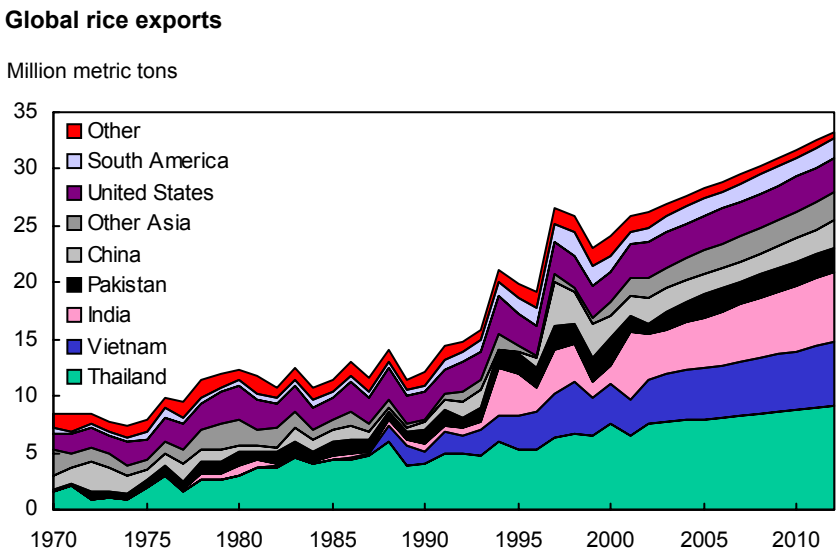
Global rice trade is projected to average 2.4-percent annual growth from 2003 through 2012. By 2012, global trade is projected to exceed 33 million tons, more than 25 percent above the record set in 1998. Rice trade as a share of total use remains very small, at only 6 to 7 percent, relative to other cereals.

- International rice trade consists predominantly of long-grain (indica) varieties, which also account for the bulk of trade growth over the next decade. Indica rice is imported by a broad spectrum of countries in Asia, the Middle East, Sub-Saharan Africa, and Latin America. Indonesia, Iran, Iraq, Philippines, and Saudi Arabia are among the top long-grain markets.

- In contrast, most medium-grain (japonica) imports are by middle and higher income countries, primarily Japan, South Korea, Turkey, Taiwan, and Jordan. Expansion in medium-grain trade is much slower, despite increases in medium- and short-grain rice imports by Japan and South Korea (since 1995) and Taiwan (since 2002) under WTO market access commitments.

- Food demand from Indonesia's burgeoning population drives escalating rice imports. Already the world's leading rice importer, Indonesia's import share grows from 13 to 20 percent in the baseline. Land constraints and already high crop intensity indexes suggest little opportunity for significantly expanding production.

- The Africa and Middle East regions are major destinations for internationally traded rice. Strong demand growth driven by rapidly expanding populations and rising incomes confront limited opportunities to expand domestic production, due to agro-climatic reasons in North Africa and the Middle East and to political and infrastructure deficiencies in Sub-Saharan Africa.



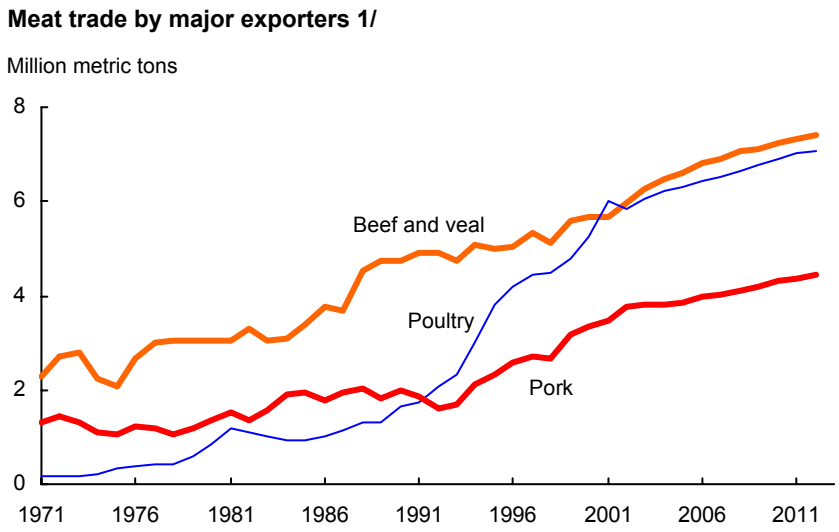
Asian producing countries dominate trade in rice through the projection period.

- Thailand and Vietnam, the two leading exporters of long-grain rice, account for about 44 percent of all rice exports in the baseline. Yield gains in production and declining domestic per capita consumption rates account for the expansion in exports for both countries.

- India emerged as an important rice exporter in the mid-1990s. Apart from small amounts of high-quality basmati, most of India's rice exports are low-quality long-grain rice from burdensome government stocks. High internal price supports encourage over-production, stock accumulation, and a steady flow of exports through the baseline.

- Rice exports from China—typically the world's fifth-leading exporter—grow only modestly as production is shifting to higher quality but lower yielding varieties in response to domestic market signals. Exports are mostly short-grain japonica to nearby markets and low-quality long-grain indica rice to Indonesia and other price-sensitive long-grain markets.

- An important share of Pakistan's rice exports are high-quality basmati rice. Although rice has been an important foreign exchange earner, Pakistan has little ability to expand rice area, and production is confronting a growing water shortage problem. As a result, its exports grow slightly but fail to return to the 2.4-million ton record of 2000.



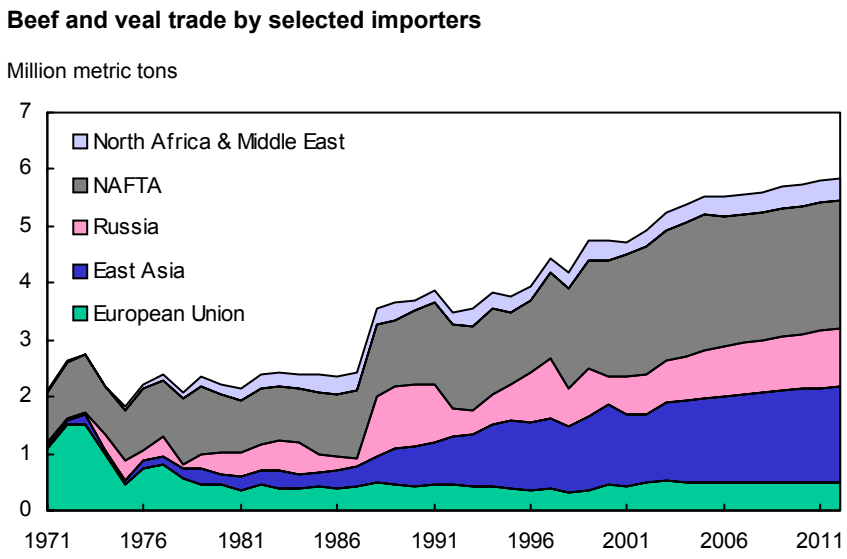
1/ Major exporters only. Due to data insufficiencies, reliable world totals are not available. However, based on available evidence, major exporters account for approximately 88-90 percent of world trade for each livestock product grouping.

Increased market access achieved under existing global trade agreements is behind much of the trade gains in animal products of the past decade. Under the baseline, per capita income growth in a broad number of importing countries is the driving force behind rising global meat demand.

- Global trade in poultry and pork have benefited from improving price competitiveness relative to beef, due in part to economies of scale inherent in increasing industry concentration. In addition, several new exporters have emerged in the past decade, such as Brazil and Canada in pork, and Brazil and China in poultry.

- The baseline assumes no resolution of the ongoing U.S.-EU dispute over sanitary issues related to trade in animal products.

- Under pre-enlargement bilateral agreements, many countries from Central and Eastern Europe (CEE) can now ship animal products to the EU at zero tariff. As a result, EU imports of all three meat groupings increase from the CEE region over the baseline.



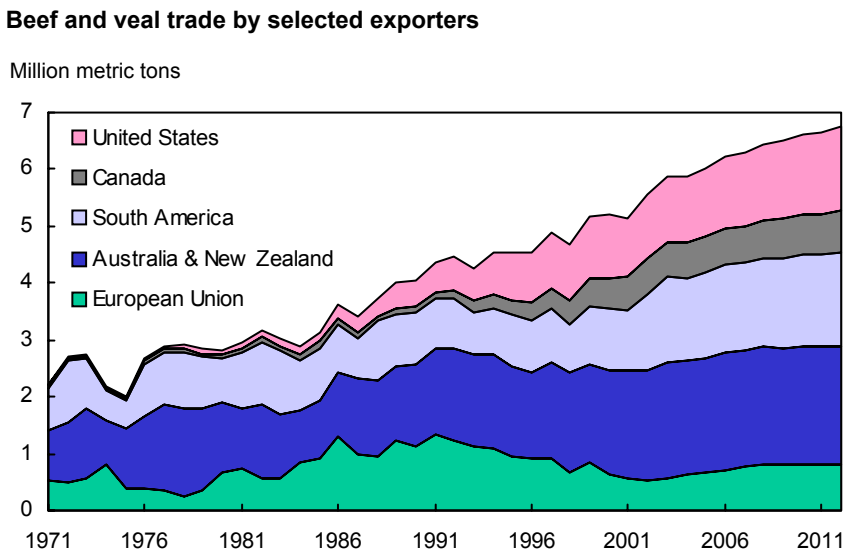
Most beef trade occurs between developed countries and is closely linked to the market access gains already achieved under prior trade agreements.

- Higher income countries of East Asia, such as Japan and South Korea, increase imports of beef as their domestic cattle sectors are constrained by land availability.

- The NAFTA region is expected to remain the world's pre-eminent destination for beef trade, although a significant share of that trade occurs within the group as a result of NAFTA trade liberalization. U.S. beef imports, primarily from Australia and New Zealand for ground beef and other processed products, decline slightly through the period. This declining trend, combined with robust growth of U.S. higher-quality beef exports to Mexico and East Asian markets, results in the United States becoming a net exporter of beef late in the projection period.

- After the recovery from the BSE scare of 2000 and the FMD outbreak of 2001, EU per capita beef consumption returns to its long-run declining trend through the period. High EU beef stocks maintain pressure on internal prices, thereby slowing the decline in domestic consumption. While EU beef exports are constrained by WTO export subsidy restrictions, the return to normal consumption patterns results in falling stocks.

- No Russian tariff-rate quota (TRQ) for beef is assumed in the baseline. Russia remains a large market for EU subsidized beef exports as rising consumer demand continues to outpace increases in domestic production.



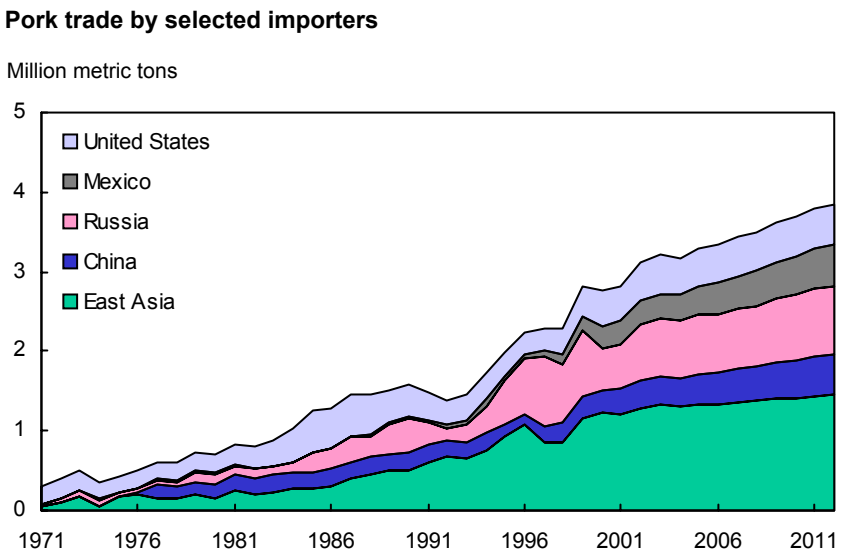
International beef markets may be broadly categorized based on production technique (grass-fed versus grain-fed) and on disease status. Feeding grains adds weight quickly and produces a taste that is desired in markets such as the United States, Japan, and South Korea. Grass-fed beef is generally lower priced and, in the United States, used primarily for processing. The most serious of the animal diseases are foot-and-mouth disease (FMD) and bovine spongiform encephalopathy (BSE). FMD- and BSE-free status allows export of fresh/chilled and frozen beef to discerning markets. Otherwise exporters are restricted to shipping prepared and preserved beef products.

- Robust income growth and existing market access commitments in international markets allows high-quality, grain-finished U.S. and Canadian beef exports to continue to expand through the period.

- Argentina is not assumed to regain the FMD-free status in Asian and North American markets that it lost in 2001. However, exports of fresh/chilled beef and processed products remain strong due to competitive pricing into those Asian and European markets that are less concerned about FMD status.

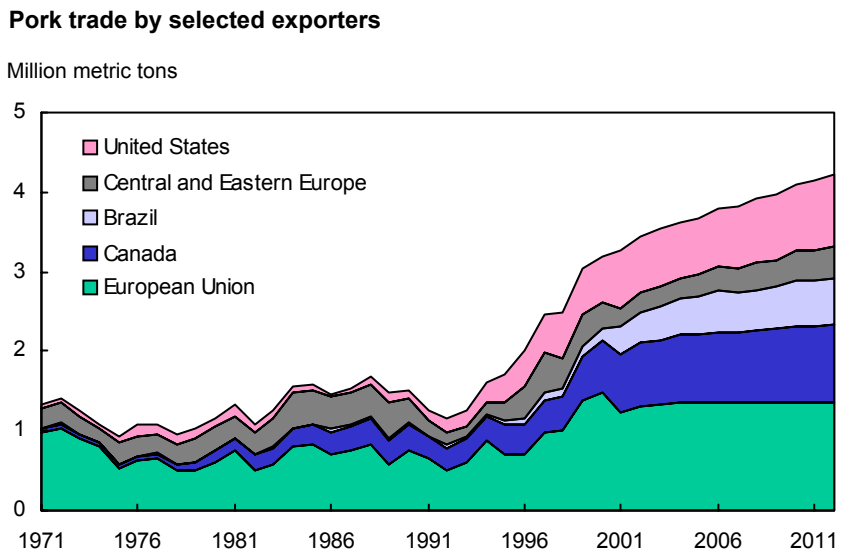
- Australia is the world's largest beef exporter because of a small domestic market and abundant land resources that support large grass-fed cattle populations. New Zealand has relatively high forage yields and its dairy herd produces a stable supply of cull cows and calves grown for beef. Most of Australia's and New Zealand's beef exports are destined for lower-valued beef markets in the United States and Asia. Australia also exports a limited amount of short-fed (grass-raised with limited feeding of grain) beef to Asian markets. Beef exports from Australia and New Zealand remain fairly stable through the baseline.

- The EU exports primarily grass-fed dairy beef to low-income markets in Eastern Europe, Russia, and Africa. Because of domestic pricing policies, EU beef is not competitive in international markets and cannot be exported without subsidies. As a result, abundant domestic stocks and steady production allow EU beef exports to expand until they hit their WTO export-subsidy limits of 817,000 tons mid-way through the baseline.



- Higher income countries of East Asia, such as Japan and South Korea, increase pork imports as their domestic hog sectors are constrained by imported feed costs and environmental issues.

- Russia remains a major destination for competitively priced pork exports from the EU, Brazil, and the United States through the period as demand growth continues to outpace Russian meat producers' ability to respond.

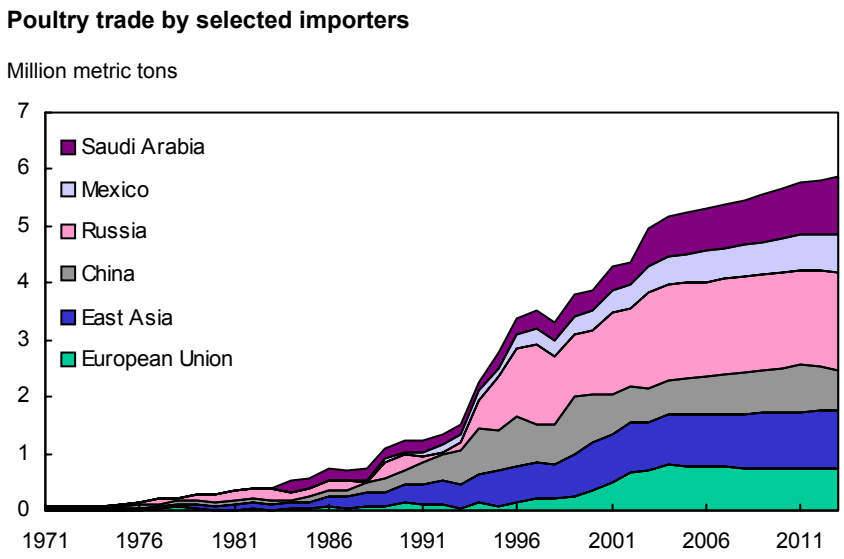


- Pork exports from CEE countries, particularly Hungary and Poland, rise steadily in the baseline, aided by pre-accession trade agreements with the EU. Hungary's pork exports focus almost entirely on the EU, whereas Poland still focuses a significant but declining portion of its trade towards Russia. However, growth in Poland's hog sector will be slower than Hungary due to limited feed grain supplies.

- Brazil does not gain nationwide FMD-free status in the baseline. This keeps its fresh and chilled pork exports out of Japanese, Mexican, and U.S. markets. Instead, Brazil focuses its pork exports on the EU, Russia, and Asian markets other than Japan. Brazil's rapidly increasing pork production is expected to be very competitive in some international markets. As a result, Brazil's pork exports rise strongly through the projection period.

- By 2004, the trade limitations from South Korea's previous incidence of FMD and hog cholera expire and modest pork exports resume to Japan. Taiwan, also presently under FMD restrictions, resumes pork exports to Japan in 2008, cutting into South Korea's market share.

- EU pork production slows during the baseline due to increased beef supplies and pressure on meat prices. As a result of favorable internal-to-external pork prices, EU pork exports occur without subsidy throughout the baseline. However, EU pork imports increase during the period due to pre-enlargement trade arrangements with CEE countries.



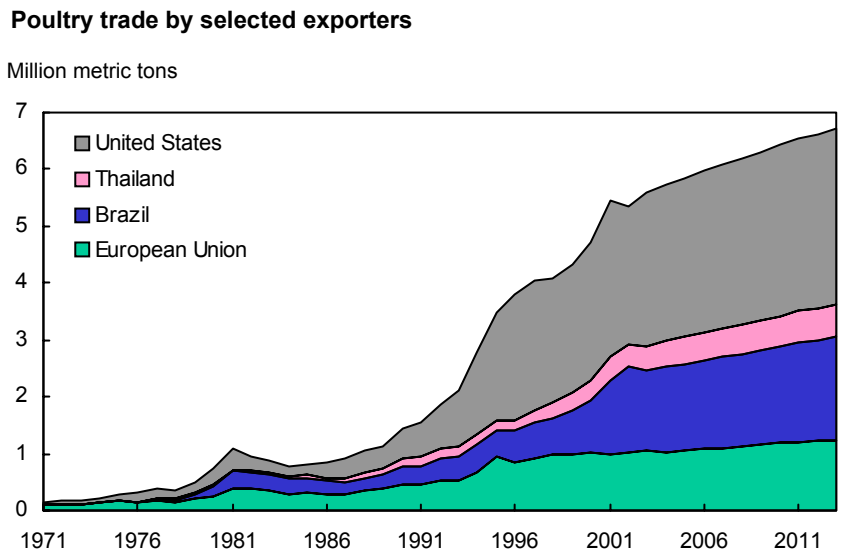
- Russia remains the world's foremost poultry importer as rising consumer demand continues to outpace increases in domestic production. However, Russian policymakers are coming under rising pressure to limit poultry imports in support of domestic producers.

- To reflect current Russian policy, no tariff-rate quota (TRQ) for poultry is assumed in the baseline. However, other non-tariff measures are applied to slow the growth in poultry imports. The import slowdown has the effect of raising domestic prices and spurring domestic poultry production and feed demand. As a result, wheat and barley feeding, as well as corn imports, rise over the period.

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

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

- Strong economic growth in Mexico, along with trade liberalization under NAFTA, will generate increases in poultry imports.



- The United States encounters increasing competition in international poultry markets from Brazil, the EU, and several of the Central and Eastern European countries (CEE) during the baseline.

- An important share of Brazil's rapidly increasing poultry production, particularly from several interior states, enters international markets at very competitive prices. As a result, Brazil's poultry exports rise strongly through the projection period.

- Limited corn and soybean meal supplies hinder the expansion of Thailand's poultry sector and hurt its international competitiveness. Thailand's principal markets are Japan and the EU. Increasing competition from CEE poultry exports under pre-accession trade agreements slowly squeezes Thailand out of the EU market.

Table 34. Coarse grains trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
Former Soviet Union[1]	1.2	1.3	1.7	1.9	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.4
Eastern Europe	1.9	1.5	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0
European Union[2]	4.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.3
North Africa & Middle East	24.7	24.2	25.5	26.3	27.0	27.5	28.2	28.8	29.7	30.2	30.8	31.4
Sub-Saharan Africa[3]	2.6	1.6	1.7	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4
Japan	20.0	18.7	19.1	19.0	18.9	18.8	18.7	18.6	18.4	18.3	18.2	18.0
South Korea	8.8	8.8	8.8	8.8	8.8	9.0	9.1	9.2	9.4	9.5	9.7	9.8
Taiwan	4.6	4.5	4.8	4.8	4.8	4.8	4.8	4.9	4.9	5.0	5.0	5.0
China	2.0	2.3	2.6	3.1	4.0	4.9	5.5	6.3	7.6	8.5	9.6	10.1
Other Asia & Oceania	4.8	5.1	5.9	6.6	6.9	7.1	7.4	7.7	7.9	8.1	8.1	8.3
Mexico	8.9	11.3	12.0	12.1	12.7	13.2	13.7	14.1	14.5	14.7	15.2	15.8
Central America & Caribbean	3.6	3.5	3.5	3.6	3.6	3.7	3.8	4.0	4.2	4.5	4.7	4.9
Brazil	0.9	0.9	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0
Other South America	5.0	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3
Other foreign[4]	5.6	6.3	3.9	4.1	4.2	4.3	4.4	4.5	4.7	4.8	5.0	5.0
United States	2.6	2.8	3.0	3.0	3.0	3.1	3.1	3.1	3.2	3.2	3.3	3.4
Total trade	101.5	100.7	103.1	105.8	108.8	111.3	113.9	116.6	120.2	122.8	125.7	128.1
						Exports, million metric tons						
Exporters												
European Union[2]	4.9	6.1	5.7	6.6	7.1	7.5	8.0	8.5	9.1	9.3	9.6	9.9
China	8.6	10.0	8.0	6.0	5.0	4.3	4.2	3.9	3.6	2.4	2.1	1.9
Argentina	10.1	8.6	9.2	10.5	10.8	11.0	11.3	11.6	12.1	12.5	12.9	13.3
Australia	4.4	1.4	3.9	3.8	3.9	3.9	3.8	3.7	3.6	3.6	3.6	3.7
Canada	2.5	1.9	2.6	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4
Republic of South Africa	1.5	1.6	1.4	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9
Eastern Europe	4.1	3.4	3.3	3.9	4.3	5.1	5.6	5.8	6.2	6.6	7.4	7.7
Former Soviet Union[1]	6.7	8.6	8.3	7.4	7.4	7.3	7.3	7.2	7.2	7.3	7.4	7.5
Other foreign	4.1	3.5	3.2	2.9	2.7	2.5	2.4	2.4	2.3	2.3	2.3	2.3
United States	54.7	55.6	57.6	60.4	63.0	65.1	66.5	68.5	71.2	73.8	75.2	76.6
						Percent						
U.S. trade share	53.9	55.2	55.9	57.1	58.0	58.5	58.4	58.8	59.2	60.1	59.9	59.8

1/ Includes intra-FSU trade.
2/ Excludes intra-EU trade, covers EU-15.
3/ Includes Republic of South Africa.
4/ Includes unaccounted.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 35. Corn trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
European Union[1]	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.0
Former Soviet Union[2]	0.8	0.8	1.0	1.2	1.2	1.3	1.3	1.3	1.4	1.6	1.6	1.7
Egypt	4.8	5.2	5.2	5.4	5.7	5.7	5.9	6.1	6.4	6.5	6.5	6.6
Other N. Africa & Middle East	10.2	9.2	9.8	10.3	10.4	10.7	10.9	11.1	11.4	11.7	12.0	12.3
Japan	16.4	15.5	15.4	15.3	15.2	15.1	15.0	14.9	14.8	14.7	14.6	14.5
South Korea	8.6	8.5	8.5	8.5	8.5	8.7	8.8	8.9	9.1	9.2	9.3	9.5
Taiwan	4.4	4.3	4.5	4.6	4.6	4.6	4.6	4.6	4.7	4.7	4.8	4.8
China	0.1	0.1	0.3	0.7	1.6	2.4	3.0	3.7	5.0	5.8	6.8	7.3
Indonesia	1.1	1.2	1.3	1.5	1.6	1.7	1.8	1.9	1.9	1.9	2.0	2.0
Malaysia	2.4	2.4	2.6	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.2	3.2
Other Asia & Oceania	2.2	2.6	3.3	3.8	4.1	4.2	4.5	4.7	4.7	4.9	4.9	5.0
Mexico	4.0	6.5	6.8	6.9	7.4	7.7	8.0	8.3	8.6	8.7	9.0	9.4
Central America & Caribbean	3.6	3.5	3.5	3.6	3.6	3.7	3.8	3.9	4.2	4.5	4.6	4.9
Brazil	0.4	0.5	0.8	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Other South America	4.7	5.0	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9
Sub-Saharan Africa[3]	2.3	1.4	1.5	1.7	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.0
Other foreign[4]	5.3	4.6	2.2	2.3	2.2	2.3	2.4	2.4	2.6	2.7	2.8	2.9
United States	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total trade	74.2	74.1	74.5	76.8	79.1	81.2	83.2	85.5	88.6	90.7	93.0	94.8
						Exports, million metric tons						
Exporters												
European Union[1]	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
China	8.6	10.0	8.0	6.0	5.0	4.3	4.1	3.9	3.6	2.3	2.1	1.9
Argentina	9.5	8.1	8.5	9.8	10.1	10.3	10.7	11.0	11.5	11.9	12.3	12.7
Brazil	1.5	1.2	1.0	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6
Republic of South Africa	1.4	1.6	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8
Eastern Europe	3.2	2.5	2.8	3.4	3.8	4.6	5.0	5.3	5.6	6.0	6.7	7.0
Former Soviet Union[2]	0.4	0.4	0.4	0.2	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5
Other foreign	1.6	1.4	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
United States	48.0	48.9	50.8	53.3	55.9	57.8	59.1	61.0	63.5	66.0	67.3	68.6
						Percent						
U.S. trade share	64.6	66.0	68.2	69.5	70.7	71.2	70.9	71.3	71.7	72.8	72.4	72.3

1/ Excludes intra-EU trade, covers EU-15.
2/ Includes intra-FSU trade.
3/ Includes Republic of South Africa.
4/ Includes unaccounted.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 36. Sorghum trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
Japan	1.8	1.4	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6
Mexico	4.7	4.6	5.0	5.0	5.2	5.3	5.4	5.6	5.7	5.8	5.9	6.1
North Africa & Middle East	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
South America	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sub-Saharan 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
Other[1]	0.1	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total trade	7.1	6.7	7.4	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.2	8.3
						Exports, million metric tons						
Exporters												
Argentina	0.5	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Australia	0.4	0.1	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other foreign	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
United States	6.1	6.2	6.1	6.4	6.5	6.6	6.7	6.9	7.0	7.1	7.3	7.4
						Percent						
U.S. trade share	86.6	92.9	82.9	86.0	86.4	86.9	87.1	87.5	88.1	88.6	88.9	89.2

1/ Includes unaccounted.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 37. Barley trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
Former Soviet Union[1]	0.3	0.4	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4
Japan	1.4	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
China	1.9	2.2	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8
European Union[2]	1.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Latin America[3]	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9
Algeria	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
Saudi Arabia	5.4	5.5	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4
Morocco	0.7	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Tunisia	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8
Iran	0.7	0.4	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Iraq	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
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	1.8	2.2	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0
Other foreign[4]	1.3	0.9	1.1	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5
United States	0.5	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9
Total trade	17.1	16.1	17.7	18.1	18.5	18.7	19.1	19.3	19.7	20.0	20.4	20.7
						Exports, million metric tons						
Exporters												
European Union[2]	3.6	4.0	3.9	4.8	5.3	5.7	6.3	6.8	7.3	7.5	7.8	8.0
Australia	3.7	1.0	3.0	3.2	3.2	3.3	3.2	3.1	3.0	3.0	3.1	3.1
Canada	1.1	0.5	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Former Soviet Union[1]	5.9	8.0	7.8	7.0	6.9	6.9	6.8	6.7	6.6	6.6	6.8	6.8
Eastern Europe	0.8	0.8	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Turkey	0.6	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Other foreign	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
United States	0.6	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
						Percent						
U.S. trade share	3.4	2.7	3.7	3.6	3.5	3.5	3.4	3.4	3.3	3.3	3.2	3.2

1/ Includes intra-FSU trade.
2/ Excludes intra-EU trade, covers EU-15.
3/ Includes Mexico.
4/ Includes unaccounted.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 38. Wheat trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
Algeria	4.5	4.8	4.8	5.1	5.2	5.2	5.3	5.3	5.4	5.4	5.5	5.5
Egypt	7.0	6.2	6.5	6.8	7.0	7.3	7.5	7.7	7.8	7.9	8.0	8.1
Morocco	3.0	2.8	3.0	3.0	3.1	3.1	3.3	3.3	3.4	3.5	3.6	3.7
Iran	6.0	3.0	3.5	3.9	3.9	3.7	3.7	3.6	3.6	3.5	3.4	3.4
Turkey	1.0	0.5	0.5	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8
Other N. Africa & Middle East	12.6	12.8	12.8	12.9	13.1	13.2	13.5	13.8	14.1	14.5	14.8	15.1
Sub-Saharan Africa[1]	8.8	8.8	9.1	9.4	9.6	9.7	9.9	9.9	10.0	10.1	10.1	10.2
Mexico	3.2	3.3	3.4	3.6	3.8	3.9	3.9	4.0	4.1	4.3	4.4	4.6
Central America & Caribbean	3.6	3.4	3.5	3.6	3.7	3.8	3.9	3.9	4.1	4.2	4.3	4.4
Brazil	7.1	6.5	7.0	7.3	7.5	7.7	7.9	8.1	8.3	8.5	8.7	8.9
Other South America	5.8	5.7	5.9	6.0	6.1	6.1	6.1	6.2	6.2	6.3	6.3	6.3
European Union[2]	9.5	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Former Soviet Union[3]	3.8	3.4	3.4	3.7	3.8	3.9	4.0	4.1	4.3	4.4	4.6	4.8
Japan	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.7
South Korea	4.0	3.8	4.2	4.2	4.2	4.2	4.2	4.3	4.2	4.2	4.3	4.3
Philippines	3.0	3.5	4.0	4.1	4.4	4.4	4.5	4.7	4.8	4.9	5.0	5.1
Indonesia	4.0	4.0	4.4	4.8	5.2	5.6	6.0	6.4	6.8	7.2	7.6	8.0
China	1.1	1.0	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	9.1
Pakistan	0.4	0.5	0.5	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	2.7
Other Asia & Oceania	9.4	9.5	10.0	10.2	10.4	10.5	10.7	10.8	11.0	11.2	11.4	11.5
Other[4]	5.4	5.4	6.8	6.9	6.9	7.0	7.0	7.0	7.0	7.1	7.1	7.1
Total trade	109.0	101.6	106.6	111.1	114.7	117.2	120.6	123.5	126.6	129.9	133.0	135.2
						Exports, million metric tons						
Exporters												
European Union[2]	11.5	15.5	12.5	15.0	17.0	17.5	18.5	19.0	19.5	20.0	20.5	21.0
Canada	16.5	9.0	13.5	15.0	15.3	15.5	15.8	16.0	16.4	16.6	17.0	17.2
Australia	16.4	6.0	14.5	16.1	17.9	17.8	18.7	19.1	19.1	20.8	20.6	20.8
Argentina	10.8	9.3	11.5	12.0	12.3	12.5	12.8	13.1	13.5	13.9	14.3	14.6
Former Soviet Union[3]	14.0	19.3	15.9	15.5	15.0	15.0	14.8	15.3	16.0	16.3	17.3	17.8
Eastern Europe	4.1	3.4	3.4	3.6	3.8	4.0	4.3	4.6	4.8	4.9	5.1	4.9
India	3.0	6.0	4.4	4.5	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7
China	1.5	1.5	1.3	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0
Other foreign	5.0	5.8	5.1	4.4	4.4	4.5	4.5	4.6	4.6	4.7	4.7	4.7
United States	26.2	25.9	24.5	23.8	23.8	25.2	25.9	26.5	27.2	27.2	27.9	28.6
						Percent						
U.S. trade share	24.0	25.4	23.0	21.4	20.8	21.5	21.4	21.5	21.5	20.9	21.0	21.1

1/ Includes Republic of South Africa.
2/ Excludes intra-EU trade, covers EU-15.
3/ Includes intra-FSU trade.
4/ Includes unaccounted.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 39. Rice trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
Canada	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Mexico	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6
Central America/Caribbean	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.7
Brazil	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
Other South America	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
European Union[1]	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Former Soviet Union[2]	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Central and Eastern Europe	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
China	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6
Japan	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
South Korea	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indonesia	3.5	3.3	3.5	3.8	4.0	4.3	4.6	5.0	5.3	5.7	6.2	6.6
Malaysia	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Philippines	1.1	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5
Other Asia & Oceania	2.3	2.7	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.7
Iraq	1.3	1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5
Iran	1.0	1.5	1.4	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7
Saudia Arabia	1.1	0.9	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3
Other N. Africa & M. East	1.4	1.5	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.8	1.8
Sub-Saharan Africa[3]	5.8	5.7	5.5	5.6	5.6	5.6	5.7	5.7	5.8	5.8	5.9	5.9
Republic of South Africa	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7
Unaccounted	1.1	1.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1
United States	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Total imports	25.9	26.3	26.9	27.6	28.3	28.9	29.6	30.3	31.0	31.7	32.5	33.3
						Exports, million metric tons						
Exporters												
Australia	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.6
Argentina	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
Other South America	0.9	1.0	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3
European Union[1]	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
China	1.8	2.3	2.0	1.9	1.8	1.8	1.7	1.8	1.9	2.0	2.2	2.4
India	6.0	3.9	4.0	4.3	4.5	4.8	5.0	5.3	5.5	5.8	6.0	6.3
Pakistan	1.5	1.0	1.6	1.8	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2
Thailand	6.5	7.5	7.8	7.9	8.0	8.1	8.3	8.5	8.6	8.8	9.0	9.2
Vietnam	3.1	4.0	4.2	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.5
Other foreign	2.2	2.4	2.3	2.1	2.1	2.0	2.1	2.2	2.3	2.3	2.3	2.4
United States	2.9	3.1	3.0	3.1	3.1	3.1	3.1	3.0	3.0	2.9	2.9	2.8
Total exports	25.9	26.3	26.9	27.6	28.3	28.9	29.6	30.3	31.0	31.7	32.5	33.3
						Percent						
U.S. trade share	11.4	11.9	11.0	11.1	10.9	10.8	10.4	10.0	9.6	9.3	9.0	8.4

1/ Excludes intra-EU trade, covers EU-15.
2/ Includes intra-FSU trade.
3/ Excludes Republic of South Africa
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 40. All cotton trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million bales						
Importers												
European Union[1]	3.7	3.6	3.6	3.8	3.7	3.5	3.5	3.4	3.2	3.1	2.9	2.7
Former Soviet Union[2]	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.7
Indonesia	2.5	2.2	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Thailand	2.1	1.8	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.3
India	1.8	2.1	1.9	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.1	3.2
Brazil	0.3	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Eastern Europe	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8
Other Asia & Oceania	3.7	3.4	3.4	3.5	3.6	3.7	3.9	4.1	4.2	4.4	4.6	4.7
Japan	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6
South Korea	1.6	1.4	1.7	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.4	1.4
China	0.4	2.0	3.0	3.5	3.7	4.1	4.3	4.8	5.2	5.5	6.0	6.5
Taiwan	1.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1
Turkey	2.9	2.2	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.5	1.4	1.3
Mexico	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2
Other	2.3	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.9	2.8
Total imports	29.0	29.4	31.4	31.9	32.3	32.7	33.2	33.6	34.1	34.6	35.1	35.6
						Exports, million bales						
Exporters												
Former Soviet Union[2]	5.3	5.5	5.6	5.3	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Australia	3.1	2.7	3.1	3.0	3.1	3.1	3.2	3.2	3.3	3.4	3.5	3.5
Argentina	0.2	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7
Pakistan	0.2	0.1	0.1	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0
India	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6
China	0.3	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Egypt	0.4	0.8	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3
Other Latin America	1.0	0.8	1.0	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.6
Sub-Saharan Africa[3]	4.6	5.2	5.7	5.8	5.9	6.1	6.3	6.4	6.5	6.6	6.7	6.8
Other foreign	2.8	2.8	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.4	3.4	3.4
United States	11.0	10.8	10.5	10.6	10.6	10.6	10.7	10.7	10.6	10.6	10.6	10.6
Total exports	29.0	29.4	31.1	31.6	32.0	32.4	32.9	33.3	33.8	34.3	34.8	35.3
						Percent						
U.S. trade share	37.9	36.7	33.8	33.4	33.1	32.7	32.4	32.0	31.2	30.8	30.3	29.9

1/ Includes intra-EU trade, covers EU-15.
2/ Includes intra-FSU trade.
3/ Includes Republic of South Africa.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 41. Soybean trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
European Union[1]	19.9	20.2	19.1	19.5	19.1	19.2	18.9	19.1	18.9	19.0	18.9	18.7
Japan	5.0	4.9	4.8	4.9	4.9	4.9	4.9	5.0	5.0	5.0	5.0	5.0
South Korea	1.4	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9
Taiwan	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6
Mexico	4.6	5.1	5.6	5.8	6.0	6.3	6.5	6.8	7.1	7.4	7.7	8.0
Former Soviet Union[2]	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Eastern Europe	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	10.4	14.0	15.2	15.9	17.1	18.3	19.4	20.5	21.8	23.2	24.7	26.4
Malaysia	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.1
Indonesia	1.6	1.6	1.6	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0	2.1
Other	8.5	9.8	9.1	9.6	9.9	10.1	10.5	10.8	11.0	11.3	11.7	11.9
Total imports	55.0	60.6	60.4	62.5	64.0	65.9	67.5	69.4	71.4	73.6	75.7	78.0
						Exports, million metric tons						
Exporters												
Argentina	6.0	9.7	8.7	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
Brazil	15.0	20.9	20.9	22.1	23.2	24.9	26.4	28.1	30.0	32.2	34.3	36.3
Other South America	2.4	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
China	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Other foreign	2.4	2.5	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.2	3.3	3.3
United States	28.9	24.2	24.8	25.4	25.6	25.6	25.6	25.6	25.4	25.3	25.2	25.2
Total exports	55.0	60.6	60.4	62.5	64.0	65.9	67.5	69.4	71.4	73.6	75.7	78.0
						Percent						
U.S. trade share	52.6	40.0	41.0	40.7	40.0	38.8	37.9	36.8	35.6	34.4	33.2	32.3

1/ Includes intra-EU trade, covers EU-15.
2/ Includes intra-FSU trade.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 42. Soybean meal trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
European Union[1]	21.2	21.2	21.2	22.0	21.5	22.0	21.7	22.4	22.3	22.8	22.7	23.6
Former Soviet Union[2]	0.6	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.1	1.1	1.2
Eastern Europe	3.2	3.5	3.7	3.8	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.7
Canada	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3
Japan	1.1	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.7
Southeast Asia	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0	7.1	7.4	7.5
Latin America	4.5	4.6	4.5	4.7	4.8	4.8	4.9	5.0	5.1	5.2	5.4	5.4
North Africa & Middle East	4.8	5.2	5.5	5.7	5.8	6.0	6.1	6.3	6.5	6.6	6.8	6.9
Other	3.2	3.9	3.6	3.7	3.9	4.0	4.1	4.2	4.4	4.4	4.6	4.7
Total imports	45.1	46.9	47.0	48.7	49.0	50.1	50.7	52.0	52.7	53.9	54.7	56.0
						Exports, million metric tons						
Exporters												
Argentina	15.8	17.5	17.1	17.7	18.0	18.8	19.2	20.1	21.1	22.0	22.7	23.3
Brazil	11.3	13.5	13.1	14.2	14.0	14.2	14.1	14.4	14.0	14.2	14.4	15.0
Other South America	1.1	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3
China	1.1	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.1	1.2
India	2.5	1.9	2.5	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.1	2.0
European Union[1]	6.1	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Other foreign	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
United States	6.8	5.6	6.1	6.3	6.4	6.6	6.6	6.7	6.8	6.8	6.9	7.0
Total exports	45.1	46.9	47.0	48.7	49.0	50.1	50.7	52.0	52.7	53.9	54.7	56.0
						Percent						
U.S. trade share	15.0	12.0	12.9	12.9	13.1	13.1	13.1	12.9	12.9	12.7	12.5	12.4

1/ Includes intra-EU trade, covers EU-15.
2/ Includes intra-FSU trade.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 43. Soybean oil trade baseline projections

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
						Imports, million metric tons						
Importers												
European Union[1]	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
China	0.4	0.8	0.5	0.7	0.9	1.1	1.3	1.6	1.8	2.0	2.2	2.2
India	1.6	2.0	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.3	2.4	2.5
Other Asia	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.1
Latin America	1.4	1.5	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8
North Africa & Middle East	2.1	2.3	2.4	2.5	2.6	2.6	2.7	2.8	2.9	2.9	3.0	3.1
Former Soviet Union & Eastern Europe[2]	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Other	0.8	0.9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Total imports	9.1	10.2	9.2	9.7	10.1	10.6	11.1	11.6	12.1	12.6	13.0	13.3
						Exports, million metric tons						
Exporters												
Argentina	3.7	4.1	4.0	4.1	4.2	4.4	4.5	4.7	4.9	5.1	5.3	5.4
Brazil	1.7	2.3	1.8	2.1	2.4	2.6	2.9	3.1	3.3	3.4	3.6	3.7
European Union[1]	1.9	2.0	1.8	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9
Other foreign	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.3
United States	1.1	1.0	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0
Total exports	9.1	10.2	9.2	9.7	10.1	10.6	11.1	11.6	12.1	12.6	13.0	13.3
						Percent						
U.S. trade share	12.4	10.2	8.3	7.9	7.8	7.7	7.7	7.6	7.6	7.6	7.6	7.7

1/ Includes intra-EU trade, covers EU-15.
2/ Includes intra-FSU trade.
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 44. Beef trade baseline projections

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
						Imports, thousand metric tons, carcass weight						
Importers												
United States	1,435	1,500	1,500	1,536	1,572	1,472	1,387	1,336	1,296	1,246	1,202	1,155
Japan	955	700	860	903	937	970	993	1,011	1,022	1,032	1,039	1,046
South Korea	246	390	420	408	416	429	444	456	469	481	493	503
Taiwan	78	95	100	104	108	110	114	116	119	122	125	128
Philippines	104	115	130	157	162	164	170	177	185	193	203	212
European Union[1]	413	500	530	505	505	505	505	505	505	505	505	505
Russia	653	700	740	781	841	854	876	886	931	958	993	1,020
Eastern Europe	68	53	60	72	69	67	63	58	53	49	43	40
Egypt	105	150	200	210	212	216	220	224	228	232	236	240
Saudi Arabia	66	72	74	75	76	76	80	82	85	87	91	93
Mexico	426	440	445	492	477	506	562	590	630	661	699	727
Canada	299	330	325	327	329	331	333	335	337	339	341	343
Major importers	4,848	5,045	5,384	5,569	5,705	5,701	5,747	5,773	5,858	5,905	5,971	6,013
						Exports, thousand metric tons, carcass weight						
Exporters												
United States	1,029	1,119	1,148	1,150	1,202	1,257	1,287	1,328	1,368	1,419	1,441	1,465
Australia	1,395	1,420	1,500	1,451	1,469	1,507	1,488	1,508	1,496	1,508	1,502	1,518
New Zealand	500	510	530	556	550	550	550	550	550	550	550	550
Other Asia	432	445	460	500	502	502	508	524	528	541	542	554
European Union[1]	572	530	570	620	670	720	770	817	817	817	817	817
Eastern Europe	114	84	96	111	115	115	109	113	108	109	104	105
Ukraine	124	120	110	139	145	154	158	166	171	179	186	191
Argentina	168	280	340	345	354	362	371	378	386	394	402	409
Brazil	748	838	925	940	959	997	994	1,002	1,012	1,033	1,044	1,065
Canada	574	625	600	646	645	649	657	673	685	701	715	731
Major exporters	5,656	5,971	6,279	6,458	6,609	6,815	6,892	7,057	7,122	7,251	7,302	7,405

1/ Excludes intra-EU trade, covers EU-15
The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 45. Pork trade baseline projections

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
					Imports, thousand metric tons, carcass weight							
Importers												
United States	431	479	490	453	470	472	483	488	500	503	510	513
Japan	1,068	1,125	1,150	1,121	1,143	1,163	1,181	1,200	1,217	1,235	1,251	1,266
China	58	60	70	81	93	101	119	116	132	141	157	167
Hong Kong	260	285	300	300	300	306	315	321	331	340	349	356
South Korea	123	145	150	153	156	159	162	165	168	171	174	177
Russia	560	700	710	707	728	712	735	743	773	796	828	834
Mexico	294	300	310	345	345	396	406	454	477	494	499	509
Canada	91	100	105	107	108	110	111	113	114	115	116	117
Major importers	2,885	3,194	3,285	3,267	3,343	3,417	3,512	3,599	3,713	3,793	3,884	3,939
					Exports, thousand metric tons, carcass weight							
Exporters												
United States	708	720	735	701	711	745	762	800	814	839	867	892
Brazil	337	400	430	455	476	518	502	509	531	579	580	585
Canada	727	800	815	854	860	879	896	915	928	948	964	983
Mexico	61	60	60	63	64	65	66	67	69	70	72	74
European Union[1]	1,235	1,300	1,325	1,345	1,355	1,360	1,350	1,345	1,350	1,360	1,350	1,355
Eastern Europe	248	243	237	270	263	297	304	340	342	370	377	404
Taiwan	0	0	0	0	0	0	0	10	15	20	25	25
China	139	225	200	128	127	127	124	128	126	128	127	128
Major exporters	3,455	3,748	3,802	3,816	3,856	3,991	4,004	4,113	4,175	4,313	4,363	4,447

1/ Excludes intra-EU trade, covers EU-15.

The projections were completed in November 2002 based on policy decisions and other information known at that time.

Table 46. Poultry trade baseline projections

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
					Imports, thousand metric tons, ready to cook							
Importers												
Russia	1,445	1,385	1,465	1,473	1,469	1,466	1,467	1,470	1,474	1,475	1,472	1,483
European Union[1]	504	670	720	798	786	769	759	749	742	737	737	737
Japan	710	750	700	749	767	778	789	806	820	833	846	861
Hong Kong	239	245	243	251	256	263	268	276	281	288	294	301
China	473	380	350	366	385	412	444	450	468	502	522	462
South Korea	90	103	98	110	114	118	122	126	130	135	140	145
Saudi Arabia	399	390	385	418	424	435	447	463	476	492	506	523
Mexico	406	415	470	495	515	535	550	565	580	595	615	635
Canada	78	78	86	90	92	94	96	98	100	102	104	106
Major importers	4,344	4,416	4,517	4,750	4,807	4,870	4,942	5,002	5,070	5,159	5,236	5,254
					Exports, thousand metric tons, ready to cook							
Exporters												
Brazil	1,310	1,500	1,406	1,486	1,529	1,565	1,609	1,630	1,668	1,712	1,758	1,781
European Union[1]	979	1,020	1,050	1,037	1,051	1,085	1,100	1,123	1,144	1,179	1,201	1,221
Hungary	59	62	64	72	88	99	105	113	119	131	138	141
China	489	400	400	396	374	343	307	318	311	309	303	267
Thailand	425	415	435	458	466	482	497	504	515	530	543	549
Saudi Arabia	20	20	20	21	22	23	24	25	26	26	27	28
United States	2,742	2,514	2,694	2,744	2,796	2,844	2,889	2,935	2,971	3,006	3,035	3,065
Major exporters	6,024	5,931	6,069	6,213	6,325	6,441	6,532	6,648	6,753	6,893	7,006	7,052

1/ Excludes intra-EU trade, covers EU-15.

The projections were completed in November 2002 based on policy decisions and other information known at that time.

List of Tables

Page

Table 1. U.S. macroeconomic assumptions 17
Table 2. Global real GDP growth assumptions 18
Table 3. Population growth assumptions 19
Table 4. Summary baseline policy variables 39
Table 5. Conservation Reserve Program acreage assumptions 39
Table 6. Planted and harvested acreage for major field crops, baseline projections 40
Table 7. Selected supply, use, and price variables for major field crops, baseline projections 41
Table 8. U.S. corn baseline 42
Table 9. U.S. sorghum baseline 43
Table 10. U.S. barley baseline 44
Table 11. U.S. oats baseline 45
Table 12. U.S. wheat baseline 46
Table 13. U.S. rice baseline 47
Table 14. U.S. upland cotton baseline 48
Table 15. U.S. soybean and products baseline 49
Table 16. U.S. sugar: supply, disappearance, and prices, fiscal years 50
Table 17. Flue-cured tobacco baseline 51
Table 18. Burley tobacco baseline 51
Table 19. Fruit, vegetable, and greenhouse/nursery baseline, production and prices 52
Table 20. Fruit, vegetable, and greenhouse/nursery baseline, trade 53
Table 21. Per capita meat consumption, retail and boneless weight 60
Table 22. Consumer expenditures for meats 60
Table 23. Beef baseline 61
Table 24. Pork baseline 62
Table 25. Young chicken baseline 62
Table 26. Turkey baseline 63
Table 27. Egg baseline 63
Table 28. Dairy baseline 64
Table 29. Farm receipts, expenses, and incomes in nominal dollars 74
Table 30. Farm receipts, expenses, and incomes in 1996 dollars 74
Table 31. Consumer food price indexes and food expenditures baseline 75
Table 32. Changes in consumer food prices, baseline 75
Table 33. U.S. agricultural trade values, baseline projections, fiscal years 76
Table 34. Coarse grains trade baseline projections 116
Table 35. Corn trade baseline projections 117
Table 36. Sorghum trade baseline projections 117
Table 37. Barley trade baseline projections 118
Table 38. Wheat trade baseline projections 119
Table 39. Rice trade baseline projections 120
Table 40. All cotton trade baseline projections 121
Table 41. Soybean trade baseline projections 122
Table 42. Soybean meal trade baseline projections 122
Table 43. Soybean oil trade baseline projections 123
Table 44. Beef trade baseline projections 123
Table 45. Pork trade baseline projections 124
Table 46. Poultry trade baseline projections 124