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# Long-Term Agricultural Projections Reflect Weaker Trade

A number of international factors have combined to weaken the U.S. agricultural outlook in USDA's 10-year baseline projections, either by reducing global demand or increasing foreign supplies. These include fallout from the economic crisis in Asia and economic contraction in Russia, which reduced global agricultural demand; lower growth projected for China's grain imports (relative to last year's baseline); and expanding production potential among trade competitors.

In the initial years of the baseline, much of the U.S. agricultural sector is adjusting to the combination of weak demand and large global supplies. Agricultural commodity prices are down, the value of U.S. agricultural exports is lower, and net farm income declines.

In the longer run, conditions in the sector improve. Despite strong export competition and only moderate grain import demand in China, more favorable economic growth in developing regions supports gains in trade and in U.S. agricultural exports in the second half of the baseline. This leads to rising nominal market prices, gains in farm income, and increased stability in the financial condition of the U.S. agricultural sector.

### *Demand Dampened in Asia & Russia*

Weakened economic growth and depreciated currencies in East and Southeast Asia and in Russia contribute to a 3-4 year period of weak global agricultural demand and trade. Assumptions for these and other developing economies are important for global agricultural demand because incomes in those countries are at levels where consumers begin to diversify their diets and where consumption and imports of foods and feeds are particularly responsive to income changes. For Asia, 1-3 years of negative growth in crisis countries are followed by a return to moderately positive economic growth. Structural reform, particularly in financial and banking sectors, leads to more stable economic growth in the last 5 years of the baseline, although longer-term growth for crisis-affected Asian countries is generally lower than in previous USDA baselines.

For Russia, incomes are assumed to decline through 2000, with positive economic growth resuming in 2002, followed by moderately higher growth in later years. Declining incomes combined with the effects of currency devaluation result in sharp reductions in Russian meat imports in the first half of the baseline.

Relatively moderate gains are projected for grain import demand in China. Agricultural policies assumed for China now include a greater emphasis on grain self-sufficiency. Increased governmental intervention in grain production and trade is anticipated, with price support for rice, wheat, and corn encouraging output and reducing imports of these crops. Revised livestock data for China indicate that animal inventories, meat production, and meat consumption are 20 to 30 percent lower than previously thought. These revisions suggest slower growth in the livestock sector over the next 10 years compared with the previous baseline. Grain feed use in China is now estimated to be lower, and is projected to grow more slowly, than implied by earlier data. Somewhat weaker economic growth is also assumed for China, and a long-term trend of currency devaluation against the U.S. dollar is assumed to resume in 2001 after holding relatively steady in the last half of the 1990's. These macroeconomic conditions contribute to smaller gains in net agricultural import demand in China over the next 10 years.

Near term import demand prospects will also be affected by recent economic developments in Latin America, where the financial and trade impacts of the Asia crisis have led to weaker currencies and slower growth. Setbacks in Latin America are

The projections and discussion in this article draw on *USDA Agricultural Baseline Projections to 2008,* released at USDA's 1999 Agricultural Outlook Forum in February. Longrun baseline projections (through 2008) assume no shocks and are based on specific assumptions regarding macroeconomic conditions, policy, weather, and international developments. The baseline is one representative scenario for the agricultural sector for the next 10 years and provides a point of departure for discussion of alternative farm sector outcomes that could result under different assumptions.

assumed to be relatively minor in the baseline, but larger and more prolonged shocks are possible, which would have more significant effects on global markets.

### *Export Competition Strengthens*

U.S. exports and world prices also will be pressured by increased exportable supplies from both traditional and nontraditional competitors. Early in the baseline, global supplies of many agricultural commodities are large. In addition, expanding production potential in a number of foreign countries results in strong export competition throughout the 10-year baseline. Increased yield growth for corn, wheat, and soybeans in Argentina and conversion of undeveloped land for soybeans in Brazil, for example, strengthen competition in global markets. New seed technologies, increased fertilizer use, and an improved agricultural investment climate facilitate these production gains in South America.

Developing and transition economies, where currencies have been sharply devalued, are also likely to provide increased competition for U.S. farm exports. In Russia, for example, increased competitiveness because of devaluation of the ruble, combined with persistent weak domestic demand, could boost Russian grain exports. And in Korea, the devaluation of the *won* is expected to improve incentives for the local livestock industry to expand, increasing production and lowering meat imports.

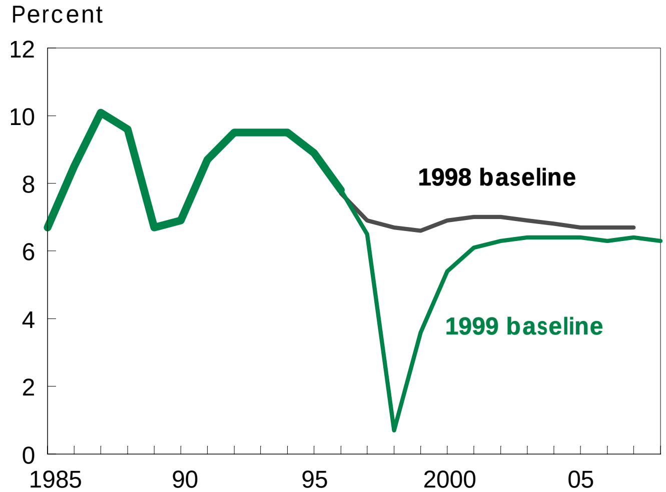
The projections also indicate the potential for increased European Union (EU) competition in the global wheat market in the medium term. Even with current EU policies, modest increases in world wheat prices combined with declining internal EU market prices are expected to allow the EU to export wheat without subsidy by about 2002. EU exports of wheat will then be able to exceed the subsidized export limit set in the Uruguay Round Agreement on Agriculture (URAA).

### *Agricultural Trade Stronger In the Longer Term*

Prospects for global trade and U.S. exports improve in the longer term. Based on the outlook for an Asian recovery in 3 to 4 years, projected trade expansion is driven by generally favorable economic growth in developing countries and by freer trade associated with ongoing unilateral policy reforms and existing multilateral reforms. Income growth in developing countries will continue to be the key reason for growth in demand for agricultural goods, both through increases in direct food use and through derived demand for livestock feeds to meet rising meat demand.

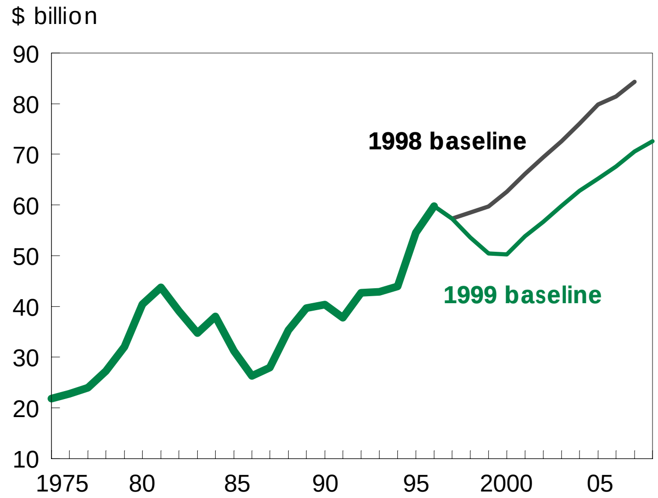
Relatively strong longer term growth is projected in the volume of global trade in bulk agricultural commodities, with broad-based expansion across developing regions, including China, South and Southeast Asia, Latin America, North Africa, and the Middle East. Trade in grains is expected to lead the stronger projected growth of bulk commodity trade during 2000-08. Projected growth in coarse grain trade is particularly strong, predicated on rising incomes, diet diversification, and increased

**Real GDP Growth Rate to Rebound in East and Southeast Asia**




Annual growth rates. 1999-2008 projected.
Economic Research Service, USDA

**U.S. Agricultural Exports to Climb After 2000**




1999-2008 projected.
Economic Research Service, USDA

demand for livestock products and feeds in developing regions. Wheat and vegetable oil trade will also continue to expand in response to rising incomes in developing countries. Trade in soybeans and meal will benefit from expansion of developing countries' feed-livestock sectors. Raw cotton demand and trade beyond 2000 are projected to be stronger than in the 1990's, but slower than in the 1980's when cotton was increasingly substituted for synthetic fibers.

Global meat demand and trade will be depressed in the near term by the slowdown in import demand in East Asia and Russia. Growth in meat trade, however, is projected to resume after

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2000, as demand recovers in these key markets. Tariff reductions under the URAA also will support growth in meat trade in East Asia, including Japan and Korea.

With recovering global demand, agricultural commodity prices are projected to strengthen over the longer term. However, real prices are projected to decline, consistent with the long-term trend, as productivity gains continue to outpace demand growth.

The total value of U.S. agricultural exports is projected to decline in fiscal 1999 and 2000, but to increase to almost $73 billion by 2008, up from a forecast $49 billion in 1999. Weak global demand and prices hold down the value of U.S. bulk and high-value product (HVP) exports early in the baseline. After 2000, however, both bulk and HVP exports are projected to strengthen.

### *U.S. Crop Markets Adjust*

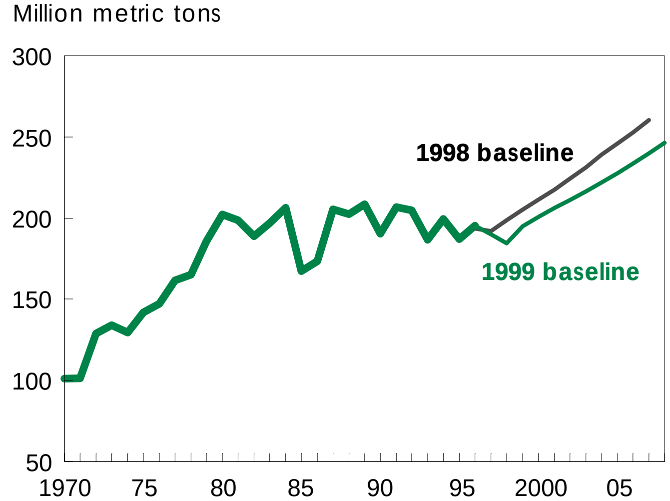
In the initial years of the baseline, many field crop markets are adjusting to the combination of weak demand and large global supplies, before moving back toward longer term trends with more robust growth.

Planted acreage for the eight major U.S. field crops (corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans) increases nearly 10 million acres by 2008 from 1998 levels, surpassing the recent high level of plantings for these crops in 1996. At first, however, aggregate area planted to these crops declines somewhat, reflecting low prices for many crops due to weak demand and large global supplies; plantings turn upward again in 2002. Planting flexibility under current legislation facilitates acreage movements by allowing producers to respond to market prices and returns, augmented by marketing loan benefits in low price years. Marketing loan benefits influence the cropping mix somewhat in the early years of the baseline when many prices are near or below market assistance loan rates (see *AO* October 1998 for more on marketing loans). Projected soybean prices are lower than soybean loan rates during the next few years, for example, so marketing loan gains and loan deficiency payments will add to market receipts, encouraging producers to plant more acreage to soybeans than they otherwise would.

Projected acreage gains in the longer term reflect land drawn into production based on strengthening farm prices. Yield gains for many crops are sufficient to mitigate some of the pressure on total land use.

Projected gains in demand for U.S. soybeans, barley, and rice are driven primarily by domestic markets. U.S. exports of soybeans and products face strengthening competition from Brazil and Argentina. Increases in total U.S. corn use are also larger in the domestic market than in trade, although corn exports grow at a higher rate. Strong competition in global corn trade from Argentina as well as moderate world import demand growth (particularly for China, which is projected to be a net corn exporter until 2005/06) combine to mute U.S. corn export gains.

**World Trade in Coarse Grains and Wheat to Resume Growth**




1999-2008 projected.

Economic Research Service, USDA

Increases in disappearance of U.S. wheat, sorghum, and cotton are driven by exports. U.S. wheat exports rise steadily during the baseline but face greater competition from the EU starting in 2002/03 as stronger world wheat prices and lower internal EU prices permit the EU to export wheat without subsidies. U.S. cotton exports benefit in the last half of the baseline from an assumed resumption of Step 2 program payments in 2002/03 (See *AO* September 1998 for information on Step 2).

U.S. domestic demand for most crops is projected to grow slightly faster than population through 2008. Growth in domestic use of rice reflects a greater emphasis on dietary concerns and an increasing share of domestic population with Asian and Latin American origins. Gains in corn sweetener use and corn used for ethanol production also exceed population growth rates. Increases in domestic soybean crush reflect continued strong growth in poultry production, generating demand for soybean meal. Domestic wheat use, however, is nearly flat, as declining feed use offsets food use gains. Greater U.S. exports of cotton yarn, fabric, and semi-finished products will promote growth in domestic mill use of cotton, although increases in textile imports, mostly apparel, and competition from man-made fibers, limit domestic cotton use gains.

### *Low Feed Prices Fuel Livestock Sector Expansion*

Changes in the U.S. meat complex in the near term reflect sharply lower grain and soybean meal prices from the elevated levels of the 1995/96 crop year, as well as weakened demand for meat exports to the Pacific Rim and Russia. In the longer run, feed prices below those of the mid-1990's, low inflation, domestic demand strength, and a rebound in export sales are expected to contribute to producer returns that encourage higher pork and poultry output, although only moderate cyclical expansion is projected for beef. Record total meat supplies are projected through the baseline, with a larger proportion of poultry.

The cattle herd builds only slightly from a cyclical low near 97 million head in 2000. The inventory remains below 100 million head in a brief and moderate expansion through 2003, before turning downward again. Shifts toward a breeding herd of larger-framed cattle and heavier slaughter weights partially offset the need for further expansion of cattle inventories. The beef production mix continues to shift toward a larger proportion of fed beef, with almost all steers and heifers being feedlot fed.

Beef production also moves increasingly toward a high-graded product being directed toward the hotel-restaurant and export markets. The U.S. remains the primary source of high-quality, fed beef for export. However, emergence of the U.S. as a long-term net beef exporter will be delayed until near the end of the baseline, after the cow herd is reestablished and demand in the Pacific Rim recovers.

The pork sector will continue to evolve into a more vertically coordinated industry with a mix of production and marketing contracts. Larger, more efficient pork producers will market a greater percentage of the hogs over the next 10 years. With a more vertically coordinated industry structure, the hog cycle is dampened. A slow expansion in pork production begins in 2002 and continues for the remainder of the baseline. The U.S. becomes an increasingly important net pork exporter, in part reflecting environmental constraints for a number of competitors (e.g., Denmark and Taiwan, *AO* March 1998). However, projected gains in U.S. pork exports are somewhat muted by reduced market growth prospects in the Pacific Rim and Russia.

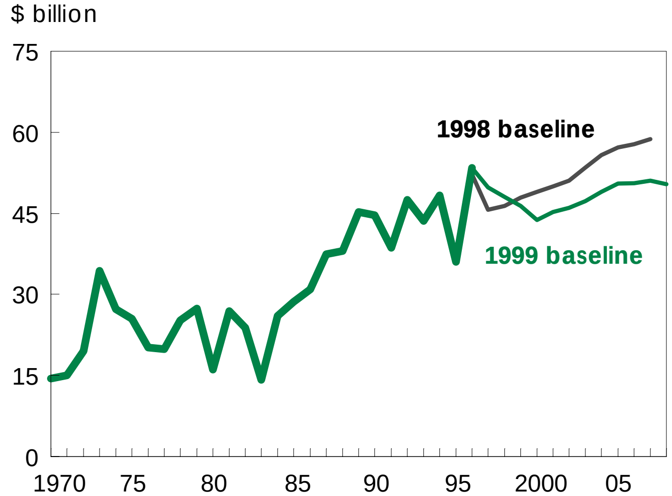
Continued technological advances and improved production management practices are expected in the broiler and turkey industries, although gains are not anticipated to hold down production costs as significantly as in the past 10 years. Competition in global poultry markets holds U.S. poultry exports to moderate gains. Following slower growth in sales to Asia and a sharp reduction in exports to Russia in 1998 and 1999, a slow recovery is projected for poultry exports to both markets.

High milk-feed price ratios and dairy productivity gains push milk output per cow higher, and milk production grows despite slowly declining cow numbers. Lower real milk prices continue to push weaker operations out of dairying. Milk production will expand in the West as well as on large-scale dairy operations in the North. Expansion in commercial use of dairy products will be led by sales of cheese and dairy ingredients for processed foods, while fluid milk sales are stagnant.

**USDA Baseline Information Available on the Internet**

For the full report and briefing materials, including an expanded set of charts, visit the Economic Research Service briefing room for USDA's agricultural baseline projections at www.econ.ag.gov/briefing/baseline/.

**Long-Term Net Farm Income Prospects Have Dampened**




1999 -2008 projected.

Economic Research Service, USDA

Decreases in real retail prices of meats combined with increases in real disposable income allow U.S. consumers to purchase more meat with a smaller proportion of disposable income. Poultry gains a larger proportion of total meat expenditures as well as total meat consumption, reflecting lower production costs and prices relative to other meats. On a retail-weight basis, poultry consumption is projected to exceed red meat consumption at the end of the baseline.

Retail prices for all food are projected to rise less than the general inflation rate, continuing a long-term trend. Meals eaten away from home account for a growing share of food expenditures, reaching almost half of total food spending by 2008.

## *Farm Financial Conditions Improve Beyond 2000*

Reflecting initial weakness in the sector (see *Agricultural Economy* in this issue), net farm income declines in the first few years of the baseline, falling to about $44 billion in 2000, slightly below the 1990-97 average. Farm income declines in the near term, as the large global supplies and weak demand compress farm commodity receipts. Lower production expenses in the initial years, particularly for farm-origin inputs, energy-related costs, and interest expenses, offset some of the reduction in cash receipts. Additionally, increased government payments bolster farm incomes for 1998 and 1999 (*AO* January-February 1999).

Net farm income improves beyond 2000, due largely to strengthening demand, moving gradually upward to exceed $50 billion for the last few years of the baseline. Nonetheless, gains in farm income are less than inflation, so real farm income declines. The

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agricultural sector increasingly relies on the marketplace for its income as direct government payments fall and represent only about 2 percent of gross cash income by 2008. Crop and livestock receipts are up in nominal terms as both production and prices rise.

Production expenses increase in the baseline, with expenses for nonfarm-origin inputs rising faster than expenses for farm-origin inputs. Cash operating margins tighten somewhat, with cash expenses increasing to about 79 percent of gross cash income by 2008, up from around 74 percent in recent years.

Higher nominal farm income and relatively low interest rates assist in asset accumulation and debt management, leading to an improved balance sheet for the farm sector. Farm asset values increase through the baseline, led by gains in agricultural land values. Farm debt rises less rapidly than assets and is not beyond the ability of farmers to service. As a result, debt-to-asset ratios continue the downward trend of the last 10-15 years from the high levels of over 20 percent in the mid-1980's, declining to near 13 percent by the end of the baseline. With asset values increasing more than debt, farm equity rises significantly. Increasing nominal farm income in the baseline, combined with rising farm equity, suggests relative stability in the aggregate financial condition of the farm sector. **AO**

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