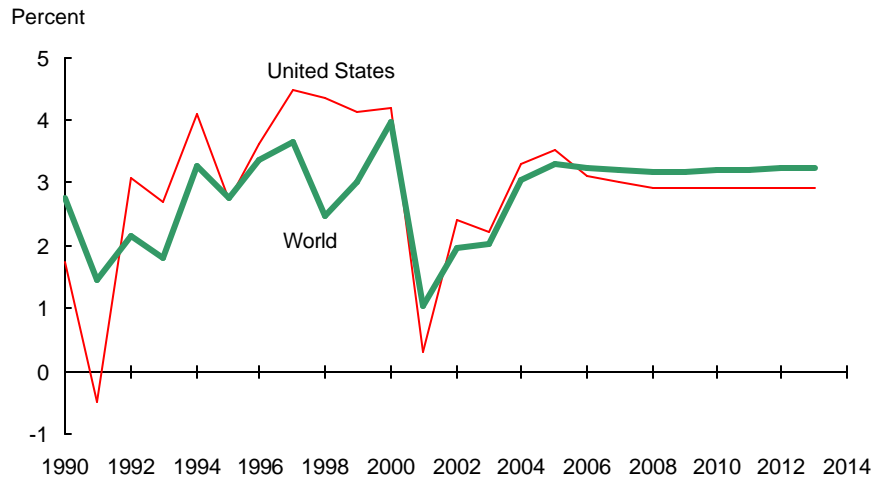


## Macroeconomic Assumptions

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 average historical levels beginning in 2005. The baseline's macroeconomic assumptions were completed in September 2003, incorporating data and other information available at that time.

The United States and world economies continue to become increasingly interdependent both through growing trade and through financial market integration. The United States, as the world's largest economy with around 30 percent of global gross domestic product (GDP) and the largest capital market, is also the engine of world growth. Thus, what happens in the United States will continue to play a large role in determining economic conditions around the world. However, because of growing economic interdependence, international macroeconomic conditions affect U.S. consumer incomes, the U.S. exchange rate, global trade, inflation, and interest rates. All these factors have major effects on U.S. agriculture.

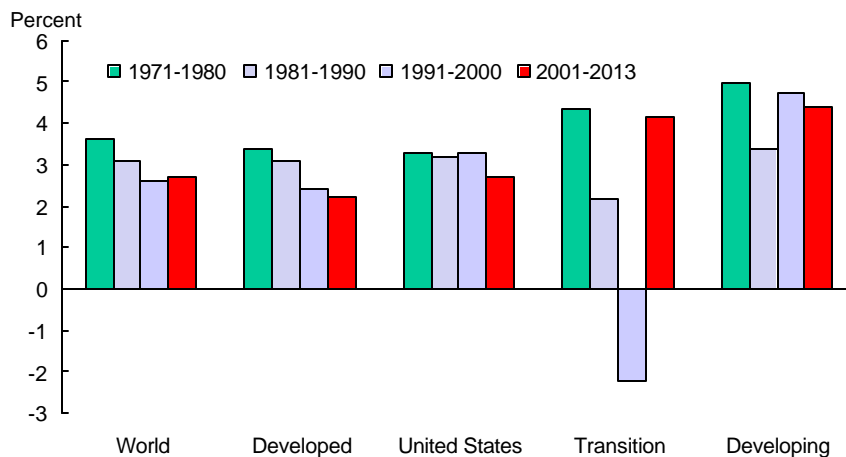
**U.S. and world gross domestic product (GDP) growth**



The baseline assumes that U.S. GDP growth improves in the near term (increasing to 3.3 percent in 2004 and 3.5 percent in 2005) as the economy continues to recover from the economic slowdown in 2001 through early 2003. U.S. growth then returns to a long-run sustainable rate near 3.0 percent in 2006. While there may have been some overinvestment in technology in the late 1990s, ongoing U.S. technological advances associated with computing and telecommunications will provide support for worldwide productivity growth throughout the 2004-2013 projection period. As the U.S. economy recently has been showing solid growth in investment in new technology, other economies will follow.

- A similar pattern is expected for global economic growth, with sustained gains projected in the longer term for most countries in the world. Despite modest European growth expected in 2004, most of the world will be moving much closer to normal economic growth with trend rates in 2006 and beyond. The modest expected real decline in oil prices in 2004 will give an extra boost to Asia and its manufacturing sector, which is far more dependent on energy for GDP growth than more developed economies.
- 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 global food demand growth in the baseline and become a more important destination for U.S. exports. Relatively high population and income growth, along with large food responsiveness to income growth in these countries, underlie this projection.

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

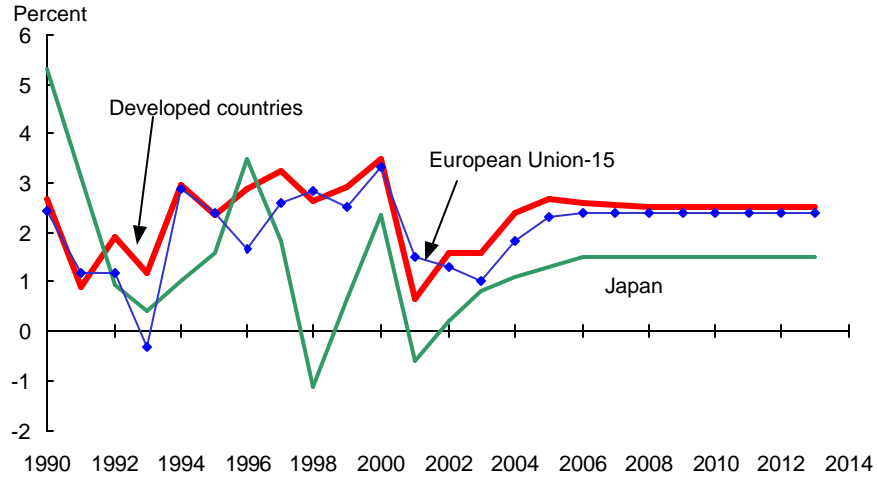


World economic growth is projected to average 2.3 percent annually between 2001 and 2005, before increasing to approximately a 3.2 percent average between 2006 and 2013.<sup>1</sup>

- Increased global purchasing power and population growth are essential for gains in 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, vegetables, and processed foods. These consumption shifts increase import demand for feedstuffs and high-value food products. For the United States, this has included increases in meat and processed food exports.

<sup>1</sup> See tables 2 and 3 for countries included in developed, transition, and developing country groupings.

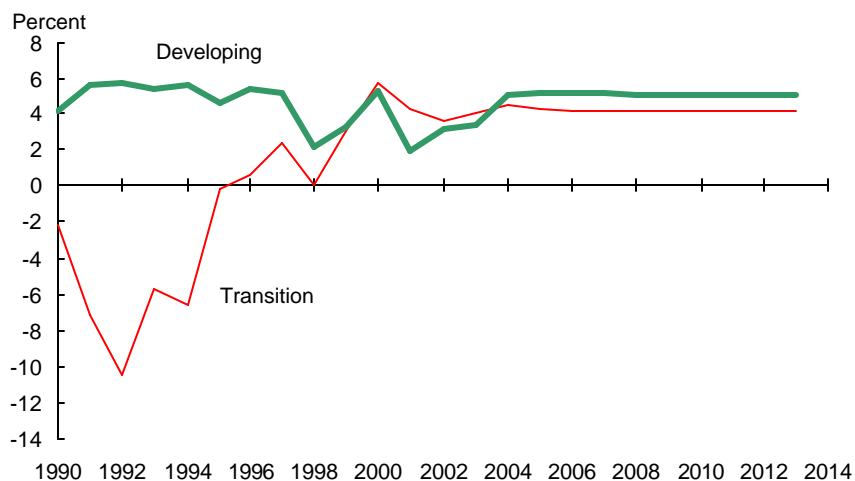
### GDP growth for developed countries, European Union-15, and Japan



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

- The adoption of the euro continues to enhance cross-border trade and investment within the European Union (EU). Enlargement to include countries of Central and Eastern Europe implies closer integration, creating more trade and investment opportunities.
- In spite of this, the EU does not grow as rapidly as the United States because lingering structural rigidities, particularly in labor markets, constrain growth.
- Japan continues to face significant economic problems, largely the result of its ongoing banking problems and persistent deflation. Japan's share of world GDP is expected to decline to less than 13 percent by 2013, down from about 18 percent in 1991.

### Developing and transition economies' GDP growth



Economic growth in developing countries is projected at a 5.1 percent annual rate in 2006-13. Long-term growth in the transition economies (countries of the former Soviet Union and Central and Eastern Europe) is projected at around 4.2 percent annually, a significant reversal from the contraction of their economies in the 1990s. Furthermore, strong growth performance throughout the developing and transition countries should encourage relative stability throughout the regions.

- Significant long-term growth exceeding 4 percent is projected for Latin America. This will attract foreign capital inflows, sustaining growth.
- Growth in East and Southeast Asia is projected to be about 6 percent for the next decade, but will still be below the very strong average growth of over 7 percent in the 1990s.
- China's economic growth has been consistently the strongest in Asia, and is expected to average around 7 percent over the next decade.
- Poland, Hungary, and the Czech Republic all grow near 4.5 percent due to their successful integration into the global economy and their accession to the European Union.
- Russia, Ukraine, and the other former Soviet Republics benefit from their shift to market economies, with annual GDP gains of more than 4 percent projected for the next decade.

## Developing Asia's Growing Importance in Global GDP

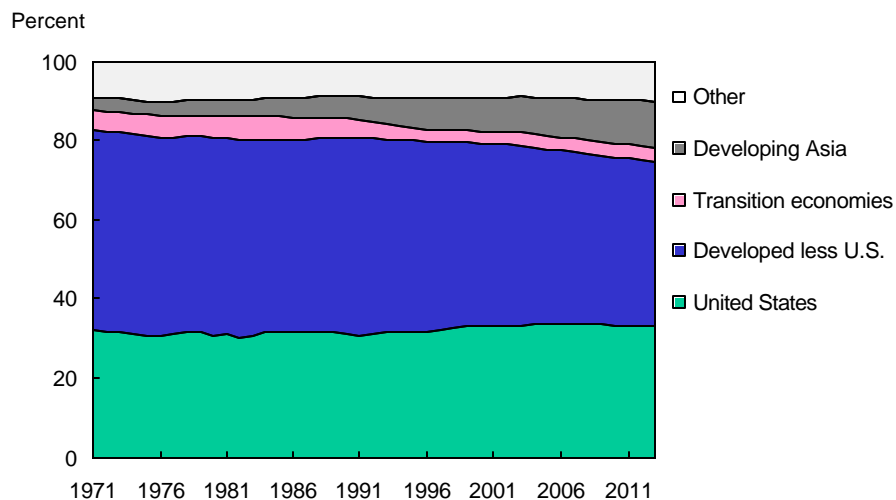
Economic growth rates vary from country to country and region to region, so over time the composition of world GDP changes. The United States generates around one third of world GDP despite having less than 5 percent of global population. This means that, on average, U.S. residents are more than six times as well off as the average citizen around the world. Because of high productivity growth, the United States continues to grow in line with global growth despite being a mature economy.

On the other hand, other developed countries, particularly Japan and Europe, have not been growing as fast as the global average and are therefore losing world GDP share. Nonetheless, even at the end of the 10-year baseline projection period, the 900 million citizens of the developed countries (out of a projected world population of more than 7 billion) will still be generating around 70 percent of world GDP.

If developed countries outside of the United States are losing global GDP shares, then where are shares increasing? The big gains have been made in developing Asia. These countries are projected to roughly quadruple their GDP share between 1971 and 2013, from around 3 percent to more than 12 percent. The high growth rates of developing Asian countries will continue to imply increasing shares of the world economy.

All other regions of the world have maintained stable, but relatively low shares of the global economy. Latin America, the Middle East, and Africa combined have only slightly more than a 10-percent share of world GDP. The transition economies (the former Soviet Union and the Central and Eastern European countries) have lost share of world GDP, moving from more

**Developing Asia's share of world GDP has grown**



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### **Developing Asia's Growing Importance in Global GDP--continued**

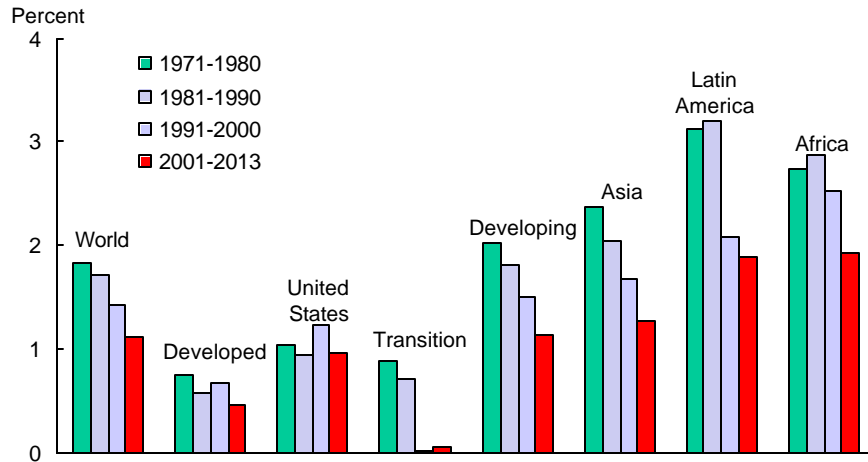
than 5.5 percent in the early 1980s to around 3 percent in 2000. Renewed growth in the transition countries will again begin to raise their share of world GDP. However, even at the end of the projection period, they are only likely to generate slightly more than 3.5 percent of world GDP.

#### **Implications**

The changing composition of world GDP has several important implications for U.S. and world agriculture. The relatively strong economic growth in developing Asia has resulted in a larger share of U.S. farm sector exports going to these markets, reflecting increased demand for agricultural products. Projected strong growth in the baseline implies that developing Asia will continue to become more important for U.S. agriculture.

A second implication reflects the increasing energy dependence of developing Asian economies. In contrast, developed economies, particularly the United States and Australia, have become relatively less energy dependent. Economic growth in developing Asia is concentrated in energy intensive manufacturing, while growth in the United States has been largely in the less energy intensive service sector. As a result, an increase in output in the developing Asian economy would require more energy than would a similar increase in the U.S. economy. If developing Asian growth is severely restricted by tight or expensive energy supplies, growth in U.S. agricultural exports to Asia could slow.

### Population growth



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

- World population growth declines from an annual rate of 1.7 percent in the 1980s to an average of about 1.1 percent per year during the projection period.
- Developed and transition economies have very low projected rates of population growth in the baseline, 0.4 and 0.1 percent respectively. The projected population growth rate for the United States is the highest among developed countries, in part reflecting immigration.
- Population growth rates in developing economies decline by almost half between the 1970s and the projection period, but remain above those in the developed and transition economies. As a consequence, the share of world population accounted for by developing countries continues to increase over the projection period.
- China's population growth rate slows from 1.5 percent per year in 1981-90 to 0.6 percent in 2006-13. The population growth rate in India, the world's second most populous nation, is projected to decline from 2.1 to 1.3 percent per year over the same periods, but this growth narrows the gap between its population and China's.
- Brazil's population growth rate falls from 2.1 percent per year in 1981-90 to 1.0 percent annually in 2006-13, and Sub-Saharan Africa's population growth rate declines from 2.9 to 2.0 percent per year in the same years.

## **Where Will Demographics Take the Pacific Food System?**

Economic growth and prices are closely monitored drivers of food demand in the Pacific region (countries in Asia, Oceania, North America, and South America that touch the Pacific Ocean). However, demographic changes--population growth, urbanization, and changes in age structure--may have more profound long-term implications for the region's food system.

### **400 Million More People to Feed**

Although the population in the Pacific region is expected to grow by 400 million people, from 2.6 billion in 2000 to 3.0 billion in 2020, the rate of growth is lower than in regions like Africa and the Middle East. Since the 1960s, population growth in the Pacific region, as well as globally, has slowed, marking a shift from the geometric growth rates of previous decades. Currently, the number of people added to the Pacific region is declining each year.

Population growth throughout the Pacific region will not be evenly distributed. By 2020, the largest absolute increase will occur in China (160 million), followed by Indonesia (60 million) and the United States (50 million). In contrast, Japan's population will begin to decline in 2007.

While population growth in the Pacific region is slower than the rest of the world, immigration is relatively more important. In 2000, 760,000 more people entered the region than exited; that number is still small relative to the region's average annual natural increase of about 25 million people.

Population growth will undoubtedly place demands on the Pacific agri-food system; more people means more food consumption. But the changing rates and distribution of growth will also have significant implications. Japan's declining population implies lower levels of food demand in this affluent nation, a leading importer of food and agricultural products. More rapid population and economic growth in developing and middle-income economies will increase their influence in the Pacific food system, altering production, consumption, and trade patterns.

### **Rapid Urban Population Growth**

The most significant demographic change in the region will be the rapid growth of urban populations, which are projected to grow by over 590 million people between 2000 and 2020, an increase of about 45 percent, compared to overall population growth of only 16 percent. Urban growth rates will be the most rapid in China and Southeast Asia; at intermediate rates in Latin America, North America, and Oceania; and slowest in East Asia. China's urban population is expected to grow by 300 million people in the next 20 years. Urban diets differ from those in rural areas, largely due to higher incomes and the substitution of animal products, fruits, and vegetables for more traditional food staples. Diets in urban areas tend to be more diverse, in terms of the variety of foods consumed. Urban dwellers tend to eat away from home more frequently and consume more convenience foods.

**--continued**



## Where Will Demographics Take the Pacific Food System? --continued

Marketing food products in the Pacific region will increasingly focus on densely populated urban centers, such as the Hong Kong-Shenzen-Pearl River Delta area, Shanghai, Jakarta, Bangkok, Manila, Santiago-Valparaiso, and Lima-Callao. Many of these urban areas are coastal and have modern port facilities, making them easily accessible to foreign suppliers. In some instances, foreign suppliers are more competitive in these coastal urban markets than inland producers who confront inadequate infrastructure and cost-raising policies, like tolls, in getting their products to market.

### **A Graying Population: Declining Food Demand and a Tax on the Economy**

Between 2000 and 2020, average life expectancy in the Pacific region is expected to rise from 72 to 77 years, and the median age from 30 to 36 years. The population age 65 and older will increase from 200 million in 2000 to 370 million in 2020. The Pacific countries with the oldest age structures are in East Asia, Australia, Canada, New Zealand, and the United States. These economies experienced the demographic transition—the decline in the fertility and mortality rates—quite a long time ago, driven by income growth, medical breakthroughs, healthcare investments, and public policy.

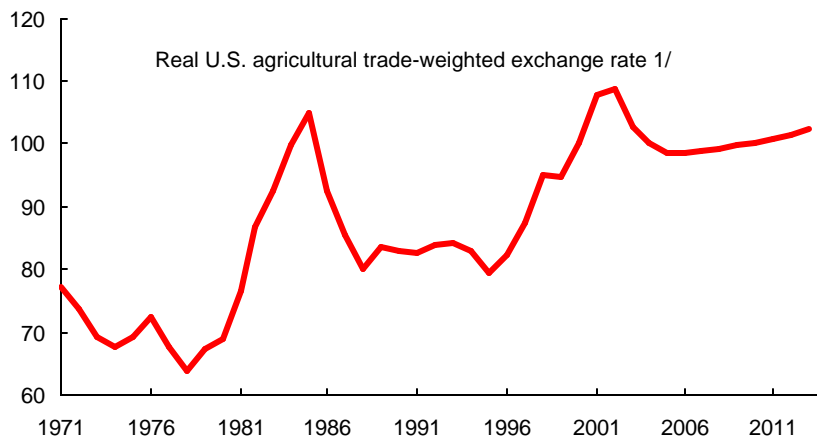
The changing age structure of the region's population affects food demand directly and indirectly. One direct effect is lower food demand. With an aging population, food demand declines, as activity levels and caloric needs decline. A second direct effect is change in dietary composition and the frequency of eating out. According to ERS research, older people eat more fresh fruit, fish, and eggs and eat out less frequently than younger people.

The dependent components of population (the young and the old relative to the working) for most of the high-income economies are projected to rise over the next two decades due to population aging. On the other hand, the dependent component for the lower income economies is projected to decline, providing an opportunity for these economies to save and invest resources for other purposes. This may give these economies a “demographic bonus,” or short-term economic boost.

**For more information on this topic**, see *Pacific Food System Outlook 2003-2004, Where Demographics Will Take the Food System*, Pacific Economic Cooperation Council, available at: <http://www.pecc.org/food/>

### U.S. dollar stays high

Index values, 2000=100

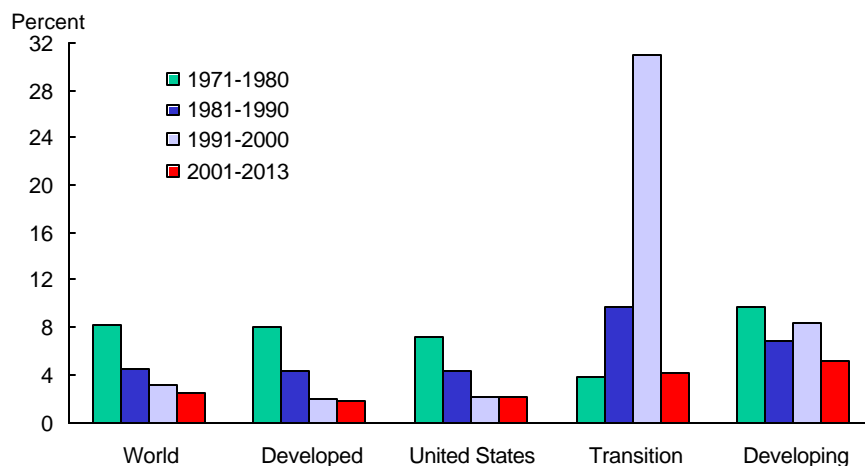


1/ See [www.ers.usda.gov/data/exchangerates/questions.htm](http://www.ers.usda.gov/data/exchangerates/questions.htm) for an explanation of real U.S. agricultural trade-weighted exchange rates.

While there is a depreciation of the U.S. dollar in the near term, the projected long-term level is high by historical standards. 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.

- When strong GDP growth returns in the United States, the dollar will likely appreciate.
- The U.S. dollar stays strong because capital flows into the United States to take advantage of well-functioning financial markets, a relatively risk-free environment, and high expected long-term financial returns.
- U.S. exports of bulk commodities and horticultural products tend to be the most sensitive agricultural products to the strong U.S. dollar due to relatively stronger global trade competition.

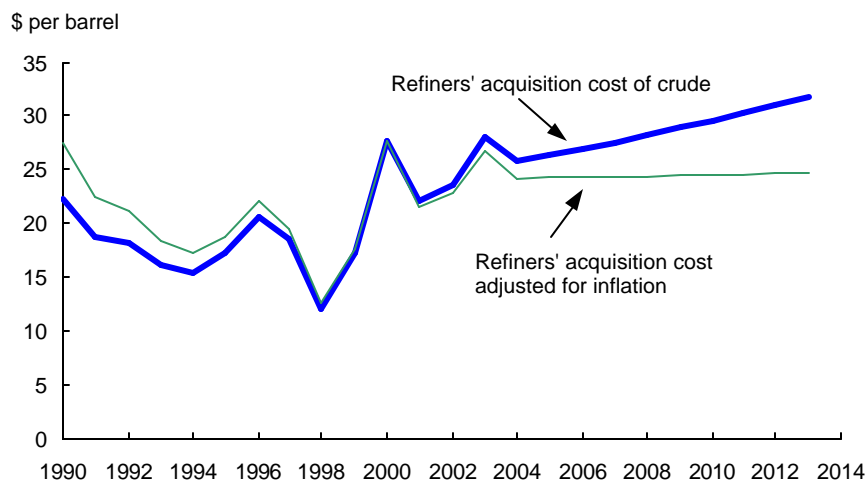
### Inflation rates



Inflation rates, which came down in the 1990s (except in the transition economies), are projected to remain low through 2013.

- For developed countries and the world as a whole, 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 30 percent in the 1990s, to less than 3.5 percent per year in the projection period.
- Inflation rates in developing countries are also projected to fall, from over 7 percent to just over 5 percent. Inflation in Asia declines to rates comparable to those in developed countries. Those in Latin America and Africa and the Middle East, while declining, will remain substantially above inflation rates in the rest of the world.
- As the U.S. and world economies move solidly into the expansion phase, inflationary pressures will begin. In response, the Federal Reserve Board and central banks in other countries are assumed to raise short-term interest rates to prevent an inflationary spiral. In addition, as world economies grow more rapidly, demand for credit will rise and further boost interest rates. Finally, a weaker dollar relative to the yen and the euro will require U.S. interest rates to rise to continue financing the trade deficit. However, low inflation will keep interest rates from moving to the high levels seen in the 1980s.

### Crude oil prices



Oil prices declined in 2001 from the high levels of 2000, but then moved back up in 2003 as uncertainties in the international oil market continued from an unstable situation in Iraq and as the economic expansion in developing Asia, especially in China, boosted oil demand. Continued growth in these economies will keep oil demand strong in 2004, but crude oil prices will drop modestly as some new crude supplies come onto the market. From 2005 forward, oil prices are projected to rise, but only slightly faster than the general inflation rate. These projections are generally consistent with the Energy Information Administration's January 2003 *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 relatively high energy dependence.
- Oil prices have historically affected prices of natural gas and supply conditions for nitrogen-based fertilizer. However, the links between the oil and natural gas markets have weakened significantly due to dramatic growth in the demand for natural gas and deregulation throughout the natural gas supply and demand system. As a result, prices for natural gas and fertilizer may be somewhat volatile over the next several years (see box, page 19).

### **Fertilizer Imports Would Rise if Natural Gas Market Tightened**

The market tightness and price volatility in the natural gas market seen in the winter of 2000-2001 and 2002-2003 may well persist for the medium term, which could have some implications for the farm sector. Although the direct use of natural gas on farms is small compared to use of other fuels and electric power, nitrogen-based fertilizer produced from natural gas feedstock is of considerable importance in the production of many crops, such as corn, cotton, and rice.

While the United States has been dependent on natural gas imports from Mexico and Canada, North America has been largely self-sufficient in natural gas production. The natural gas market could be tight as demand for this low-polluting fuel continues to be strong for use in electrical power generation, industrial production, and crude oil extraction in Canada.

Natural gas imports through shipments of liquefied natural gas (LNG) have become increasingly important and could provide some further relief to the demand pressures on prices. However, there currently are not enough facilities to convert LNG to natural gas to meet total estimated natural gas demand at current prices, with several years needed before new LNG conversion facilities will be available to ease this situation. Thus, natural gas prices could be high and somewhat volatile over the next several years.

If natural gas prices rise sharply, some U.S. plants that produce nitrogen-based fertilizer would shut down. Instead, the fertilizer company would import enough nitrogenates to meet its expected marketing needs. As a result, while fertilizer prices will rise when natural gas prices increase, the availability of fertilizer imports to augment domestic supplies will limit the size of nitrogenate price increases.

Table 1. U.S. macroeconomic assumptions

Item	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>GDP, billion dollars</b>												
Nominal	10,446	10,836	11,350	11,947	12,564	13,213	13,895	14,613	15,368	16,161	16,996	17,873
Real 1996 chained dollars	9,440	9,648	9,966	10,315	10,614	10,922	11,238	11,564	11,900	12,245	12,600	12,965
percent change	2.4	2.2	3.3	3.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
<b>Disposable personal income</b>												
Nominal (billions)	7,810	8,154	8,553	9,015	9,502	10,015	10,556	11,126	11,727	12,360	13,028	13,731
percent change	5.6	4.4	4.9	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Nominal per capita, dollars	27,060	27,959	29,035	30,299	31,626	33,017	34,475	36,006	37,608	39,289	41,049	42,893
percent change	4.5	3.3	3.8	4.4	4.4	4.4	4.4	4.4	4.4	4.5	4.5	4.5
Real (billion 1996 chained)	7,032	7,229	7,482	7,759	8,007	8,263	8,528	8,801	9,082	9,373	9,673	9,982
percent change	4.2	2.8	3.5	3.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Real per capita, 96 dollars	24,364	24,788	25,398	26,077	26,650	27,241	27,851	28,480	29,127	29,793	30,479	31,183
percent change	3.1	1.7	2.5	2.7	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3
<b>Consumer spending</b>												
Real (billion 1996 chained)	6,576	6,760	6,943	7,144	7,330	7,520	7,716	7,916	8,122	8,333	8,550	8,772
percent change	3.1	2.8	2.7	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
<b>Inflation measures</b>												
GDP price index, chained	110.7	112.3	113.9	115.8	118.4	121.0	123.6	126.4	129.1	132.0	134.9	137.9
percent change	1.1	1.5	1.4	1.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
CPI-U, 82-84=100	179.9	184.0	187.1	191.4	196.2	201.1	206.1	211.3	216.6	222.0	227.5	233.2
percent change	1.6	2.3	1.7	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PPI, finished goods 82=100	138.9	142.1	144.9	147.1	149.4	151.8	154.2	156.7	159.2	161.8	164.4	167.0
percent change	-1.3	2.3	2.0	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
PPI, crude goods 82=100	108.1	125.4	120.4	121.6	122.8	124.1	125.3	126.6	127.8	129.1	130.4	131.7
percent change	-10.6	16.0	-4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Crude oil price, \$/barrel</b>												
Refiner acq. cost, imports	23.6	28.0	25.7	26.2	26.9	27.5	28.2	28.8	29.5	30.2	31.0	31.7
percent change	7.4	18.8	-8.2	1.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Real 1996 chained dollars	21.3	25.0	22.6	22.6	22.7	22.7	22.8	22.8	22.9	22.9	23.0	23.0
percent change	6.2	17.0	-9.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>Labor compensation per hour</b>												
nonfarm business, 92=100	139.8	144.4	149.3	154.4	159.7	165.1	170.7	176.5	182.5	188.7	195.1	201.7
percent change	2.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
<b>Interest rates, percent</b>												
3-month T-bills	1.6	1.0	1.4	3.5	3.8	4.3	4.3	4.3	4.3	4.3	4.3	4.3
3-month commercial paper	1.7	1.2	1.6	3.9	4.2	4.5	4.7	4.7	4.7	4.7	4.7	4.7
Bank prime rate	4.7	4.1	4.4	5.7	6.4	7.5	8.0	8.0	8.0	8.0	8.0	8.0
Treasury bonds (10-year)	4.6	4.0	4.4	4.7	5.2	6.0	6.2	6.2	6.2	6.2	6.2	6.2
Moody's Aaa bonds	6.5	5.7	6.1	6.4	6.7	7.6	7.8	7.8	7.8	7.8	7.8	7.8
<b>Civilian unemployment</b>												
rate, percent	5.8	6.2	5.9	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.4	5.4
Nonfarm payroll emp., millions	130.4	130.0	131.5	133.0	134.5	135.9	137.4	138.9	140.3	141.7	143.2	144.6
percent change	-1.1	-0.3	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
<b>Total population, million</b>												
percent change	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9

Domestic macroeconomic assumptions were completed in September 2003.

Table 2. Global real GDP growth assumptions

Region/country	Share of world GDP 1996-2000								Average		
		2001	2002	2003	2004	2005	2006	2007	1991-2000	2001-2005	2006-2013
	Percent	Percent change									
World	100.0	1.0	2.0	2.0	3.0	3.3	3.2	3.2	2.8	2.3	3.2
less United States	69.6	1.4	1.8	2.0	2.9	3.2	3.3	3.3	2.5	2.2	3.3
Developed economies	76.1	0.7	1.6	1.5	2.4	2.7	2.6	2.5	2.4	1.8	2.5
United States	30.5	0.3	2.4	2.2	3.3	3.5	3.1	3.0	3.3	2.3	2.9
Canada	2.1	1.5	3.4	2.4	3.5	3.3	3.2	3.2	2.7	2.8	3.2
Japan	15.9	-0.6	0.2	0.8	1.1	1.3	1.5	1.5	1.4	0.6	1.5
Australia	1.2	3.9	3.6	3.5	3.2	3.3	3.5	3.5	3.7	3.5	3.5
European Union-15	24.9	1.5	1.3	1.0	1.8	2.3	2.4	2.4	2.0	1.6	2.4
Other Western Europe	1.3	1.4	1.3	1.3	2.0	2.2	2.4	2.4	1.8	1.6	2.4
Transition economies	2.3	4.2	3.6	4.1	4.5	4.3	4.2	4.2	-1.8	4.1	4.2
Eastern Europe	1.2	2.4	2.7	3.5	4.3	4.2	4.1	4.1	1.5	3.4	4.1
Czech Republic	0.2	0.5	2.0	2.9	3.9	4.4	4.6	4.5	0.1	2.7	4.4
Hungary	0.1	3.8	3.1	3.9	4.5	4.5	4.5	4.5	0.9	4.0	4.5
Poland	0.5	1.0	1.3	3.1	4.5	4.4	4.4	4.4	3.7	2.9	4.4
Former Soviet Union	1.1	6.2	4.5	4.6	4.7	4.3	4.2	4.2	-4.2	4.9	4.2
Russia	0.8	5.0	4.3	4.5	4.8	4.4	4.2	4.2	-3.9	4.6	4.2
Ukraine	0.1	9.1	4.8	4.5	4.6	4.2	4.2	4.2	-7.7	5.4	4.2
Other	0.2	9.1	5.0	4.8	4.3	4.3	4.3	4.3	-3.5	5.5	4.3
Developing countries	21.6	1.9	3.1	3.5	5.1	5.2	5.2	5.1	4.8	3.7	5.1
Asia	9.7	4.0	5.8	5.5	6.0	6.0	6.0	6.0	6.8	5.4	6.0
East & Southeast Asia	7.4	4.0	6.1	5.6	6.2	6.2	6.2	6.1	7.3	5.5	6.1
China	3.1	7.3	8.0	8.2	7.7	7.5	7.2	7.0	10.2	7.5	7.0
Hong Kong	0.5	0.1	2.3	1.7	4.0	4.3	4.7	4.8	4.4	2.5	4.8
South Korea	1.4	3.0	6.3	3.5	5.4	5.4	5.4	5.4	6.2	4.7	5.2
Taiwan	0.9	-1.9	3.5	3.4	4.6	4.8	5.3	5.2	6.4	2.9	5.2
Indonesia	0.5	3.3	3.7	3.5	4.3	4.8	5.0	5.0	4.4	3.9	5.0
Malaysia	0.3	0.4	4.1	4.1	5.3	5.5	5.8	5.7	7.2	3.9	5.5
Philippines	0.2	2.7	4.6	4.4	4.6	4.8	5.0	5.0	4.0	4.2	5.0
Thailand	0.4	1.8	4.4	3.9	4.9	5.4	5.3	5.2	4.5	4.1	5.2
Vietnam	0.1	6.8	6.5	6.5	7.0	6.9	6.8	6.7	7.5	6.7	6.5
South Asia	1.7	5.1	5.1	5.2	5.4	5.4	5.7	5.7	5.2	5.3	5.7
India	1.4	5.4	5.2	5.3	5.5	5.5	5.8	5.8	5.5	5.4	5.8
Pakistan	0.2	2.7	4.4	5.1	5.1	5.1	5.1	5.1	4.0	4.5	5.1
Bangladesh	0.1	5.3	4.8	4.9	5.3	5.2	5.2	5.1	4.8	5.1	5.1
Latin America	6.4	0.0	-0.9	2.4	3.6	3.8	3.9	4.0	3.4	1.8	4.1
Caribbean & Central America	0.6	2.5	2.0	4.2	4.1	3.5	3.4	3.4	3.6	3.3	3.4
Mexico	1.7	-0.3	0.9	2.6	3.8	4.2	4.3	4.4	3.6	2.2	4.5
South America	4.1	-0.3	-2.2	2.0	3.4	3.7	3.8	3.9	3.3	1.3	4.0
Argentina	1.0	-4.5	-10.9	2.3	3.3	3.7	3.5	3.6	4.7	-1.2	3.7
Brazil	1.9	1.5	1.5	2.2	3.2	3.5	3.7	3.9	2.7	2.4	4.1
Other	1.2	0.0	-2.0	1.6	3.7	4.1	4.0	4.0	3.3	1.5	4.0
Middle East	3.8	-0.7	2.5	-0.5	5.2	5.5	5.0	4.6	3.8	2.4	4.2
Iran	0.9	4.8	3.9	4.3	4.6	3.7	3.8	3.8	4.1	4.3	3.8
Iraq	0.6	-6.0	5.5	-22.0	37.0	19.8	9.3	5.9	4.1	6.9	5.1
Saudi Arabia	0.6	1.2	1.2	3.3	3.5	3.9	3.7	3.6	2.2	2.6	3.3
Turkey	0.6	-7.4	7.6	0.3	2.8	2.2	3.5	4.2	3.6	1.1	4.1
Other	1.1	0.9	2.1	3.1	4.0	4.0	4.0	4.0	4.6	2.8	4.0
Africa	1.6	3.2	3.3	3.2	4.0	4.2	4.4	4.3	2.7	3.6	4.2
North Africa	0.6	3.5	3.2	3.6	4.0	4.1	4.4	4.6	3.3	3.7	4.5
Algeria	0.2	2.1	3.8	4.1	5.2	5.0	5.3	5.4	1.7	4.0	5.4
Egypt	0.3	2.9	2.3	2.6	2.8	3.2	3.8	4.0	4.4	2.8	4.0
Morocco	0.1	6.5	5.5	5.5	4.8	4.5	4.3	4.3	2.4	5.4	4.3
Tunisia	0.1	4.9	1.7	4.1	5.5	5.4	5.3	5.2	4.8	4.3	5.0
Sub-Saharan Africa	0.6	3.5	3.6	3.3	4.4	4.8	4.7	4.6	2.7	3.9	4.6
South Africa	0.4	2.2	3.0	2.5	3.6	3.4	3.8	3.6	1.7	2.9	2.8

Global macroeconomic assumptions were completed in September 2003.

Table 3. Population growth assumptions

Region/country	Population in 2001	Population							Average		
		2001	2002	2003	2004	2005	2006	2007	1991-2000	2001-2005	2006-2013
	Millions	Percent change									
World <sup>1</sup>	6,154	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.4	1.2	1.1
less United States	5,868	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.4	1.2	1.1
Developed economies	859	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.4
United States	286	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.2	1.0	0.9
Canada	32	1.0	1.0	1.0	0.9	0.9	0.9	0.9	1.2	1.0	0.8
Japan	127	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.3	0.1	-0.1
Australia	19	1.0	1.0	0.9	0.9	0.9	0.9	0.8	1.2	0.9	0.8
European Union-15	378	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	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Eastern Europe	121	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	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2
Russia	145	-0.4	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	-0.3	-0.2
Ukraine	49	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6	-0.5	-0.7	-0.5
Other	96	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.7	0.7	1.0
Developing countries	4,885	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.7	1.4	1.3
Asia	3,291	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.5	1.2	1.1
East & Southeast Asia	1,822	0.9	0.9	0.9	0.8	0.8	0.8	0.8	1.2	0.9	0.8
China	1,271	0.7	0.6	0.6	0.6	0.6	0.6	0.6	1.0	0.6	0.6
Hong Kong	7	1.3	1.3	1.2	1.2	1.2	1.1	1.1	2.3	1.2	1.0
South Korea	48	0.8	0.7	0.7	0.6	0.6	0.6	0.6	1.0	0.7	0.5
Taiwan	22	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.9	0.7	0.5
Indonesia	228	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.8	1.5	1.3
Malaysia	22	2.0	1.9	1.9	1.9	1.8	1.8	1.8	2.2	1.9	1.7
Philippines	81	2.0	2.0	2.0	1.9	1.9	1.8	1.8	2.2	2.0	1.7
Thailand	63	1.1	1.0	1.0	0.9	0.9	0.9	0.8	1.2	1.0	0.7
Vietnam	80	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.7	1.3	1.3
South Asia	1,296	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.8	1.6	1.4
India	1,019	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.8	1.5	1.3
Pakistan	145	2.2	2.1	2.1	2.0	1.9	1.9	1.9	2.2	2.1	1.8
Bangladesh	133	2.0	2.0	2.1	2.1	2.1	2.1	2.1	1.7	2.0	2.0
Latin America	531	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.7	1.4	1.2
Caribbean & Central America	75	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.7	1.6	1.4
Mexico	102	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.7	1.5	1.2
South America	355	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.7	1.3	1.1
Argentina	38	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.3	1.1	0.9
Brazil	178	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.5	1.2	1.0
Other	139	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.9	1.6	1.4
Middle East	247	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.1	1.9	1.9
Iran	67	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.1	1.1
Iraq	23	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.3	2.8	2.5
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	1.2	1.2	1.2	1.1	1.1	1.1	1.6	1.2	1.0
Other	68	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.9	2.7	2.5
Africa	815	2.2	2.1	2.1	2.0	2.0	2.0	1.9	2.5	2.1	1.8
North Africa	144	1.8	1.8	1.8	1.7	1.7	1.6	1.6	2.1	1.8	1.5
Algeria	32	1.7	1.7	1.7	1.6	1.6	1.6	1.6	2.1	1.7	1.5
Egypt	72	2.0	2.0	1.9	1.9	1.8	1.8	1.7	2.2	1.9	1.6
Morocco	31	1.7	1.7	1.7	1.6	1.6	1.6	1.6	2.0	1.7	1.5
Tunisia	10	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.6	1.1	1.0
Sub-Saharan Africa	629	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.7	2.3	2.0
South Africa	43	0.5	0.3	0.1	-0.1	-0.4	-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 2003.