

The Main Street Economist

Regional and rural analysis



2008

FEDERAL RESERVE BANK of KANSAS CITY

CAN RISING EXPORTS SUSTAIN THE FARM BOOM?

By MARIA AKERS, ASSISTANT ECONOMIST, AND JASON HENDERSON, ASSISTANT VICE PRESIDENT AND OMAHA BRANCH EXECUTIVE

Agricultural prosperity in the United States has historically been tied to exports. In the 1970s and mid-1990s, surging exports fueled robust farm incomes. Today, sharp gains in both the price and quantity of exported goods have pushed U.S. exports to their highest levels in nearly three decades. Understanding whether this prosperity can endure requires examining the dynamics of U.S. agricultural trade.

A number of factors have converged to boost U.S. agricultural exports. Drought in some crop producing regions has tightened global commodity supplies. At the same time, expanding populations and strong economic growth around the world are spurring food demand. Moreover, the sharply declining dollar has made U.S. products more affordable for foreign consumers.

U.S. agriculture has clearly benefited from this environment. Changing trends, however, could quickly redraw the outlook for exports. This article explores whether agricultural exports are likely to help sustain the current farm boom.

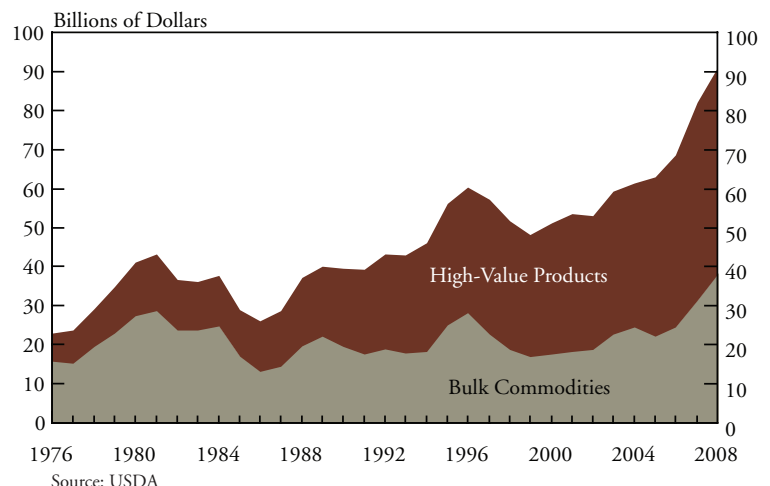
AGRICULTURAL EXPORTS BOOM

U.S. agricultural exports have surged in the 21st century, maintaining agriculture's positive trade balance. These gains have been driven

primarily by a broad-based rise in the type of agricultural exports and the increasing importance of North American markets to U.S. agriculture.

Since 2000, U.S. agricultural exports have continued to outpace imports. In 2007, exports reached \$90 billion, up 46 percent in real terms (Chart 1). Rising exports outstripped the strong agricultural import gains, boosting the U.S. agricultural trade surplus to \$18 billion, its highest level since 1998. The U.S. Department of Agriculture (USDA) projects the value of agricultural exports will reach a record high \$101 billion in fiscal 2008, boosting the trade surplus to a record \$24.5 billion.

CHART 1
U.S. AGRICULTURAL EXPORTS



Robust agricultural exports last year were fueled by large sales of bulk commodities. Driven by rising prices and increased sales, bulk commodity exports more than doubled their 2000 values, accounting for approximately 40 percent of all U.S. agricultural exports. Bulk commodity sales, of course, vary by crop. For example, the United States exports half of its wheat crop but only a fifth of its corn harvest. These shares have remained relatively stable in this decade, although last year's large harvest led to a bulk commodity export boom. Even with burgeoning ethanol demand at home, last year's bumper corn crop pushed corn exports to 57 million metric tons, up 19 percent from 2000.

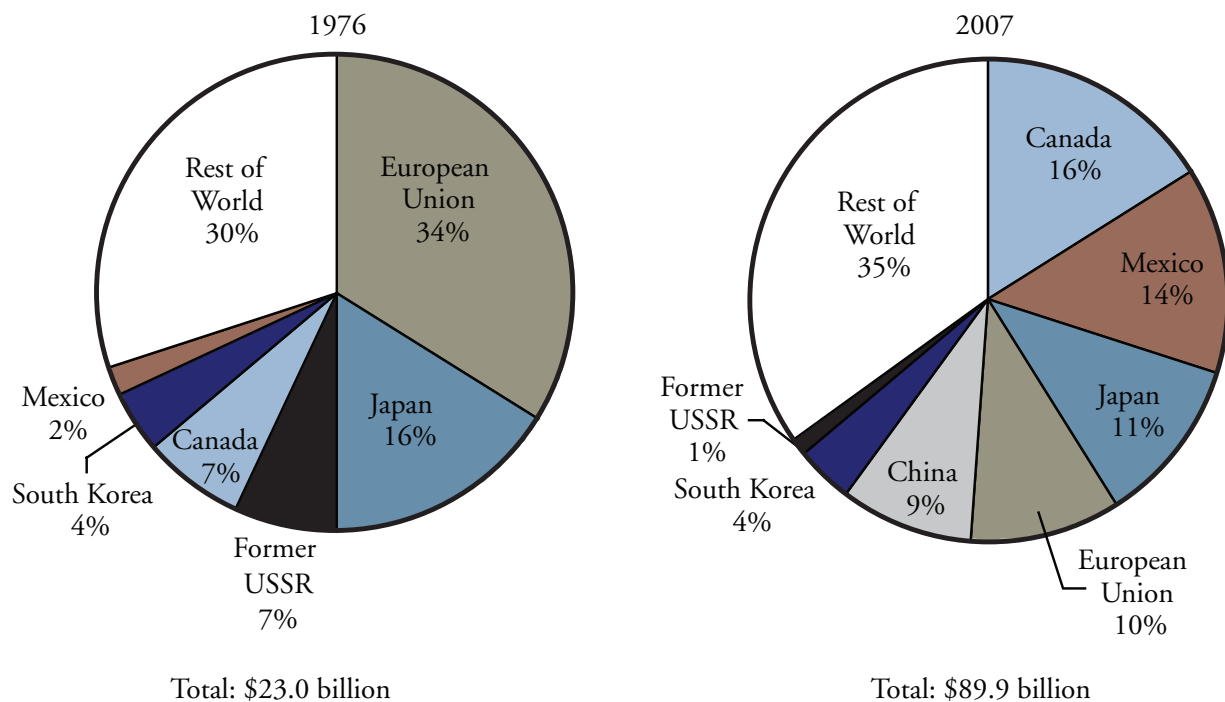
The biggest gains in U.S. exports continue to emerge in value-added or processed agricultural goods. These products have accounted for 60 percent of U.S. agricultural exports since 2000. In 2007, value-added exports reached \$53 billion. Horticultural and livestock products make up the majority of high-value agricultural exports, representing 35 percent and 33 percent of value-added exports, respectively. Livestock exports have varied significantly in recent years due to foreign trade

restrictions on beef after an outbreak of mad cow disease in late 2003. Falling beef exports were partly offset by rising pork and poultry sales. But the biggest gains emerged in dairy products, led by strong dry milk sales. U.S. exports of fruit and nuts also rose sharply in 2007.

While more U.S. products are being shipped abroad, the destinations of U.S. exports have changed over time. Since the North American Free Trade Agreement (NAFTA) was ratified, U.S. trade with Canada and Mexico has skyrocketed. In 2007, these two countries purchased almost a third of U.S. agricultural exports (Chart 2). In 2002, Canada displaced Japan as the number-one export market for U.S. agricultural goods, primarily by purchasing fruits and vegetables as well as some feed grains. In 2004, Mexico emerged as the second-largest U.S. export market behind Canada by importing a broad variety of U.S. products, mostly grains and feeds, but also a growing share of meat products, oilseeds, and fresh produce.

East Asia remains a major export market, representing four of the top seven markets for U.S. farm goods. Japan and China are the leading export markets in East Asia, followed by South Korea and Taiwan. Japan imports the

CHART 2
U.S. AGRICULTURAL EXPORT DESTINATIONS



Source: USDA

most grains, primarily corn and coarse feeds for livestock production. Grains, both corn and wheat, are also the main agricultural commodities sent to South Korea and Taiwan. China is the largest export market for U.S. oilseed and cotton production. Overall, exports to East Asia have risen since 2000, despite lingering trade restrictions on U.S. beef due to the mad cow scare.

The European Union is the fourth-largest export market for U.S. agriculture. EU demand is largely for high-value products, especially horticultural goods such as nuts and wine. U.S. bulk commodity shipments to Europe have been sharply curtailed (except for soybeans) due to stiff export competition from Russia, Ukraine, Kazakhstan, and Eastern European countries in the Black Sea region. Bans on some genetically modified crops have further limited U.S. trade opportunities. Nevertheless, U.S. bulk grain exports to Europe spiked in 2007 as drought-reduced harvests forced many European countries to purchase foreign grain, especially wheat.

EXPORT BOOMS QUICKLY FADE

History has shown, however, that export booms can quickly fade. The strong historical relationship between farm incomes and agricultural exports suggests future farm prosperity could hinge on export activity. The ebbs and flows of U.S. exports in the 1970s and mid-1990s show how critical strong demand and lean supplies are to agricultural exports and farm profits.

In the 1970s, rising export opportunities fueled the biggest farm boom since World War II (Chart 3). World populations were expanding sharply, rising 20 percent and adding 739 million people over the decade. At the same time, world economies were expanding robustly, growing 4.5 percent annually. Meanwhile, the value of the U.S. dollar weakened against most major currencies, making U.S. agricultural goods cheaper for foreign consumers.

The most significant growth in agricultural trade in the 1970s occurred in the developing countries of Russia and China, where demand for bulk commodities soared. The opening of trade with China and the Russian grain deals of the mid-1970s pushed bulk commodity exports to record highs, rising from \$7.2 billion in 1976 to \$13.7 billion in 1980 and accounting for almost

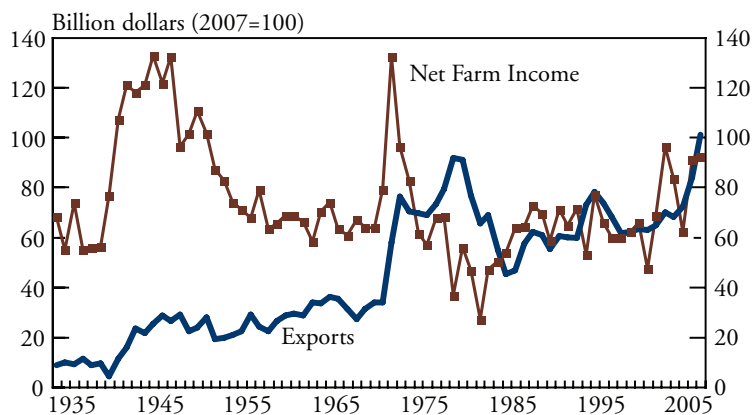
two-thirds of U.S. agricultural exports. Rising demand forced world grain supplies to new lows, fueling a surge in commodity prices and record farm incomes. For example, the price of a bushel of corn rose from an average of \$1.25 in the 1950s and 1960s to almost \$2.50 after 1973.

The gains of the 1970s were short-lived. In the 1980s, agricultural exports fell victim to events such as a world recession in the early part of the decade, a sharp rise in the value of the dollar, and embargos on U.S. grain sales to Russia. As a result, commodity prices weakened, U.S. farm incomes plummeted, and the agricultural boom of the 1970s became the bust of the 1980s.

Exports surged again in the mid-1990s as exports of value-added agricultural products swelled. Economic growth strengthened in developing countries, rising 5.7 percent in 1996 and almost doubling the growth rates of advanced economies. Moreover, developing countries accounted for almost 95 percent of the world's population growth, with India and China leading the way. At the same time, foreign sales of U.S. farm products were stimulated by a falling dollar and legislative efforts to reduce trade barriers, such as the ratification of NAFTA in 1993.

By 1996, the good times had returned. The combination of low global stocks, rising global demand, and a decline in the value of the dollar propelled U.S. agricultural exports to a nominal record high of more than \$60 billion. In turn, commodity prices began to rise sharply in late 1995, reaching new highs in 1996.

CHART 3
U.S. NET FARM INCOME AND AGRICULTURAL EXPORTS



Source: USDA

Corn prices, for example, topped out at just more than \$5.00 a bushel in July 1996, more than doubling the ten-year average. In real terms, net farm incomes rose to their highest level since 1975.

Late in the decade, however, rising agricultural exports and stronger farm incomes faded quickly. Asian financial crises in 1997 and 1998 constrained incomes in key export markets. The value of the U.S. dollar rose sharply, dampening the marketability of U.S. farm products in foreign countries. Bulk commodity exports declined in the face of strong competition from the former communist countries of Eastern Europe and from South American producers. As a result, crop prices dropped, placing downward pressure on farm incomes, which had to be propped up by a surge in government subsidy payments.

Today, booming agricultural export activity is again driven by strong demand for agricultural products and tight global supplies. Since 2004, world economic growth has expanded at a 4.9 percent annual clip, and stronger growth in developing countries has further boosted global food demand. In 2007, a weaker dollar again enhanced the price competitiveness of U.S. agricultural exports. Combined with rising ethanol production, world crop demand surged at a time when droughts in Australia and Eastern Europe trimmed world crop production. The results were historically low grain inventories, record crop prices, and surging farm incomes.

THE AGRICULTURAL EXPORT OUTLOOK

In short, prosperity for U.S. agriculture often hinges on exports. Over the next decade, USDA projects that agricultural exports should rise steadily with larger gains emerging in high-valued products. In November 2007, USDA forecast that by 2017 agricultural exports would reach \$103 billion, up from almost \$90 billion in 2007. High-valued products would account for the bulk of these increases as their share of total U.S. agricultural exports would rise to 65 percent (Chart 4).

However, the uncertainties of agricultural export activity are large. In March, USDA boosted its 2008 forecast and agricultural exports are expected to reach \$101 billion this year, almost reaching the projected levels of 2013. Past booms suggest that fluctuations in global food production and other factors that shape

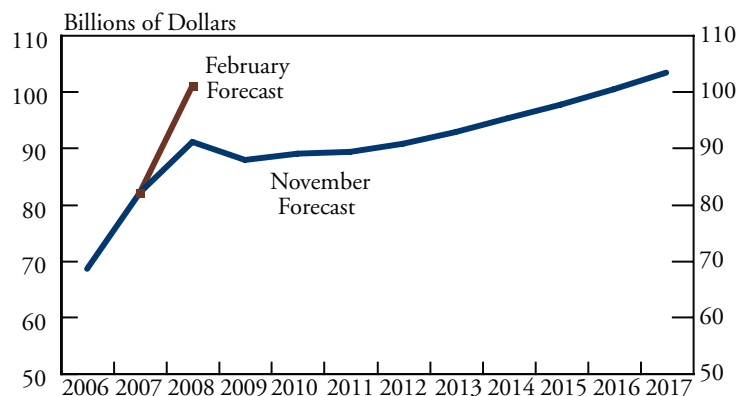
global demand, such as changing economic conditions, exchange rates, and trade policies, will influence global trade opportunities.

Future agricultural exports will be influenced by supply conditions both at home and abroad. In 2007, adverse weather conditions slashed world crop production, while a bountiful U.S. crop allowed U.S. producers to seize rising export opportunities. Thus, weather patterns could shape both the demand for U.S. agricultural goods and the ability of U.S. producers to meet demand. Heading into 2008, an El Niño weather pattern has emerged. El Niño weather systems typically lead to dry conditions in major Midwestern crop regions.

Absent adverse weather conditions, the lure of higher crop prices could expand global production and boost competition in agricultural markets. For example, the surge in soybean prices relative to other food crops since the 1970s has enticed a surge in world soybean production. Brazil and Argentina have emerged as today's largest soybean producing region, expanding their soybean production almost six-fold. In 2008, South American soybean production is expected to rise 10 percent, causing world production to increase and, in turn, boost competition in global markets. This would challenge U.S. producers to sustain the robust expansion of U.S. exports.

If supplies rise as expected, the demand for agricultural goods will be a key determinant of U.S. exports. Global food consumption patterns shape demand for U.S. exports. In particular, food consumption shifts in

CHART 4
U.S. AGRICULTURAL EXPORT FORECAST



Source: USDA

developing countries are creating opportunities for high-value agricultural products—a long-term trend that has proved to be sustainable. Developing countries typically have high population growth rates and spend a larger share of their income on food than developed countries. As populations and incomes rise, people in developing countries tend to increase their caloric consumption by consuming more value-added processed foods. The quest for more calories usually leads consumers to switch from a grain or starch-based diet to one rich in proteins, fats, and oils. In China, for example, oilseed consumption in this decade has risen 176 percent.

Continued growth in developing countries should sustain further gains in U.S. agricultural exports, especially for value-added products. World economic growth is expected to slow but remain robust. According to the International Monetary Fund (IMF), world economic growth is expected to rise 3.7 percent in 2008, down from the 5 percent gain last year, largely based on expected economic slowing in industrialized nations. USDA projected annual gross domestic product will rise 3.5 percent globally from 2008 to 2017 with stronger 8.4 percent and 7.7 percent gains in China and India, the two most populous nations. Strong gains in developing countries should continue to underpin agricultural export growth, especially for high-valued agricultural goods. However, slower world economic growth could limit the ability of U.S. producers to maintain the surge in agricultural exports they have enjoyed in recent years.

Another economic risk to agricultural exports is the value of the dollar. Over the last few years, the value of the dollar has declined against most major foreign currencies. Since 2003, the U.S. dollar has depreciated 39 percent against the euro, 35 percent against the Canadian dollar,

and 10 percent against the Japanese yen. Continued depreciation in the dollar's value would make U.S. agricultural products even less expensive to foreign buyers, and further boost export demand. On the other hand, an upward reversal in the dollar's value could decrease demand for U.S. products abroad.

Finally, trade policies will influence the amounts and destinations of agricultural exports. After the passage of NAFTA, Canada and Mexico emerged as the largest export markets for U.S. agricultural products. But trade barriers still limit export opportunities. For example, the discovery of mad cow disease in 2003 restricted U.S. beef exports to many countries. Currently, the U.S. beef industry is anxious to fully reopen markets in Korea and Japan. These two countries accounted for 57 percent of U.S. beef exports in 2003 but only 14 percent in 2007. Additional free trade agreements that reduce trade barriers could boost demand for agricultural products. However, the many challenges to passing a new World Trade Organization (WTO) agreement could affect U.S. trade opportunities.

In sum, today's farm boom is following historical trends. Coupled with strong domestic demand, robust export activity is fueling another surge of prosperity at the farm gate, primarily in the crop sector. Strength in both value-added and bulk commodity exports is driving the current boom, and North America has emerged as the leading market for U.S. agricultural products. With expectations of lean supplies and robust demand, farmers could enjoy another bountiful year, due in large part to rising export opportunities. Future prosperity will hinge on a variety of factors, primarily the production response of world farmers, the success of trade agreements, and the ability of world economic growth to underpin strong food demand, especially in developing countries.