

## Global Growth, Structural Shifts, and Implications for U.S. Agricultural Exports

Differences in foreign economic growth patterns are statistically one of the strongest factors associated with changes in U.S. agricultural exports (Mattson and Koo, 2005). While overall global food demand generally tracks aggregate population and income growth, changes in world food trade reflect not just the rate of GDP growth in importing countries but also the changing preferences for foreign products and the level of economic development. In recent decades, for example, unstable U.S. export growth in large part stemmed from slowdowns in both income growth and population growth in key U.S. markets, such as Japan and the EU, the leading destinations for U.S. exports for most of the past 40 years. Over the period, these markets experienced modestly rising per capita incomes, but total food consumption and import growth were eventually restrained by limited population growth and the declining propensity for consumers to spend additional income on food, which is characteristic of consumers in high-income countries (Seale, Regmi, and Bernstein, 2003). More recently, however, economic growth in emerging markets has begun to alter global and U.S. agricultural export patterns, contributing to renewed export growth.<sup>4</sup>

A key factor behind the renewed growth of U.S. exports is that demand from emerging markets is finally having an appreciable impact on both global food demand and U.S. exports. Although emerging markets contributed to the growth of global and U.S. food trade throughout the 1990s, gains since 2000 have been far more dramatic. Global agricultural trade expanded less than 25 percent during the 1990s but has already grown 50 percent in the first part of this decade, spurred by rising incomes in emerging markets. As a result, the share of U.S. exports destined for emerging markets climbed from 30 percent during the early 1990s to 43 percent in 2006. Overall, U.S. exports are up from \$51 billion in FY 2000 to \$78 billion in FY 2007.

This growth is attributed mostly to middle-income countries that are experiencing rapid economic development, such as Mexico and China.<sup>5</sup> These two countries now account for 25 percent of U.S. exports—nearly triple their share in 1990. Structural features of the world economy will continue to affect U.S. agricultural exports in the long term—the next decade and beyond. In some countries, trade liberalization and other economic reforms have reinforced or accelerated trade expansion (in other cases, trade and exchange rate policies have hindered trade), but effects of trade policy are inherently difficult to distinguish from the effects of economic growth and are not explicitly considered in this report (see box, “A Historical View of U.S. Agricultural Exports”).

<sup>4</sup>Income growth has not always translated into food import growth. China, for example, only recently became a major market for the United States but only for a few basic commodities. A reason for the lack of high-value food product trade with China is that much of the country’s newly formed wealth remains highly concentrated among its wealthiest consumers (Gale and Huang, 2007). Japan, the EU, and NAFTA partners still account for about 70 percent of U.S. processed food exports. A shift toward a rising share of processed products in U.S. agricultural exports subsided with slowing exports to Japan and the EU and limited growth to non-NAFTA trading partners.

<sup>5</sup>In the results section of this report, we distinguish broadly between groups of countries at three levels of economic development: high-income markets, transition and other developing economies, and fast-growing (emerging) economies. High-income markets consist primarily of such countries as Japan and Canada and the regions of Western Europe and Oceania. Transition and other developing economies refer primarily to the former Soviet Union, Eastern Europe, and Africa. Fast-growing (emerging) economies refer to East Asian countries (other than Japan), Southeast Asia, South Asia, Mexico, and Central America.

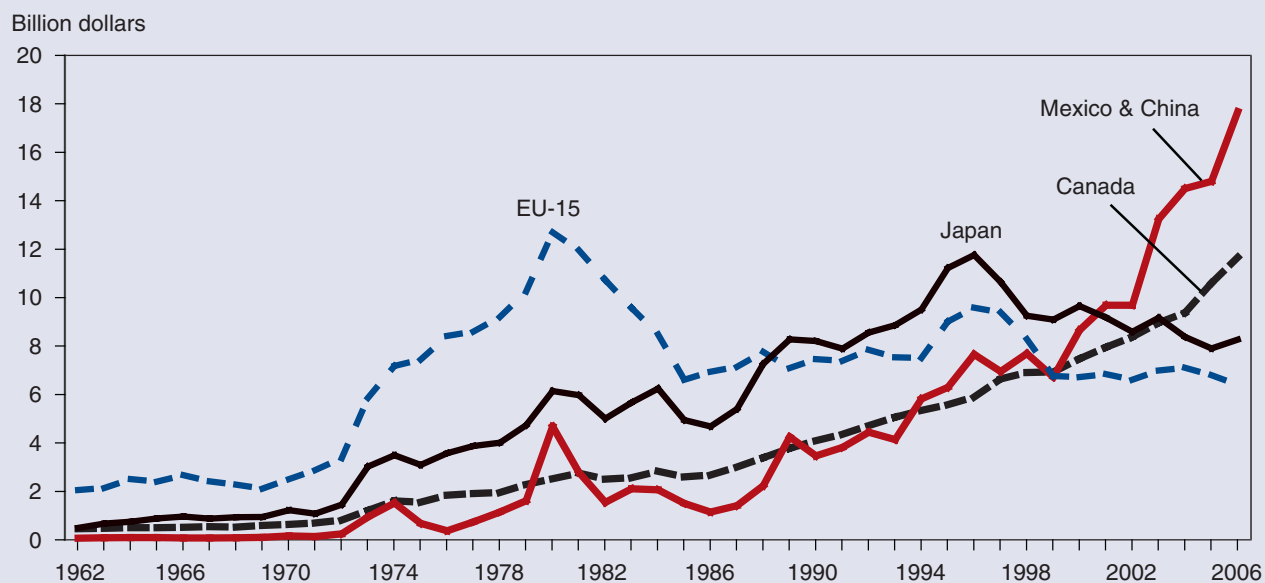
## A Historical View of U.S. Agricultural Exports

Compared with the steady growth of U.S. agricultural imports, the growth of U.S. exports has been volatile, with periods of intermittently strong growth occurring in a succession of developed-country markets: first the European Union (EU), then Japan, and, finally, Canada. Export growth to these markets was often driven by policy-related factors, but the lack of continuity in export growth to these markets (Canada being an exception) is also associated with the slow pace of income and population growth and limited expansion of food consumption (see Mattson and Koo, 2005, for a detailed description of changes in U.S. agricultural exports and imports by region and category).

The EU was the leading market for the United States for more than three decades, but weakening demand and increased domestic supply from the EU—combined with the emergence of the EU’s Common Agricultural Policy—contributed to sharply reduced demand for U.S. agricultural products by the mid-1980s. By the late 1980s, the EU’s position as the leading market for U.S. exports was supplanted by Japan. Trade liberalization continued to boost U.S. exports to Japan in the early 1990s, but trade to Japan has been declining since 1996, even before the loss of the beef market following the December 2003 discovery in the U.S. of a cow with Bovine Spongiform Encephalopathy (BSE). As with the EU, overall food demand in Japan stagnated due to slowing population growth and lackluster economic conditions.<sup>1</sup> By 2006, the combined share of U.S. exports to the EU and Japan fell to 22 percent—down from 50 percent three decades earlier.

In 2002, Canada replaced Japan as the largest single-country market for U.S. agricultural exports. U.S. export growth to Canada, although remaining strong and steady, is not likely to continue at the same pace as in the past 15 years, when the impacts of the 1989 CAFTA and 1994 NAFTA trade liberalization process unfolded. Import growth in Canada, unlike in other high-income markets, is not driven by income and population-related changes. Instead, trade between the United States and Canada has been driven largely by market integration and the ongoing industry rationalization resulting in increased efficiency in each country’s food processing and distribution sectors.

### U.S. agricultural exports to some traditionally important high-income markets have declined



Source: Prepared by USDA, ERS using data from U.S. Department of Commerce, Bureau of the Census.

<sup>1</sup>In contrast, U.S. agricultural imports have risen sharply in recent years, exceeding 10 percent growth annually since 2001. But, as detailed later, this pattern is not as closely tied to income or population growth in the United States, so the discussion here focuses on U.S. exports.

## Development, Population, and Faster World Growth

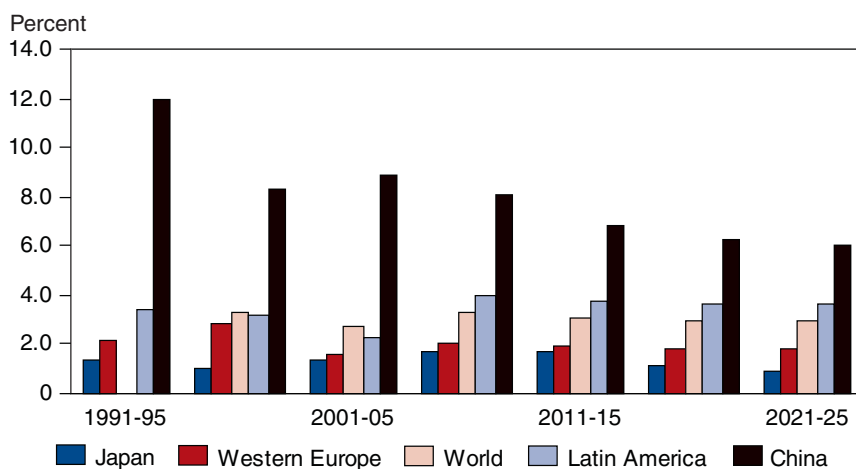
Although U.S. exports historically have been quite volatile, there are a number of reasons to believe that the increased prominence of emerging markets in global food trade could lead to periods of sustained export growth. In the past decade, the emerging countries' share of global GDP has risen from 43 percent in 1996 to 50 percent in 2006 (as measured by purchasing power parity), and the emerging countries' share of global trade has climbed at an even faster pace. According to recent growth projections, developing regions, such as China, Southeast Asia, Mexico, Central America, and India, will likely continue to increase their share of global GDP in the coming decades. They will also account for 95 percent of the expected increase of 1 billion persons to the global population by the year 2020.

Because faster growing emerging markets will continue to increase their share of global economic activity, overall world GDP and trade growth is expected to strengthen in the next decade (Global Insight). This growth should continue even as population and GDP growth rates subside in some individual countries. China, other Asia-Pacific countries (excluding Japan), and Latin America are not expected to grow as fast as in the recent past, but GDP and population growth rates are still expected to be relatively strong, especially compared with those in Europe and Japan (figs. 2 and 3). Even so, the proportion of U.S. agricultural exports destined for markets with GDPs growing faster than that of the United States has increased steadily, exceeding 55 percent in 2006. Consequently, the increasing prominence of emerging economies in global trade is likely to exert an ongoing influence on the U.S. agricultural sector.<sup>6</sup>

The rapid growth in global agricultural trade also is attributed in part to the dual role played by emerging economies as both exporters and importers. In most developing countries, the share of the population employed in agriculture remains large, and agriculture continues to be a major contributor to GDP growth. As a result, emerging economies with favorable natural

<sup>6</sup>Another dimension of global agriculture is the ongoing change in the composition of trade. In the past two decades, imports of processed products by high-income countries have been growing faster than global trade in bulk commodities, so the composition of global agricultural trade has shifted from bulk toward high-value products. Thus, while the U.S. has generally maintained its global market share in bulk commodities, its total share of global agricultural trade has drifted downward as the composition has shifted to high-value products. U.S. high-value product exports are also notably more concentrated in far fewer markets (such as Canada, Japan, and the EU) than are bulk exports, so limited U.S. export growth was also associated with the lack of representation in faster growing markets.

Figure 2  
**GDP growth in mature markets lags**

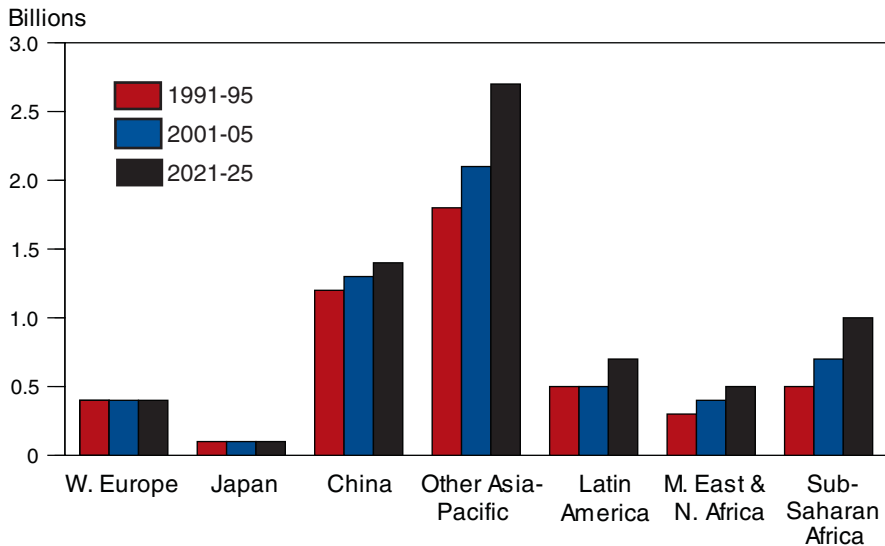


Historical and projected annual GDP growth (5-year average). Data for "world" not available for 1991-95.

Source: Prepared by USDA, ERS using data from Global Insight.

Figure 3

**Population growth is strongest in Asia and Latin America**



Source: Prepared by USDA, ERS using data from Global Insight.

resources for agriculture have increasingly become both major exporters and importers of agricultural goods as they specialize in the crop and livestock sectors for which they have a comparative advantage. For example, Mexico’s agricultural exports to the United States have been nearly as large as agricultural imports from the United States over the last decade, and China has simultaneously increased exports of labor-intensive horticultural crops and imports of more land and capital-intensive crops, such as oilseeds and cotton. Other countries, such as Brazil and Argentina, have emerged as major agricultural exporters and competitors with the United States in a number of crops (Schnepf, Dohlman, and Bolling, 2001). Consumers in many of the faster growing markets also have diversifying diets that cannot be satisfied by domestic agricultural production alone. As incomes rise, food demand can outgrow domestic production, fueling import demand (Mellor, 1982).

**Sustained Demand and Implications for U.S. Agricultural Exports**

In addition to being stimulated by faster overall world growth, food expenditure shares also will factor into sustained growth of agricultural exports. Food purchases represent a much larger share of new expenditures in developing countries than in high-income markets. For example, for every additional dollar of income, consumers in Egypt, Indonesia, and Vietnam spend more than 25 cents on food, whereas consumers in France, Japan, and the United States spend less than 10 cents (USDA, 2002; Regmi, 2001). It will take decades for the developing countries to reach a level of development—characterized by high per capita incomes, a large middle class, and an aging population—where food demand becomes saturated.

The larger proportion of young people in developing countries is another indicator suggesting more sustained demand growth than in the past. Slowing economic growth and food demand is associated with an aging, high-income population, and food demand tends to taper off as the popula-

tion matures, even while per capita incomes may rise. Less than 15 percent of the population in Japan and Europe is under age 14, in contrast to roughly a third of the population in India and Mexico (table 1). The larger proportion of young people (under age 14) in developing countries favors continued growth in food demand. The impacts of developing-country population and income growth—and associated trends, such as urbanization and a more youthful age structure—broadly correspond to changes in food demand and agricultural trade.

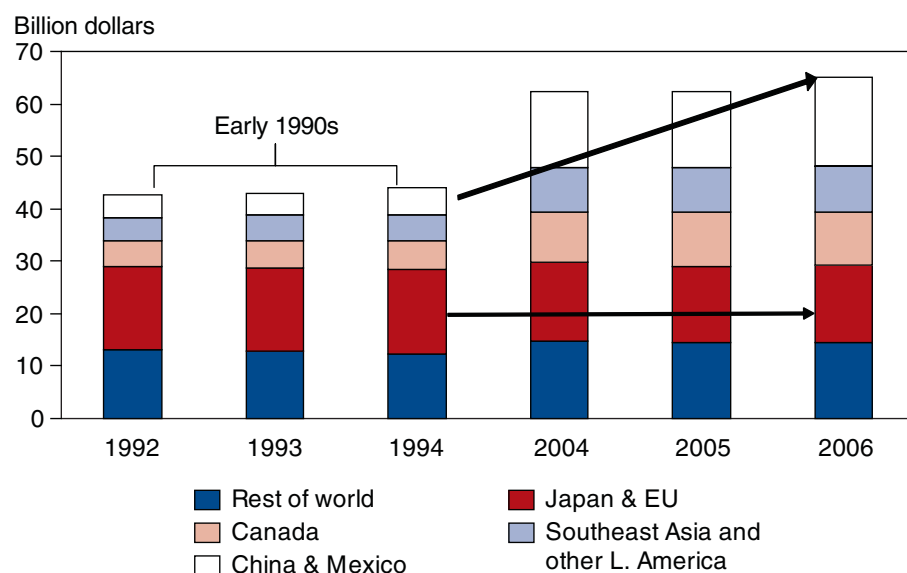
Continued per capita income gains in emerging markets, such as developing Asia and Latin America, have already transformed these regions into increasingly important destinations for U.S. agricultural exports. In the past decade, there has been a pronounced shift in U.S. agricultural export destinations. In 2006, for example, exports to China and Mexico combined exceeded those to the European Union and Japan for the first time (fig. 4).

Table 1  
**Disparities in per capita GDP, imports, and age structure of population, 2004**

	Per capita GDP	Per capita agri-imports	Share of population age 65 and above	Share of population age 0-14
	<i>U.S. dollars</i>		<i>Percent</i>	
Japan	38,609	325	19	14
United States	36,655	205	12	20
Canada	24,688	475	13	18
European Union	20,934	200	17	15
Mexico	5,968	129	5	32
China	1,323	19	7	22
India	538	5	5	33
World	5,516	100	7	28

Source: Prepared by USDA, ERS using data from World Bank (2006) and FAO (2006).

Figure 4  
**U.S. exports shifting toward emerging markets**



Source: Prepared by USDA, ERS using data from U.S. Department of Commerce, Bureau of the Census.