USDA Agricultural Baseline Projections to 2007

Interagency Agricultural Projections Committee

Introduction

This report provides long-run baseline projections for the agricultural sector through 2007. 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 incorporate provisions of the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Act) and assumes that farm legislation remains in effect through 2007. 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 the 1996 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 assumptions.

The projections in this report were prepared in October through December 1997, in conjunction with the analysis for the fiscal 1999 President's Budget. Projections reflect a composite of model results and judgmental analysis. Normal weather is assumed. The baseline reflects major agricultural policy decisions made through mid-November 1997 and includes short-term projections from the November 1997 World Agricultural Supply and Demand Estimates report.

Summary of Projections

The 1996 Farm Act changed most agricultural commodity programs, particularly income support and supply management programs for major field crops and the dairy program. These changes accelerated trends toward greater market orientation in agricultural sector. Producers now respond to signals from the marketplace rather than to government commodity programs, making agricultural production economically more efficient.

Generally favorable global economic growth is projected in the baseline which, combined with liberalized trade associated with both the GATT agreement and unilateral policy reforms, supports strong growth in global trade and U.S. agricultural exports. Greater market orientation in the domestic agricultural sector under the 1996 Farm Act puts U.S. farmers in a favorable position for competing in the global marketplace.

A tightening of the balance between productive capacity and projected demands results in rising nominal market prices, increasing farm income, and stability in the financial condition of the

agricultural sector. The trend toward fewer but larger farms continues. The sector will be highly competitive, with successful producers having strong technical and managerial skills.

Management of risk will be important for farmers, reflecting the reduced role of the Government in the sector under the 1996 Farm Act. Alternative marketing arrangements, such as marketing contracts and integrated ownership, are likely to be used more to manage risks. Producers use of crop insurance and revenue insurance also help to manage risks.

Consumer food prices are projected to continue a long-term trend of rising less than the general inflation rate. Trends in consumer food expenditures towards a larger share for meals eaten away from home are expected to continue.

Macroeconomic Assumptions

Macroeconomic assumptions used for these baseline projections provide a setting for strong growth in agricultural demand, both domestically and in international markets. Domestic macroeconomic assumptions include deficit reduction which results in balancing the Federal budget. This results in lower interest rates, rising investment, higher productivity, and stronger growth in gross domestic product (GDP) than in the last decade. Real GDP growth averages about 2.5 percent from 1998 to 2007, with consumer price inflation averaging about 3 percent.

Global economic growth averages over 3 percent annually over the next decade, well above growth during 1990-1996. Macroeconomic growth in developed countries averages about 2.5 percent through 2007 as low inflation and low interest rates lead to an improvement from the 2.0-percent growth in the first half of the 1990s.

Growth for transition economies of the former Soviet Union (FSU) and countries in Eastern Europe improves over the next few years following years of economic decline during the transition from centrally planned economies. Countries that are further along in the transformation to market economies and integration into the global economy have higher growth earlier in the projections.

Aggregate growth for developing countries over the next 10 years is projected to average near 5.5 percent, compared to 5 percent growth in 1990-96. The developing Asian economies are expected to remain growth leaders, despite 1997's currency devaluations and related economic slowdowns in Southeast Asia. The baseline assumes that policy reforms and international financial support allow the Southeast Asian economies to recover in the next 2 to 3 years. Additionally, the near-term slowdowns in economic growth are assumed for these projections to be largely confined to Southeast Asia, not affecting East Asia, South Asia, or China (see Asia crisis box, page 17).

Importantly, the projected growth for many developing countries occurs at income levels that can generate significant gains in demand for agricultural products as diets diversify and include more meats and other higher valued products. Thus, this global macroeconomic growth environment,

combined with more open and less regulated international markets, support strong gains in global trade and U.S. agricultural exports.

Agricultural Policy Assumptions

The Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Act) was enacted April 4, 1996, providing new U.S. agricultural law for 1996 to 2002. The baseline projections incorporate provisions of the 1996 Farm Act and assume the new law is extended through the end of the baseline. The baseline also includes policy decisions as of mid-November 1997.

The 1996 Farm Act redesigned income support programs and discontinued supply management programs for major field crops. New production flexibility contract payments are largely decoupled because they generally are not related to current plantings or to market prices. Planting flexibility was expanded, permitting producers to base cropping choices more fully on signals from the marketplace.

Dairy policy changed with the phaseout of price supports and the consolidation and reform of milk marketing orders. The 1996 Farm Act also altered the sugar and peanut programs, eliminated the rye loan program, and repealed the honey program.

The 1996 Farm Act addressed a wide range of environmental and conservation programs. The Conservation Reserve Program (CRP) was reauthorized with a maximum set at 36.4 million acres for CRP enrollment. Over 20 million acres of CRP contracts expired in 1997, but new enrollments are assumed to return the CRP to more than 32 million acres for 1998. Enrollments in subsequent years are assumed in the baseline to increase the CRP to 36.4 million acres by 2001. A competitive selection process is used for CRP enrollments. CRP enrollment selection is based on an environmental benefits index that takes government costs into consideration.

The baseline assumes full compliance with all bilateral and multilateral agreements affecting agriculture and agricultural trade. Projections assume full compliance with the internal support, market access, and export subsidy provisions of the General Agreement on Tariffs and Trade (GATT) Uruguay Round Agreement. The baseline assumes no accession to the World Trade Organization (WTO) by the FSU, China, or Taiwan; no enlargement of the European Union beyond its current 15 members; no implementation of more liberalized trade among the countries of the Asia-Pacific Economic Cooperation; and no expansion of the North American Free Trade Agreement. Agricultural and trade policies in individual foreign countries are assumed to continue to evolve along their current paths.

Annual quantity and expenditure levels for the Export Enhancement Program (EEP) are assumed to be in compliance with GATT reductions, which require that by 2000 subsidized exports be reduced by 21 percent in volume and 36 percent in budget outlays from 1986-1990 levels. However, there were no EEP expenditures in fiscal year (FY) 1997 and the baseline assumes that no EEP expenditures occur in fiscal 1998. EEP expenditures are then assumed to resume within a budget limitation of $320 million for FY 1999 and a 5-year total budget limitation of nearly $1.2 billion for fiscal years 1999 through 2003. During these years, EEP funding not used in one year

could be used in a later year, although annual EEP expenditures would still be limited by the Uruguay Round Agreement maximums.

P.L. 480 program levels for Title I and Title I Ocean Freight Differential decline for fiscal 1999 and then are assumed constant for the rest of the baseline. Title II and Title III program levels are held flat for fiscal 1999, and then grow about 2 percent a year. Program levels for the Market Access Program and the GSM-102 and GSM-103 credit guarantee programs are assumed constant in the baseline from fiscal 1999.

Crops

Productive capacity for crops in the United States is projected to rise due to increases in land use and productivity. Yields for most crops are projected to rise at or near their long-term trends. These gains reflect, in part, the acquisition of some agricultural land by larger, generally more-efficient farms, continuing a long-term trend. Planted acreage for major crops rises about 20 million acres above average plantings in the early 1990s, with area gains drawn into production based on market incentives. Increased planting flexibility under the 1996 Farm Act also facilitates these acreage gains. With the CRP remaining above 32 million acres in the baseline, however, the land base comes under pressure and the balance between productive capacity and projected demands for crops tightens significantly.

Export markets are the largest source of demand growth for most U.S. crops. Reduced trade barriers under the Uruguay Round agreement combined with strong global economic growth raise world agricultural trade and U.S. crop exports. U.S. exports of feed grains and wheat expand the fastest. Increasing coarse grain exports largely reflect stronger economic growth in developing regions, where higher incomes result in diet diversification and rising demand for meat. This leads to expanding livestock sectors and demand for feed. U.S. wheat export growth slows somewhat after 2000 as global wheat prices rise high enough to allow unsubsidized competition from the European Union. Rising global import demand increases U.S. soybean exports during the baseline, although tightening domestic supplies and rising prices allow U.S. competitors to capture a greater share of world soybean trade. U.S. cotton exports maintain a 25-26 percent share of a growing global market.

Domestic demand for most crops is projected to grow slightly faster than population. Notably stronger domestic growth for rice reflects a greater emphasis on dietary concerns and increasing numbers of Americans of 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 and 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 gains.

Long-term trends in supply/demand balances for the major field crops imply tightening stocks-to-use ratios and strengthening nominal prices from 1999 to 2007.

Livestock

The livestock sector continues adjustments over the next few years following the high feed costs of 1995/96. As grain prices have fallen, pork and poultry production have rebounded, but with tight forage supplies and longer biological production lags for cattle, beef production contracts through 2000. For the rest of the baseline, lower feed prices than in 1995/96, replenishment of forage supplies, low inflation, and domestic and export demand strength result in returns to producers that encourage increases in red meat and poultry production.

Cattle herds rebuild from a cyclical low in 2000 to a level near 102 million head by 2007. Shifts toward a breeding herd of larger cattle and heavy slaughter weights partially offset the need for expanding cattle inventories to previous levels. The beef production mix continues to shift toward a larger proportion of fed beef, with almost all steers and heifers being feedlot fed. The United States remains the primary source of high quality, fed beef for export. Pork production becomes more vertically coordinated, with larger size operations that are generally more efficient.

The United States becomes an increasingly important net pork exporter, in part reflecting environmental constraints for a number of competitors that limit their production gains. 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, although export gains are expected for broiler parts, especially for dark meat.

Record total meat supplies are projected through the baseline, with a larger proportion of poultry. Per capita consumption of red meats declines and by 2004, per capita poultry consumption exceeds per capita red meat consumption on a retail weight basis. Declining real prices for meats along with increasing real disposable income allow consumers to buy more total meat with a smaller proportion of disposable income. Per capita consumption of eggs rises in the baseline as greater use of eggs in processed foods offsets declining shell egg use.

Dairy productivity gains offset declining cow numbers over the next 10 years, allowing milk production to grow. Real milk prices fall, pushing weaker operations out of dairying. However, milk production continues to expand in the West as well as on large, dairy operations in the North. Expansion in commercial use of dairy products is led by sales of cheese and dairy ingredients for processed foods, while fluid milk sales are stagnant.

Farm Income and Farm Financial Conditions

Net farm income gradually rises through the baseline as strong agricultural demand leads to increased output and strengthening prices. Gains are slightly less than inflation, so real net farm income is down somewhat through 2007. The agriculture sector increasingly relies on the marketplace for its income as direct Government payments fall through the baseline and represent less than 3 percent of gross cash income beyond 2000. Both crop and livestock receipts are up in nominal terms due to larger production and higher prices. Production expenses increase in the

baseline, with expenses for non-farm origin inputs rising faster than expenses for farm-origin inputs. Cash operating margins stabilize, with cash expenses representing about 75 percent of gross cash income.

Higher nominal farm incomes and relatively low interest rates assist in asset accumulation and debt management, thus leading to an improved balance sheet for the farm sector. Farm asset values increase through the baseline, led by gains in agricultural land values. Increases in farm debt rise less rapidly and are not beyond the ability of farmers to service the debt. As a result, debt-to-asset ratios continue the downward trend of the last decade from the high levels of over 20 percent in the mid-1980s, declining to less than 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, means relative stability in the financial condition of the farm sector. The sector will be highly competitive. The trend toward fewer but larger farms continues, as producers who are more efficient and better managers acquire the production resources of exiting farmers.

The 1996 Farm Act transferred income variability risk from the Government to farmers. Net farm income is potentially more variable from year to year in response to supply and demand variations because production flexibility contract payments are fixed regardless of market prices. Marketing alternatives to manage risk and buffer a portion of this potentially greater income volatility will become more important for many farmers.

Food Prices and Expenditures

Retail food prices in the baseline are projected to rise less than the general inflation rate, continuing a long-term trend. The largest price increases generally occur among the more highly processed foods, such as cereals and bakery products and other prepared foods, foods whose prices are related more to the costs of processing and marketing than to the costs of farm commodities. Expenditures for meals eaten away from home account for a growing share of food spending, reaching almost half of total food spending by 2007.

Agricultural Trade

Generally favorable global economic growth and freer trade associated with the GATT agreement and unilateral policy reforms support strong growth in world agricultural trade and U.S. exports. Relatively strong growth in the volume of global trade in bulk agricultural commodities is projected in the baseline. Trade gains reflect strong economic gains in most developing regions, including China, South and Southeast Asia, Latin America, North Africa, and the Middle East, despite prospects for slowed demand in Southeast Asia over the next several years. Income growth enhances demand for agricultural goods, both through increases in direct food use and through derived demand for livestock feeds to meet increases in meat demand.

World trade in grains, led by coarse grains, is projected to grow the fastest among bulk commodities, particularly during 2000-2007. These gains reflect strong economic growth in developing regions where higher incomes result in diet diversification and rising meat demand,

leading to expanding livestock sectors and demand for feed. Wheat trade also increases in response to rising incomes in developing countries. Combined trade in soybeans and meal benefits from the same expansion of developing country feed-livestock sectors that push up coarse grain trade. Growth in soybean oil trade also is projected to be higher than in the 1980s, but will be slower than for some competing oils because of its high relative price. Raw cotton demand and trade beyond 2000 are projected to be stronger than in the 1990s, but slower than in the 1980s when there was increased substitution of cotton for synthetic fibers.

U.S. export growth is projected to strengthen for most bulk commodities. U.S. exports of wheat and coarse grains are projected to expand the fastest. After 2000, U.S. wheat export growth is projected to slow because of anticipated unsubsidized competition from the European Union (EU) as world wheat prices rise. U.S. rice exports stay nearly flat as domestic demand captures nearly all the gains in U.S. production. Exports of U.S. soybeans and products are projected to rise faster than in the 1980s, aided by improving U.S. yields. However, foreign competition and slowing U.S. acreage gains are likely to constrain export growth relative to that of competitors after 2000. U.S. raw cotton exports are projected to strengthen through most of the baseline, benefiting from rising demand and reduced competition in some countries.

Despite a near-term slowdown in growth in Asia, generally favorable global economic growth is expected to spur growth in meat demand and trade over the longer term. Already negotiated reductions in trade barriers, primarily in East Asia, also help meat trade growth. The Pacific Rim provides the most growth in both consumption and import demand, with rising meat demand also projected in several countries in Latin America. The United States is well positioned to provide a variety of meat products to these markets.

Growth in meat import demand in the Former Soviet Union (FSU) is projected to slow. Although meat demand will turn upward after 2000, domestic FSU production of meat also is projected to increase slowly. This could reduce the region's dependence on imported meat, although the United States is expected to continue to supply low-priced parts and trimmings to that market.

The value of U.S. meat exports is projected to grow somewhat more slowly than the rapid ascent of the past several years. Although export volume will rise, the increasing share of low-valued meat products may slow the growth in total value.

The total value of U.S. agricultural exports rises steadily from $57.3 billion in fiscal 1997 to nearly $85 billion in 2007 (see box, page 17, for impacts of the Asia crisis). U.S. agricultural import values also rise, but with exports increasing more, the net agricultural trade balance rises about $12 billion from 1997 to 2007. High-value product (HVP) exports grow more rapidly than bulk commodity exports and are projected to account for about 63 percent of total U.S. agricultural exports by 2007. HVP export gains are led by exports of horticultural products and animal products. Although bulk exports are projected to grow more slowly than HVP exports, faster growth in bulk exports compared with the 1980s is expected to be a key source of export strength during 2000-2007.