

Summary of U.S. Economy

The U. S. economy continues to be plagued by economic uncertainty in 2003. But for the second part of the year, the outlook is for stronger economic growth. Gains in global GDP in 2003 are expected to exceed 2 percent, compared with just 1.6 percent in 2002. U.S. growth is expected to be near 2.2 percent for the year, as economic uncertainty abates and recovery begins.

Consumers have played an increasingly important role in transmitting demand signals to the agricultural sector. This new role will have implications for the future shape of the U.S. food system. There are several notable trends occurring throughout the U.S. food marketing system. Conventional food retailers continue to experience competitive pressures from alternative retail formats, which are increasingly offering a larger array of food products to their price-sensitive customers. This trend is reflected in the rising share of at-home food sales accounted for by warehouse clubs and supercenters.

U.S. domestic food market growth is largely a function of population growth and is less dependent on changes in income. Income growth has outpaced increases in food expenditures, leading to continuous reductions in the share of income spent on food. In 2002, consumers spent 10.1 percent of their income on food, compared to 13.2 percent in 1980. By way of comparison, real food expenditures rose by an average of 2.4 percent per year in the 1980s, but the growth rate slowed to 0.9 percent in the 1990s.

Food prices are expected to increase 1.5 to 2.5 percent in 2003. The weak economy and competitive pressures from alternative outlets will continue to keep food prices fairly low and steady over the next year. Food service sales, as a share of consumers' total spending on food, are likely to increase over the years as growth in personal income and demand for convenience and time-savings continue unabated in 2003-04.

U.S. Macroeconomic Outlook

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The U.S. economy is expected to experience slow growth through mid-2003. The impacts of the over-investment and over-consumption period of 1995-2000 have diminished, as have the accompanying stock market boom and retrenchment. However, their effects still linger. Consumer spending is constrained by current low consumer savings rates, relatively high debt burdens, sharply lower wealth, and reduced pent-up replacement demand for some durable goods, such as autos. Despite a sharp rebound in corporate profits in 2002 and early 2003, business investment and hiring has been slowed by substantial excess capacity, especially in manufacturing, as well as higher than normal economic uncertainty. U.S. export demand has been slowed by weak growth in developed foreign countries and the lingering effects of the strong real U.S. dollar.

U.S. growth of 1.8 percent for the first half of 2003 and 3.1 percent for the second half is expected. Expected stronger U.S. growth over the course of 2003 primarily reflects the following factors: further easing of fiscal policy, the continuation of an expansionary monetary policy, lower energy prices, strong underlying productivity growth, and improving conditions in corporate bond and equity markets. Stronger foreign growth in 2004 will raise the demand for U.S. exports.

Fiscal policy is very expansionary and will become even more expansionary over the course of 2003 and 2004. Projected tax cuts exceed 1 percent of current GDP for the 2003QIII-2004QII period. Growth in real federal government spending, which averaged 6.3 percent over the 2002Q1-2003Q1 period, is likely to slow only moderately over the period. Tax cuts will raise consumer spending especially in 2003Q4 and 2004.

Monetary policy has been and likely will remain highly expansionary through 2003. Monetary policy has been implemented by sharply lowering the real inflation adjusted federal funds rate. This policy has encouraged sharply lower interest rates, credit expansion, lower risk premiums for borrowers, and stronger equity markets.

Spot oil prices in the United States have fallen from the \$36 to \$38 range in the first half of March to the \$26 to \$30 range in the second half of April. Lower energy prices raise disposable personal income, lower business production costs, and offset some price pressures from rising employee benefit costs.

Nonfarm labor productivity growth is expected to average between 2.0 and 2.5 percent in 2003 and 2004 on a year-over-year basis. Nonfarm labor productivity averaged 2.5 percent per year in the 1995-2000 period. Increased usage of information technology throughout the economy and continued business cost-cutting efforts will encourage strong productivity growth. Private labor hours worked fell 0.7 percent and 1.4 percent in 2001 and 2002, respectively, the largest 2-year decline in labor hours worked since the 1974-1975 recession. Given this recent cost cutting, firms will increase hiring and labor hours worked in the second half of 2003 and 2004 as demand strengthens.

Inflation, as measured by the GDP chain-weighted deflator, is expected to rise 0.4 percent in 2003 and 0.2 percent in 2004. Inflation in 2002 was held down by relatively slow foreign economic growth, exceptionally strong productivity growth, and substantial slack in labor and manufacturing markets. Outside of energy prices, which increased rapidly in 2002 and early 2003, broad-based inflation measures have been extremely low.

Slightly higher inflation is expected in 2003 and 2004. As economic growth picks up in the second half of 2003 and 2004, assuming the dollar depreciates moderately as expected, some upward pressure on inflation is likely. In addition, rising employee benefit costs, which had been relatively stable over the 2000-2002 period at around 5 percent per year, surged at an annual rate of 9.1 percent in 2003Q1. Higher employee benefit costs will raise unit labor costs and encourage

firms to raise prices when demand conditions become firmer.

Any tightening in monetary policy will likely be postponed to late 2003 or early 2004 due to continued low inflation, moderate growth (both domestically and abroad), excess capacity in labor and capital markets, and the likelihood of a moderate fall in the dollar. Real short-term interest rates will gradually rise over the second half of 2003 as economic growth picks up and as Federal Reserve policy moves closer toward actual tightening. Real long-term interest rates are likely to rise moderately in the second half of 2003.

Interest rates will be under greater pressure in 2004 as the low rate of U.S. domestic savings and rising government deficits make the U.S. increasingly dependent on foreign capital inflows during a time when world growth is expected to rise to about 3.0 percent. In addition, significant tightening of U.S. monetary policy is expected in 2004, given the outlook for stronger U.S. growth and the accompanying need to raise real short-term interest rates to produce moderate growth in money and credit.

Larger federal deficits, unless offset by increases in domestic sources of credit, generate increased dependence on foreign capital inflows. From 2001Q4 to 2002Q4, the net domestic savings rate in the United States fell from 5.5 percent to 0.9 percent, in large measure due to expanding government deficits. During this same period, net foreign saving entering the United States increased \$162 billion. If government deficits expand in 2003 and 2004 as expected, increased dependence upon foreign capital inflows is highly likely. Eventually the share of dollar-denominated assets held in foreign portfolios will exceed desired levels, encouraging foreign investors to demand higher returns on U.S. assets and diversify their portfolio holdings away from U.S. assets. As foreign investors diversify away from dollar-denominated assets, downward pressure on the U.S. dollar is generated.

The Federal Reserve real, broad-based, trade-weighted dollar declined 4.5 percent from 2002Q1 to 2003Q1. In April, the real dollar fell an additional 0.5 percent. On a year-over-year basis, the real broad dollar measure is expected to fall 4.0 to 6.0 percent in 2003 and an additional 2.0 percent to 4.0 in 2004. A stronger than expected recovery in the second half of 2003 and 2004 will moderate the real fall in the U.S. dollar.

Stronger U.S. growth will benefit agriculture by raising world growth. A U.S.-led world recovery would be especially beneficial in lifting Japan and the Eurozone out of their current slow-growth pattern. Fortunately, expected growth is moderate to strong for 2003 and 2004 for most developing countries, especially in Asia (except for Japan). Asia is the single largest regional importer of U.S. agricultural exports, and developing countries typically have higher income elasticities for agricultural products. Agricultural export competitiveness is improving due to the falling U.S. dollar.

Food Consumption and Expenditures

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The domestic food market is essentially saturated, dependent on a

growing population and eroding ties to income. Income growth has outpaced increases in food expenditures, leading to continuous reductions in the share of income spent on food. In 2002, consumers spent 10.1 percent of their income on food, compared to 13.2 percent in 1980. By way of comparison, real food expenditures rose by an average of 2.4 percent per year in the 1980's, but the growth slowed to 0.9 percent in the 1990s.

Nominal food expenditures are projected to increase 2.9 percent in 2003 and 7.1 in 2004, compared to 2002 levels. Preferences for higher valued products will continue to grow as consumers seek better tasting, healthy, and convenient food products.

The food service sector, such as restaurants and other food-away-from-home formats, continues to apply competitive pressures to conventional food retailers. A rising share of consumers' food dollars is accounted for by food-away-from-home market options, including restaurants, cafeterias, and limited-menu, non-service outlets. Long-term trends show that as household incomes increase, a larger share of food spending is devoted to prepared foods and meals. By 2002, food service outlets accounted for 46.1 percent of all food spending, up from 44.6 percent in 1990 and 39.0 percent in 1980. A number of factors, including growth in personal income and demand for convenience, are likely to continue unabated in 2003 and 2004. Food-away-from-home expenditures are projected to reach 47.5 percent by 2004.

Food Processing and Distribution

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There are several notable trends occurring throughout the U.S. food marketing system. Conventional food retailers continue to experience competitive pressures from alternative retail formats such as Wal-Mart supercenters, Costco Warehouse stores, and others, which are increasingly offering a larger array of food products to their price-sensitive customers. This is reflected in the rising share of at-home food sales accounted for by warehouse clubs and supercenters.

Competitive pressures faced by food retailers in a slowly growing domestic food market reverberate throughout the food marketing system. Conventional food retailers are consolidating into a smaller number of companies that account for a larger share of the retail food market. While merger and acquisition activity has recently slowed, the share of U.S. grocery store sales by the top four food retailers increased from 17.5 percent in 1996 to 31.9 percent in 2001. By contrast, this four-retailer sales share had declined from 18.4 percent in 1987 to 17.5 percent in 1996. Other segments are also undergoing rapid consolidation. For example, in 2001, the top four U.S. food service distributors accounted for 27 percent of sales, compared to 15 percent in 1994.

Further restructuring is also reflected in changing buyer-seller relationships throughout the food supply chain as stages become increasingly interdependent. Farmers are becoming increasingly interdependent players as they engage in contracts and vertical integration. Further

downstream, traditional food wholesalers that buy food from manufacturers and resell to retail food stores are losing ground. Today, manufacturers increasingly deliver their products directly to retail stores, while self-distributing retailers own their own distribution centers and buy directly from manufacturers. These trends are expected to continue, reflecting the increasing importance of large grocery chains and competition from alternative formats such as Wal-Mart supercenters.

Competition for supermarket shelf space and consumers' dollars will remain fierce. As part of supply chain initiatives undertaken by traditional food retailers and their suppliers, the food marketing system continues to embrace new technology that improves the flow of information and assists with scheduling and inventory. This lowers costs, reduces instances of empty grocery shelves or out-of-stocks, and enables firms to better target alternative consumer segments. In an effort to cut costs and lower prices, retailers are seeking greater efficiencies in procurement, distribution, and marketing of retail food products. Retailers have consolidated their purchasing activities and reduced the number of primary suppliers to take advantage of size efficiencies in procurement. Retailers have also initiated longer term agreements with agricultural and food processing suppliers in an effort to streamline procurement and distribution activities.

To compete with alternative food outlets, food retailers are also differentiating their product offerings. Retailers are demanding a variety of high-quality products (for example, organic produce and exceptionally lean pork) delivered in a timely fashion. Aware that Hispanics are the fastest-growing minority in the United States, grocers nationwide are looking at ways to increase sales by adding more ethnic foods to store shelves, and food processors are expanding their product lines. In addition, grocery retailers are experimenting with new formats (for example, supermarket-sized natural food stores) to meet the growing needs of natural food and ethnic consumers. These developments create competitive pressures for processors and farmers to deliver the right types of products at the right time.

New product introductions, including food and nonfood items, reached 22,374 in 2002, approaching the 22,572 posted in 1995, a record-breaking year. New food products reached 9,699 in 2001, up from 9,417 in 2000. The level of new food product introductions remains high at 9,632 in 2002 and continues to fuel the vast variety of products in food stores. Leading new product introductions were convenience foods, organic and natural foods, and functional foods. The major focus remains on convenience products for time-constrained consumers as retailers continue to compete with strong food-away-from-home sales. Some existing products were even being repackaged or repositioned with convenience in mind. The organic trend is stronger than ever in 2003 and organic products tend to be widespread among the various categories of food products.

Food Prices

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Low food price inflation was evident throughout 2002, with the all-

food Consumer Price Index (CPI) rising just 1.8 percent for the year. This is the smallest increase in food prices since 1992. The CPI for all food is forecast to increase 1.5 to 2.5 percent in 2003 as the current trends in retail food markets along with the overall slumping economy will work to keep food prices fairly steady during the next year. The expanding services offered by retailers may increase their operating costs, but the competitive pressure from warehouse clubs, supercenters, and restaurants continue to keep prices for standard food items at low inflation levels. For food away from home, lower price increases are projected for 2003 due to the continuing weak economy and greater competition both within the classic food-away-from-home market as well as new competition in terms of more prepared foods offered by supermarkets and grocery stores.

The dynamics of competition in retail food markets have kept at-home food prices even lower than one would normally expect during slow economic growth periods. This is evident by looking over a longer time horizon—food-at-home prices rose an average of just 2.1 percent per year in the past 5 years (including the boom years of the late 1990s) as opposed to the 3.5 percent average annual growth in the prior 10 years (1998-1997).

Looking ahead, current USDA Baseline Projections predict average annual food price inflation of 2.7 percent for 2004. The first decade of the 21st century will likely continue the historical decline in average annual food price inflation. The 1970s, a relatively high inflation decade, had average annual food price inflation of 8.4 percent, while the 1980s saw food prices increase 4.6 percent, on average, per year. The current trend in food prices began in the 1990s, which had average annual inflation of 2.6 percent. This sluggish growth is reflected in a generally stagnating pattern of consumer spending at both grocery stores and food service outlets in 2002, which is expected to continue into 2003. Macroeconomic conditions, including the exchange rate and a slow rate of global economic growth, have constrained the demand for U.S. agricultural products. Sluggish growth in GDP and personal consumption expenditures for food are expected to continue into 2003.

Agricultural Production

CROPS

Weather conditions are the primary factors determining the crop outlook for 2003. Drought in key grain-producing countries—especially Australia, Canada, and the United States—depleted crop supplies in traditional exporting countries. Meanwhile, drought in Africa raised aggregate global demand by expanding global food aid needs. Adverse weather conditions raised prices for many U.S. crops, and these higher prices continued into the first half of 2003.

Fall 2000 U.S. wheat prices were very strong, prompting a 6-percent increase in plantings from 2002/03—the highest since 1998. Since then, prices have dropped, and spring acreage is likely to be similar to a year ago. Total wheat plantings are expected to rise 2-1/2 million acres. Meanwhile, corn area is forecast to rise about 1-1/2 million acres, with a commensurate drop for soybeans. These planting decisions are expected

in response to higher farm prices of corn relative to soybeans, along with loan rates favoring corn and several years of poor soybean yields.

These acreage changes are combined with trend yields and expected demand to develop forecasts of carryover stocks at the end of the 2003/04 marketing year. U.S. wheat and soybean stocks are expected to rise only slightly, even though wheat exports may fall below the 30-year export low expected in 2002/03. Corn stocks are projected to rise moderately as production exceeds 10 billion bushels, in conjunction with slight increases for exports and domestic use. These stock changes indicate that season-average farm prices for wheat, corn, and soybeans will likely decline from 2002 crop-year levels, but remain substantially above 2001 levels. Farmers are projected to receive \$3.25 per bushel for wheat during crop year 2003, while corn is expected to bring \$2.20 per bushel and soybeans will be worth \$5.15 per bushel.

LIVESTOCK

Prices received by farmers for cattle, hogs, and broilers all declined during 2002. Higher prices are expected in 2003 for all of these commodities. However, dairy prices are expected to decline in the face of high milk supplies. In 2003, lower beef and pork production and only a small rise in poultry production are expected to cause U.S. per capita meat consumption to fall about 2 percent, thereby boosting meat, livestock, and poultry prices and farm returns.

Poor range and feed conditions and a lack of feed resulted in continued liquidation of the U.S. cattle herd, which began in 1995. The U.S. January 1 cattle inventory declined for the seventh straight year. The January 2003 cattle survey indicated that producers expect 3 percent more heifers to calve in 2003, thereby increasing the aggregate U.S. herd. However, producers may again send their heifers to feedlots instead of retaining them should drought conditions persist.

Assuming adequate forage, beef production is forecast to drop over 4 percent for the year. This decline will result in an 11-percent farm price increase for beef cattle to \$74.28 per hundredweight. Consumers will face price increases of 2.2 percent this year, which could dampen beef demand. However, lower consumer demand may be partially offset by an expected expansion in beef exports.

During 2002, hog prices were generally below breakeven, causing producers to trim back inventories. Hog inventories in January, 2003 were 1.5 percent lower than a year earlier. Therefore, pork production is expected to decline slightly in 2003. With lower production, hog prices for 2003 are expected to rise 1 percent to \$35 per hundredweight. Pork exports are also expected to bolster demand by increasing in 2003.

Pork production will grow slowly, at less than 1 percent annually in the next 2 to 3 years, as the more coordinated/integrated industrial structure dampens the U.S. hog cycle. Transformation to a more vertically coordinated pork structure will continue, with larger, more efficient producers gaining market share, thus limiting increases in production costs. Pacific Rim nations and Mexico remain key markets for long-term growth of U.S. pork exports. 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 environ-

mental regulations relative to competitors. Such costs tend to be lower in countries with growing pork industries, such as Brazil and Mexico.

The poultry sector experienced disruptions in export markets in 2002 due to avian influenza, Newcastle disease, and Russia's cutback of imports. U.S. broiler exports declined 12 percent in 2002, with shipments to Russia down about 30 percent. For 2003, broiler production is forecast to expand less than 1 percent, and production is expected to decline during the first half of the year. These developments mean farmers will receive slightly more for their broilers in 2003, as prices are expected to rise 1.8 cents to 35 cents per hundredweight.

Milk prices are expected to decline in 2003. With low prices, a decline in milk cow numbers would be expected, but they are above last year's levels. The higher numbers are due to continued expansion in the west and the establishment in the 2002 Farm Bill of the Milk Income Loss Contract Program, which may be influencing producer decisions to remain in business and retain heifers. The all-milk price is forecast at \$11.60 per cwt., the lowest milk price since 1978.

FARM INCOME

In 2002, farm cash receipts for crops rose slightly, but livestock receipts fell \$10.5 billion as prices fell sharply under the big, drought-driven increase in meat production in conjunction with slower meat exports and lower milk prices. Another factor affecting farm income is the slow pace of farm program signup, which has resulted in government payments of \$4 billion being shifted from 2002 to 2003. These factors combined to sharply reduce 2002 net cash farm income by 22 percent. For 2003, net cash farm income is expected to rise 11 percent, to over \$51 billion, as both crop and livestock receipts grow and government payments rise. If government payments are excluded, net income from the market is expected to change little, as farm production expenses rise to reflect higher feed and feeder cattle costs and higher energy and fertilizer expenses.

Agricultural Policy

The Farm Security and Rural Investment Act of 2002 became law on May 13, 2002. Its provisions govern U.S. farm programs for the next 6 years. The new farm legislation introduces some new policies to the array of agricultural commodity programs.

The 2002 Farm Act replaces the Production Flexibility Contract program with the Direct Payments program, extending eligibility beyond the original commodities (wheat, corn, barley, grain sorghum, oats, upland cotton, and rice) to include soybeans, oilseeds, and peanuts. The Act establishes a Counter-Cyclical Payments (CCPs) program for these commodities that provides payments when prices fall below set target prices. CCPs are intended to institutionalize the market loss assistance payments of the past several years. Both the Direct Payments program and the CCP program are based on historical base acreage and yields.

The 2002 Farm Act authorizes significant new spending for conservation practices on working land, expanding the Environmental Quality

Incentives Program and creating the new Conservation Security Program (CSP). The CSP will provide payments to producers for maintaining or adopting structural and land management practices that address a wide range of local and national resource concerns on both cropland and grazing land. Land retirement programs are expanded, with an emphasis on wetlands and a new program for grasslands. Under the terms of the largest of these retirement programs, the Conservation Reserve Program, farmers will receive a cost-share payment for establishing a permanent cover crop and annual rental payments for retiring land and maintaining specified conservation practices.

U.S. Agricultural Trade

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Agricultural exports are expected to reach \$57 billion in fiscal year 2003—a \$3.7 billion increase from 2002. Corn and soybean exports will gain the most, followed by wheat and meat exports. In the first part of fiscal 2003, both the United States and the world economy continued to be plagued by economic uncertainty, but the outlook for the second part of the year is for stronger economic growth. Gains in 2003 global GDP are expected to exceed 2 percent and U.S. growth is expected to be near 2.2 percent for the year and 3.2 percent in 2004 as the uncertainty abates and recovery begins. No precipitous drop in the dollar is anticipated; instead a slow decline over the rest of the year and into the next is expected. A lower value for the dollar is expected to improve the competitiveness of U.S. agricultural exports in world markets.

Imports are expected to rise to \$43 billion in fiscal 2003—a \$2 billion increase. Import gains at the beginning of the fiscal year reflected the continued relative strength of the U.S. dollar against most foreign currencies, except the yen and the euro. Horticultural products such as wine and malt beverages, fruits, and vegetables are expected to account for most of the expected growth.

The U.S. agricultural export surplus for 2003 is forecast at \$14 billion, just over the surpluses of 2002 and 2001. The projected surplus is based on agricultural trade reaching \$100 billion for the first time in 2003—up from \$94 billion in 2002. Agricultural trade is further projected to reach \$103 billion in 2004. Both years will set records for total U.S. agricultural trade, thus exceeding the previous record set in 2002.

A U.S.-led world recovery would be especially beneficial if it lifts Japan and the Eurozone out of their current growth patterns. Asia, which until recently was the largest U.S. agricultural export market, was surpassed in 2002 by the more rapidly expanding Western Hemisphere. Asia was displaced due to its continued economic slump; steady growth in NAFTA trade continued in the Western Hemisphere. Expected longer term global growth, particularly in developing countries, would further improve U.S. agricultural exports given higher income elasticities for agricultural products in such countries.

Calendar-year exports of processed food declined to \$28.3 billion in 2002, down 12 percent from 2001, following two consecutive years of increases in 2000 and 2001. Meats declined 32 percent from \$6.58

in 2001 to \$4.47 billion in 2002, and poultry declined 25 percent from \$2.4 to \$1.8 billion. In contrast, calendar-year processed food imports grew 2.1 percent—from \$37 billion in 2001 to \$38 billion in 2002. The weakening of 2002 exports can be tied to weak economic growth in developed foreign countries and the lingering effects of a strong real U.S. dollar. Processed food exports are expected to rebound with a softer dollar and with projected economic growth in importing countries.

Demographic Changes and Demand for Food and Agriculture

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Recent ERS research has identified three broad demographic trends that will shape future U.S. food markets—more mature consumers, more diversity, and more mouths to feed. These trends were translated into projections of growth in food expenditures and in demand for specific commodities between 2000 and 2020. The ERS models do not capture some of the subtler changes in our food system; however, they do allow us to compare the importance of the different demographic trends to specific food and commodity market segments. Moreover, we may garner insight about whether or not America's farmlands and farm businesses will differ as much as the profile of our population 20 years from now.

MORE MATURE CONSUMERS

The aging of the baby boom generation, born between 1946 and 1964, will accelerate growth in the number of Americans older than 65, reaching 54 million by 2020. Although the U.S. population under age 18 will increase by 7 million by 2020, it will decline as a share of the total population. Consequently, the age profile in the United States is shifting toward an older age structure. Catering to the food preferences and eating habits of older Americans who are likely to be more health conscious will be an important marketing strategy for food suppliers.

The growth of America's older population is likely to carry mixed messages for U.S. agriculture. Older Americans typically eat less food, due to lower activity levels and energy needs, and dine out less frequently than younger ones. Hence, the aging trend may decrease the nation's appetite for some foods and dampen the popularity of eating out. On the other hand, the demand for foods preferred by seniors will benefit from the age distribution shift. According to ERS projections, small declines in per capita consumption of fried potatoes, cheese, sugar, beef, and poultry are expected, while the increase in older consumers could signal an increase in per capita consumption of "other potatoes" (such as baked), eggs, fish, fruits, and vegetables.

A MATURE MARKET

American consumers participate in a food system that is characterized by the fulfillment, if not satiation, of basic needs—what is termed a

mature market. Consumers of all ages and recent immigrants have higher standards of living now than in earlier times and benefit from a highly productive agricultural sector. Consequently, most people are generally already very well-fed and not apt to need or want larger quantities of food. However, rising incomes will allow Americans to continue to upgrade their food choices to include, for example, more expensive cuts of meats, exotic vegetables, luxury food items, ready-to-eat meals, and higher priced restaurants. Real per capita income grew 1.8 percent per year during the 1978-88 period and 1.2 percent per year during the period of 1988-98, and it is assumed conservatively to grow about 1 percent annually between 2000 and 2020. Of concern to suppliers of mature U.S. food markets is how much of their higher disposable incomes American consumers will spend on food and what food products they will demand.

Over the past few decades, Americans have dedicated a declining share of their household budgets to food. Consumers with rising incomes are, however, quite willing to increase food spending if it means acquiring more convenience, better quality, or more of other valued food attributes. In a sense, higher incomes allow food choices to become expressions of personal preferences, values, and lifestyles rather than necessities. Moreover, higher incomes allow Americans to spend more on meals away from home, whether for fast food or a candle-lit dinner in an elegant sit-down restaurant. With per capita income growth projected at 1 percent annually between 2000 and 2020, per capita food expenditures in 2020 are expected to be about 6 percent above those in 2000.

According to ERS researchers, higher incomes drive up per capita food *expenditures* more rapidly than per capita *quantities consumed* for virtually all foods. Hence, more of the extra consumer dollar will go to “quality” than to quantity. Better-off consumers prefer select cuts of meat, value-added products like lamb chops trimmed and dressed and ready to pop in the oven, pre-marinated fish, single-serving lunchbox snacks, and pre-washed and bagged salad greens. Previous studies have found that as U.S. incomes rise, consumers spend more on expensive fresh foods, prepared foods, and dining out.

According to ERS projections, rising incomes will spur faster growth in per capita expenditures for dining out more than food purchases for at-home preparation and consumption. Food-away-from-home expenditures are expected to increase by almost 10 percent per capita, due to per capita income growth alone. Alternatively, food-at-home expenditures are expected to increase by only 3 percent due to income growth. An aging population and increasing ethnic diversity may dampen the food-away-from-home trend. Americans in their 30s and early 40s tended to spend the most on food away from home over the last two decades—more than younger, less wealthy adults as well as those over age 50.

Higher consumer incomes are likely to engender small shifts in demand for particular foods and commodities due to the different consumption patterns observed among those with different income levels. Higher income groups in the U.S. are likely to favor greater consumption of fruits, cheese and yogurt, fish, and vegetables (except

potatoes) and slightly lower consumption of pork, beef, other meats, and eggs. Interestingly, similar consumption preferences are seen among better educated consumers. According to ERS projections, the per capita consumption shifts due to higher incomes are on the order of one-half to 2 percent.

A MORE DIVERSE POPULATION

Over the next two decades, the Hispanic population is expected to grow by 1.2 million annually, compared with annual increases of 500,000 among non-Hispanic Whites and 400,000 each among Blacks and Asians. Growth among the Hispanic and Asian populations is due to both natural increases and immigration, while growth among Whites, Blacks, and Native Americans results mainly from natural increases (births minus deaths). Hispanics are expected to increase from 12.6 percent of the population in 2000 to 18 percent in 2020. Asians are expected to increase from 3.9 percent to 5 percent. Growing ethnic diversity has contributed to shifts in food preferences as well as a notable expansion of the American food repertoire. To profit from this diversity, U.S. food suppliers must be cognizant of the differing preferences of population subgroups and also creatively tap into Americans’ love of new and different taste experiences.

Reflecting ethnic and racial dietary preferences, a more diverse population is likely to eat more fruit, nuts and seeds, eggs, and fish. Citrus fruits may see the largest per capita gain (about 2.5 percent), driven by the taste preferences of today’s Hispanic population. However, a greater proportion of Hispanics and Asians in the population may reduce per capita consumption of dairy products (by a little over 1 percent) unless existing tastes and preferences shift to embrace dairy products as a more integral component of the diet. A preference for rice over potatoes among the recent immigrant-based population groups may dampen demand for potatoes.

ERS researchers project that the expanding ethnic population base will increase per capita beef consumption very slightly, and poultry and fish consumption somewhat more. The ethnic influence on beef consumption contrasts directly with the preferences of an aging population and may moderate the downward pressure on per capita beef demand. Greater fish consumption is linked to Asian dietary preferences, and greater poultry consumption is linked to preferences of Blacks and Hispanics. Underlying these expectations is the strong assumption that the ethnic populations that comprise the 2020 population will have similar eating preferences to ethnic and immigrant-based populations today.

MORE MOUTHS TO FEED

The United States is indeed growing, as seen in the 2000 census count of 281 million people, 54 million more than in 1980. A large share of U.S. population growth results from a high tide of immigration initiated in the 1960s and continuing at least into the near future. By 2020, the U.S. population will likely grow another 18 to 28 percent implying another 50-80 million people to feed *just here at home*.

Conservatively assuming that in 2020 there will be 50 million

more mouths to feed, we project total U.S. household food expenditures will increase by over 26 percent between 2000 and 2020. Fueled by growth in per capita income, we project food-away-from-home expenditures will increase 27.5 percent, compared with 24.3 percent for food-at-home expenditures.

In a mature market, population growth is the main source of increased demand for commodities that go into food production. However, population expansion will benefit some commodities more than others because of the changing population composition and related shifts in food preferences. For example, total quantities of beef and pork consumed are projected to increase by 14-15 percent, while quantities of fruit and fish consumed would increase by 24-27 percent. These projections resemble the actual growth in food supplies to the U.S. market between 1980 and 2000, when beef supplies increased 11 percent, pork supplies increased 14 percent, and total fruit supplies increased about 28 percent.

A DIFFERENT CONSUMER, A DIFFERENT AGRICULTURE?

How important are these trends—older, wealthier, more ethnically diverse consumers and more of them—to American agriculture?

First, because the U.S. market is a mature market, demand for farm products will grow at just about the same pace as the nation's population. Fortunately for U.S. producers, the prospect of a growing population sets the United States apart from most other high-income countries where population growth rates are considerably lower. For those food producers who see this projected growth in U.S.-based demand as too slow, they will need to continue to secure new markets in middle-income countries where populations and incomes are both expanding more rapidly than at home. Other Americans both on and off the farm may view the growing demand from the U.S. market as

putting more pressure on environmentally sensitive agricultural areas.

Second, the demographic changes that are altering the composition of the American population imply at least moderate shifts in consumer preferences among food categories and individual products. Entrepreneurial growers will watch and attempt to tap into these shifts. For example, the growth in demand for chili peppers illustrates the growing influence of the Hispanic populations, combined with America's search for low-fat flavorings. However, we do not anticipate shifts in food preferences large enough to markedly alter the composition of production or the profile of the American farm landscape by 2020.

Third, and most salient, the anticipation that increasing income will have a larger impact on demand for *quality and variety* of foods than on *quantity* will continue to transform agriculture into a sophisticated business venture along the lines of other American businesses. Growth in demand for value-added food products at the supermarket and in restaurants is likely to increase the share of food dollars that go to processors and retailers and further diminish the share to providers of basic commodity inputs. However, growers are also positioning themselves to capture a larger share of the value-added market. Some strategies include diversifying into high-quality or specialty crops that may carry price premiums, such as tofu-grade soybeans and vine-ripened tomatoes and developing branded products that are more readily linked by the consumer with a particular food company, production region, or even individual farm.

Food suppliers also know that, as demographic change occurs, catering to the modern consumer means adopting new ways of doing business, such as accepting closer business linkages through contractual relationships with others in the supply chain, and using information technology systems that help monitor and control quality from the farm to retail level.

UNITED STATES

	Units	1998	1999	2000	2001	2002	2003 ^E	2004 ^F
FOOD CONSUMPTION PATTERNS ^a								
Per capita caloric intake	Cal/day	3,545	3,605	3,556	3,527	3,538	3,482	3492
From animal products	Cal/day	1,132	1,165	1,143	1,128	1,142	1,124	1116
From vegetable products	Cal/day	2,413	2,440	2,413	2,399	2,396	2,358	2376
Protein (% of calories)	%	15.4	15.4	15.4	15.4	15.4	15.4	15.4
Fat (% of calories)	%	32.8	32.8	32.8	32.8	32.8	32.8	32.8
Carbohydrates (% of calories)	%	51.8	51.8	51.8	51.8	51.8	51.8	51.8
INCOME AND FOOD PRICES								
Disposable personal income ^b	US \$/capita	23,032	23,708	24,889	25,859	26,907	27,758	28,884
% of disposable income for total food ^c	%	10.2	10.3	10.1	10.1	10.1	10.1	10.1
% of disposable income, food away from home ^c	%	4.1	4.1	4.0	4.0	4.0	4.0	4.0
Food price index ^d	1990=100	121.4	123.9	126.7	130.7	133.1	136.0	139.2
General price index ^d	1990=100	124.7	127.5	131.8	135.5	138.3	141.7	145.2
Agriculture's share of retail food dollar ^e	%	20	20	20	19	19	19	18
POPULATION								
U.S. resident population, July 1, millions ^f	Millions	275.8	279	282.2	285.3	288.4	291	293.5
Urban population ^g	%	80.1	80.2	80.2	80.3	80.3	80.3	80.3
Non-urban ^g	%	19.9	19.8	19.8	19.7	19.7	19.7	19.7
Share of population in following age groups ^f								
0-4 years	%	7	6.9	6.9	6.8	6.8	6.7	6.7
5-14 years	%	14.5	14.5	15.4	14.3	14.2	14.1	14.0
15-19 years	%	7.2	7.2	7.2	7.2	7.2	7.2	7.2
20-44 years	%	37.3	37	36.6	36.3	35.9	35.5	35.1
45-64 years	%	21.2	21.7	22.2	22.7	23.3	23.9	24.4
65-79 years	%	9	9.4	9.3	9.2	9.1	9.1	9.0
80 and over	%	3.7	3.3	3.4	3.4	3.5	3.5	3.6
Median age of population ^f	Years	35.2	35.5	35.8	36	36.2	36.2	36.2
Female labor force participation ^f	%	59.8	60	60.2	60.4	60.5	60.5	60.5
LIFE EXPECTANCY ^g								
Males	Years	73.9	74.1	74.1	74.1	74.1	74.1	74.1
Females	Years	79.4	79.7	79.5	79.5	79.5	79.5	79.5
FOOD INFRASTRUCTURE								
Trade capacity ^b								
Total agricultural exports	Billion US \$	53.7	49.2	50.7	52.7	53.3	57.0	58.0
Animals and animal products exports	Billion US \$	11.2	10.1	11.7	12.4	11.9	12.4	13.4
Grains, feeds, and grain products exports	Billion US \$	14.1	14.4	13.9	13.9	14.1	16.6	15.5
Total agricultural imports	Billion US \$	36.8	37.3	38.9	39.0	41.0	43.0	44.9
Animals and animal products imports	Billion US \$	6.8	7.0	8.1	9.0	9.1	9.3	9.7
Grains, feed, and grain products imports	Billion US \$	2.9	2.9	3.1	3.2	3.6	3.9	3.9
Net agricultural trade balance	Billion US \$	16.8	11.9	11.8	13.7	12.3	14.0	13.2
Power generation ⁱ								
Production	Quadrillion btu	72.6	72.5	72.5	72.5	72.5	72.5	72.5
Consumption	Quadrillion btu	94.6	96.6	96.6	96.6	96.6	96.6	96.6
Percent of population with refrigerators ⁱ	%	99.7	99.7	99.7	99.7	99.7	99.7	99.7
ROLE OF AGRICULTURE AND TRADE IN THE ECONOMY								
Agr. as a share of GNP	%	1.1	1.1	1.1	1.1	1.1	1.1	1.1
MACROECONOMIC INDICATORS								
GDP growth ^j	%	4.3	4.1	4.1	0.3	2.2	2.6	3.2
Interest rate ^k	%	8.4	8	9.2	6.9	4.7	4.8	7.3

Sources:

a. Source: U.S. Department of Agriculture, ERS, Baseline.

b. Source: U.S. Department of Commerce, Bureau of Economic Analysis, "Economic Indicators". Data for 2003 and 2004 are ERS estimates.

c. USDA's Economic Research Service estimates food expenditures by families and individuals. Food expenditures include purchases from grocery stores and other retail outlets, including purchases with food stamps and Women, Infants, and Children Supplemental Feeding Program vouchers, and food produced and consumed on farms (valued at farm prices). Expenditures also include purchases of meals and snacks by families and individuals, and food furnished to employees. These estimates exclude gov-

ernment-donated foods and food paid for by government and business, such as foods donated to schools, meals in prisons and other institutions, and expense-account meals. Data for 2002-2004 are ERS estimates.

d. Source: U.S. Department of Labor, Bureau of Labor Statistics. 2003 and 2004 are ERS estimates.

e. Farm value percentage of consumer expenditures. Source: ERS' marketing bill series. 2003 and 2004 are estimates.

f. Source: U.S. Bureau of the Census, "Current Population Reports" and unpublished data. 2003 and 2004 resident population data are estimates.

g. Source: U.S. Social Security Administration, Office of the Actuary, "Trustees Report to Congress."

h. Source: Comtrade database of UN Statistics Division.

i. Source: U.S. Energy Information Administration, "Annual Energy Review."

j. Chained 1992 dollars. Source: U.S. Bureau of Economic Analysis, "National Income and Product Accounts of the United States", and "Survey of Current Business".

k. Prime rate charged by banks. Source: Board of Governors of the Federal Reserve System, "Federal Reserve Bulletin," monthly, and "Annual Statistical Digest."