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Agricultural Commodity Price Spikes in the 1970s and 1990s

Valuable Lessons for Today

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- The rapid increase in crop prices between 2006 and mid-2008, while unprecedented in magnitude, was not unique. Two other periods of major rapid runups in prices occurred in 1971-74 and 1994-96.
 - Each price surge resulted from a combination of factors, including depreciation of the U.S. dollar, strong worldwide demand for agricultural products, supply shocks, and policy responses by major trading countries.
 - In the past, market adjustments eventually brought prices back down. Similarly, the high prices seen in 2008 have dropped; however, these adjustments are occurring in a more volatile environment.

The rapid increase in crop prices from 2006 through the first half of 2008 caught the world's attention and raised concerns that permanent changes in the agricultural market environment were occurring. However, this recent dramatic rise in prices also has many features reminiscent of the past.

A number of factors combined to cause the 2006-08 runup in prices (see "Fluctuating Food Commodity Prices—A Complex Issue With No Easy Answers," *Amber Waves*, November 2008). These factors included burgeoning food demand in developing and transition economies, sharply higher energy prices that boosted production costs of agricultural products, increased demand for corn and oilseeds for bioenergy, the depreciating U.S. dollar, production shortfalls due to weather, and policy responses of both importing and exporting countries. Many of these same factors were observed in two past periods of rapid price increases, making it worthwhile to review those incidents and the lessons learned regarding the response of the agricultural sector and the role of market forces in bringing prices back down.

It remains uncertain how market participants will finally adjust this time

around. Crop prices have already fallen from their 2008 peak. The ongoing global economic crisis that started in 2008 will likely soften domestic and global agricultural demand, but continued mandatory biofuels blending will likely keep prices from falling to levels as low as those of the late 1990s and early 2000s.

Looking Back at Historical Prices

Since the beginning of the 20th century, there have been several periods of dramatic crop price increases in the United States, including those experienced during the two World Wars. Two periods of rising agricultural prices are of particular interest, the early 1970s and the mid-1990s. Both periods saw record-breaking prices of at least two of three principal field crops—wheat, corn, and soybeans—and the price increases were sustained for two or more consecutive years. Each period was followed by declines in prices as the conditions that prompted the rapid increase in prices were reversed.

Wheat, corn, and soybean prices began rising rapidly in 1971. Prices peaked and reached record highs in 1974 and then

declined, settling at a higher level than during the 1960s.

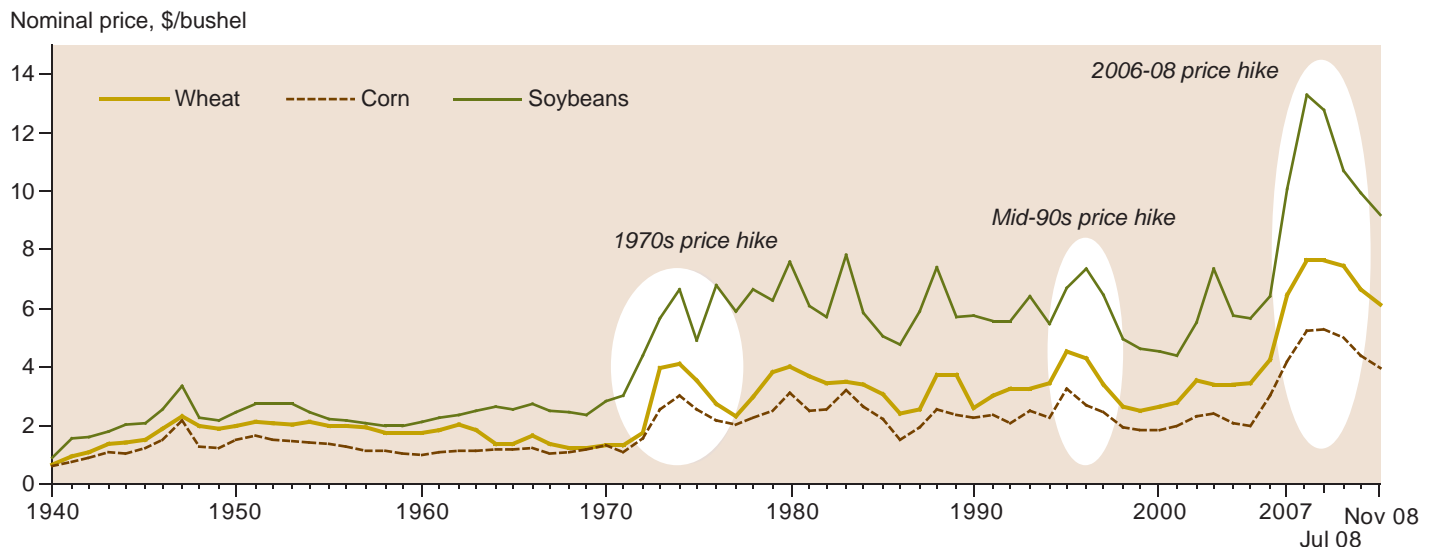
Prices for most crops again started to climb slowly in 1990 and escalated rapidly beginning in 1994, peaking in 1995 (corn and wheat) and 1996 (soybeans) before declining sharply. While the increases in this period were not as dramatic as those in the 1970s, corn and wheat prices reached record levels.

Rapid Increase in Demand for Grains, Oilseeds Boosts 1970s Crop Prices

A rapid increase in global demand for grains and oilseeds triggered the 1971-74 runup in prices. A series of events, including the Soviet Union's unexpected purchase of a large amount of grain in the global markets in the early 1970s, stimulated world demand. Many other centrally planned countries also decided to increase grain imports, causing world agricultural trade to rise dramatically. World exports of wheat increased nearly 29 percent between 1971 and 1972.

The entry of the Soviet Union and other centrally planned economies into global markets represented a significant change in grain and oilseed trade and

As in 2006-08, rapid increases in commodity prices occurred in 1971-74 and 1994-96



Sources: USDA, National Agricultural Statistics Service and World Agricultural Supply and Demand Estimates, 2008.

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Changes in supply and demand conditions put pressure on agricultural crop prices

Contributing factor	1970s	1990s	2006-08
Long run			
Demand			
Export demand growth	X	X	X
Due to food demand growth		X	X
Due to population growth			X
New use/innovation: biofuels			X
Supply			
Slow production growth	X	X	X
Declining R&D investment		X	X
Land retirement	X	X	
Short run			
Demand			
Government food policies	X	X	X
Supply			
Government food policies	X	X	X
Weather-induced crop losses/failure	X	X	X
Macroeconomic			
Economic growth		X	X
Depreciation of U.S. dollar	X	X	X
Rising oil prices	X		X
Accumulation of petrodollars/foreign reserves	X		X
Futures market/speculation	X		X
Inflation	X		
Financial crisis		X	X

Source: USDA, Economic Research Service.

started a period of strong growth in agricultural commodity trade that lasted throughout the 1970s. The abundance of petroleum-related revenues (petrodollars) and foreign exchange reserves generated by major oil-exporting countries also facilitated global trade growth. During the 1970s, the value of global agricultural commodity imports grew 4.8 percent a year, while the value of U.S. agricultural exports grew at an annual rate of 11.7 percent.

The 1971-74 price surge also coincided with a major depreciation of the U.S. dollar. In 1971, the United States, lacking sufficient gold reserves to defend the dollar's fixed exchange rate, removed the dollar from the gold standard and began its transition to a floating exchange rate, finally realized in March 1973. This shift resulted in a persistent depreciation of the U.S. dollar against other major currencies, and, by the end of the decade, the dollar's value had fallen by nearly 30 percent. The declining value of the dollar made U.S. products more competitive in overseas markets, so exports and prices rose.

Production shortfalls due to adverse weather conditions compounded the situation. In 1972, world grain production declined due to poor yields in the United States, Australia, Canada, and the Soviet Union. The Soviet Union turned to the global market to meet grain needs. Adverse weather conditions in major grain-producing countries persisted for several years. Production of grains and oilseeds continued to fall, even as plantings in the United States and other major grain-producing countries expanded. The failure of the Peruvian anchovy catch in 1972 led to a significant decline in the availability of high-protein feedstocks and increased demand for soybean meal. As a result, soybean prices soared in 1973 and 1974.

The effect of these production shortfalls was compounded by the decisions of the United States and other major exporting countries in the late 1960s to reduce stocks and idle cropland to cut government costs and support prices. By 1973/74, wheat ending stocks in Australia had fall-

en 93 percent from 1970/71, Canada's stocks had dropped 64 percent, and U.S. wheat stocks had declined 59 percent.

During the 1970s, many countries adopted policies, such as export taxes, restrictions, and bans, to insulate their domestic markets from global grain and oilseed price increases. Importers also reduced tariffs, rebuilt stocks, and subsidized consumer prices. The availability of foreign exchange reserves resulting from the depreciation of the dollar and abundance of petrodollars in major oil-exporting countries facilitated these import and export policies. Overall, these policy actions further contributed to the tight global market conditions.

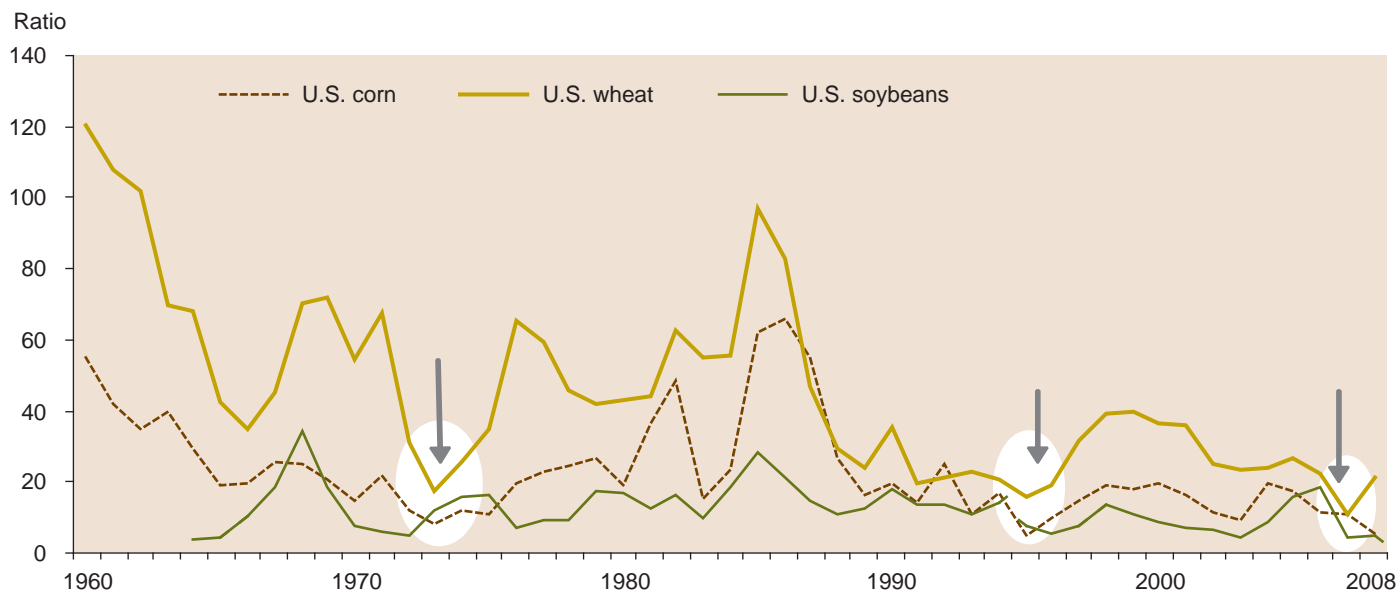
High Crop Prices in the 1990s—Similar Causes but Shorter Duration

Strong demand and increasing trade, driven primarily by robust economic growth in newly industrialized Asian countries, were also behind the agricultural commodity price spike of 1994-96.



Soybean producers increased production in the 1970s to meet rising global demand.

Low U.S. stocks-to-use ratios for corn, wheat, and soybeans contributed to rising prices



Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service, and Production, Supply and Distribution Database, 2008.

But trade gains ended when the 1997-99 financial crisis and resulting decline in economic growth in Asia caused global demand to fall.

Like the events of the early 1970s, the 1994-96 price hikes coincided with the depreciation of the U.S. dollar against currencies of major U.S. trading partners, though, like the surge in global demand, this lasted for only a few years. Also in 1994-96, global production of grains fell for 3 consecutive years due to below-normal harvests in the major grain-exporting countries.

As in the 1970s, the impact of declining production on prices in the 1990s was compounded by the decisions of some countries, including the United States, to reduce carryover stocks and idle cropland to support prices. With lower stocks, global markets were more sensitive to production shortfalls and grain prices soared.

In contrast to the 1970s, however, country policy responses to the 1990s price spikes were muted, largely because the price increases lasted only 2 years.

Moreover, inflation was relatively low, so the overall impact on consumer budgets was not severe. In addition, foreign reserves of many Asian markets were low in the mid-1990s, preventing many major importing countries from increasing imports above usual needs and limiting their ability to implement policies to protect consumers from higher prices. Increased trade liberalization also helped make agricultural commodity markets more flexible and responsive to changes in global supply and demand conditions.

Looking at the Most Recent Price Surge From a Historical Perspective

As in the 1970s and the 1990s, one of the key factors contributing to higher crop prices in 2006-08 was the rapid increase in foreign demand for U.S. agricultural products since 2000. The value of global agricultural trade increased over 50 percent between 2000 and 2006, spurred primarily by rising incomes in developing countries. These nations accounted for 63 per-

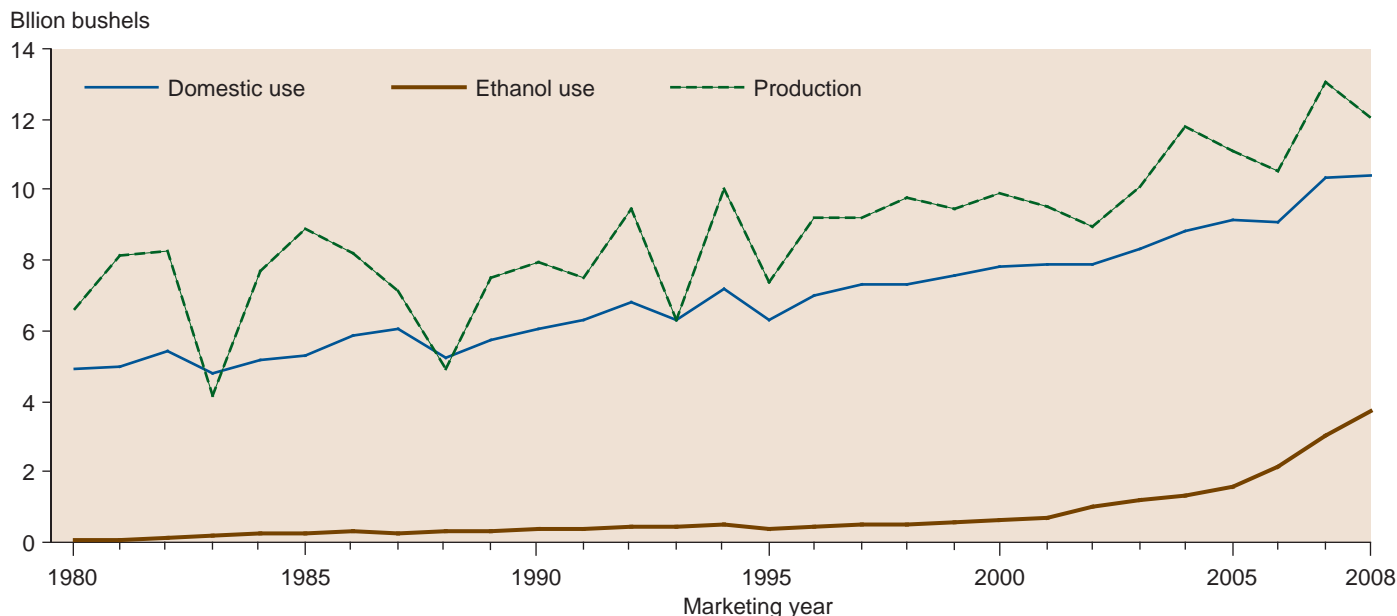
cent of the total value of U.S. agricultural exports in 2007.

Demand for agricultural food commodities in large developing countries, such as China, Brazil, Mexico, India, and countries of Southeast Asia and Central America, has grown rapidly as consumers have diversified their diets to include more vegetable oils, meat, and dairy products. As a result, demand for grains and oilseeds for livestock feed by developing countries has risen disproportionately more than overall demand for food.

Once again, the depreciation of the U.S. dollar, worldwide production shortfalls in 2006-07, and low stocks pushed commodity prices up. Global aggregate stocks-to-use ratios for grains and oilseeds declined to less than 15 percent, the lowest level since 1970. Policy responses, such as export controls, reduction of import barriers, and consumer subsidies on the part of both importers and exporters, exacerbated these developments.

A new factor contributing to agricultural markets is the emergence of biofuels

U.S. corn: Growth in ethanol use began accelerating in 2000



Source: USDA, Economic Research Service, Feed Grains Database, available at: www.ers.usda.gov/data/feedgrains/

as a major source of demand for grains and oilseeds (see "Growing Crops for Biofuels Has Spillover Effects," on page 10). Although ethanol production represented less than 7 percent of U.S. gasoline use in 2008, ethanol production accounted for 23 percent of total 2007-08 corn use. Neither the 1970s nor the mid-1990s were characterized by a comparable change in the makeup of global demand. Similarly, expanded biodiesel demand in the European Union has pressured global prices for vegetable oils.

Markets Adjust and Prices Retreat

The period of high prices during the 1970s ended as growth in world consumption slowed because of declining global economic expansion and oil prices, which reduced the availability of petrodollars. Restrictive monetary policies designed to curb inflation in some key countries (including the United States and the United Kingdom) and the debt crisis in many developing countries contributed to slowing economic growth. Thus, contin-

ued growth in global export demand proved unsustainable.

At the same time, global production, stimulated by productivity increases and government policies, grew faster than consumption. U.S. farmers responded to high prices by bringing cropland idled under acreage set-aside programs into production. Harvested areas of wheat, corn, and soybeans expanded over 20 percent from 1974 to 1980. Multinational firms responded to high grain and oilseed prices by making large investments in the development of agricultural infrastructure and port facilities in South American countries. This made it possible for farmers in Brazil and Argentina to compete and become major suppliers in the global grain and oilseed markets. The gains in production coupled with the slowdown in consumption caused global stocks of grains and oilseeds to grow to record levels. As a result, wheat and corn prices declined.

Unlike events in the 1970s, a shock external to the agricultural sector—namely, the Asian financial crisis of 1997-99—quickly ended the 1994-96 crop price

surge. With the crisis, economic growth, and hence, agricultural consumption and trade, plummeted in the Asian countries. A reduction in food demand in high-income countries and an appreciating U.S. dollar also dampened agricultural trade. At the same time, the 1996 Farm Act ended the crop acreage reduction program, increasing land available for planting and boosting production.

Will We See Similar Market Adjustments This Time?

During previous periods of price increases, markets adjusted and prices declined. Similarly, in the current situation, many market adjustments are already occurring. The U.S. dollar has started to strengthen against other major currencies. High prices for many crops encouraged increased plantings in 2008. Some land enrolled in the Federal Conservation Reserve Program has become available for production as contracts expire. These and other ongoing adjustments have placed downward pressure on prices.

Further, the current global economic crisis, a shock external to the agricultural sector, is a major contributing factor in reversing the 2006-08 price surge. In this way, the situation is similar to that in the mid-1990s, when a decline in crop prices was precipitated by the Asian financial crisis. This time, however, the crisis originated in more developed countries, such as the United States and Europe. The length and severity of the current global economic slowdown will help determine how fast, how far, and how long prices retreat. As agricultural markets adjust in this weakened economic environment, price behavior may continue to be volatile.

While history provides some insights into current and future economic phenomena, the past does not necessarily predict the future nor does it fully explain events occurring in the markets today. The current financial and economic structure in the agricultural sector is different than in the past and policy options and actions have changed as well. Nonetheless, future global income growth and policy develop-

ments will have a substantial impact on demand for agricultural commodities. Although movements in the value of the dollar will influence demand for U.S. agricultural exports, it is expected that food demand growth will resume and stimulate gains in global agricultural trade as the world economy recovers.

In particular, food demand in developing economies will likely accelerate since incomes in these countries are far from levels where food demand becomes saturated. Additionally, developing countries, which accounted for over 80 percent of global population in 2007, will continue to experience large population gains along with increased urbanization and expansion of the middle class. And populations in developing countries tend to be younger than those in developed countries, further supporting the potential for increased food demand and sustained growth in export demand.

Additional demand strength can be expected if U.S. and international policies continue to favor development of biofu-

els. These factors combined are likely to keep crop prices from falling as low as their pre-spike levels. **W**

For more information . . .

Global Agricultural Supply and Demand: Factors Contributing to the Recent Increase in Food Commodity Prices, by Ronald Trostle, WRS-0801, USDA, Economic Research Service, July 2008, available at: www.ers.usda.gov/publications/wrs0801/

"Fluctuating Food Commodity Prices—A Complex Issue With No Easy Answers," by Ronald Trostle, in *Amber Waves*, Vol. 6, No. 5, USDA, Economic Research Service, November 2008, available at: www.ers.usda.gov/amberwaves/november08/features/foodprices.htm

You may also be interested in . . .

USDA Agricultural Projections to 2018, (ERS contact: Paul Westcott), OCE-2009-1, USDA, Office of the Chief Economist, World Agricultural Outlook Board, February 2009, available at: www.ers.usda.gov/publications/oce091/