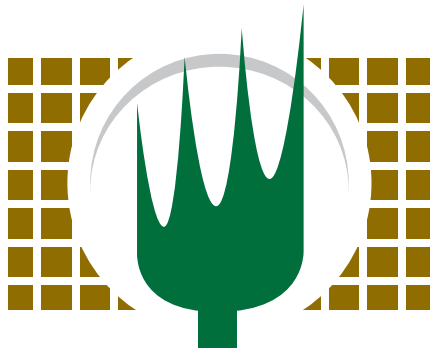




Issue Report



What's Driving Food Prices?

Philip C. Abbott
Christopher Hurt
Wallace E. Tyner

JULY 2008

The three authors are agricultural economists on the faculty at Purdue University. Abbott works in international trade and macro factors. Hurt works in analysis of commodity markets. Tyner is an energy and policy economist most recently specializing in biofuels policies. Tyner also coordinated the project. The final product reflects the insights gained through working in a multi-specialist team.

This paper was prepared by the authors for Farm Foundation. The authors are solely responsible for its content.

The full report is posted on the Farm Foundation Web site, www.farmfoundation.org.

Preface

The temperature of the rhetoric in the food-versus-fuel debate has been rising right along with the prices of corn and oil. Farm Foundation is not about heat or fueling fires. Our mission is to be a catalyst for sound public policy by providing objective information to foster deeper understanding of the complex issues before the food system today. We commissioned this paper to provide a comprehensive, objective assessment of the forces driving food prices.

In recent months, much has been written in the academic and popular press about commodity prices, biofuels and food prices—often with varying perspectives and conclusions. Farm Foundation asked Wallace Tyner, Philip Abbot and Christopher Hurt, all of Purdue University, to review the literature and provide a comprehensive assessment of the forces driving food prices today. The three economists reviewed more than two dozen reports and studies, summarizing them in light of their own examination of the facts.

As is true of many issues in the food system, the full story behind rapid increases in food prices is not a simple one. Today's food price levels are the result of complex interactions among multiple factors—including crude oil prices, exchange rates, growing demand for food and slowing growth in agricultural productivity—as well as the agricultural, energy and trade policy choices made by nations of the world. But one simple fact stands out: economic growth and rising human aspirations are putting ever greater pressure on the global resource base. The difficult challenge for public and private leaders is to identify policy choices that help the world deal with the very real problems created by today's rising food prices without jeopardizing aspirations for the future.

It is the intent of Farm Foundation that the objective information provided in this report will help all stakeholders meet the challenge to address one of the most critical public policy issues facing the world today.

Neilson Conklin
President
Farm Foundation

Executive Summary

Prices of virtually all food commodities have increased substantially over the past year. For many commodities, prices are at or near records. Why have commodity prices gone up so much? In the debate surrounding this question some have singled out one or two factors as the primary drivers of food price increases. The real and much more complex answer involves economic growth, international trade, currency markets, oil prices, government policies and bad weather. In preparing this report, we reviewed 25 recent studies and reports, a rich but sometimes controversial literature.

Through this review and our own analysis, we identified three broad sets of forces driving food price increases:

- global changes in production and consumption of key commodities,
- the depreciation of the dollar, and
- growth in the production of biofuels.

The factors driving current food price increases are complex. We make no attempt to calculate what percentage of price changes are attributable to the many disparate causes, and, indeed, think it impossible to do so. However, in looking at the interplay of the forces driving food prices, a clearer picture emerges of what has been happening.

Rapid economic growth in developing countries has led to growing food demand and a dietary transition from cereals toward more animal protein. As a result global consumption of agricultural commodities has been growing rapidly. This growth in demand for agricultural commodities has been broad based. While China and India have received much attention, we differ with other studies on their impact. World prices are formed by those who trade. China and India have both followed policies

aimed at agricultural self-sufficiency, and neither are major traders of most agricultural commodities. However, China's rapidly growing oil imports have had an indirect effect on food prices by impacting world prices for crude oil.

While demand for agricultural commodities has increased, the growth in agricultural productivity has slowed. Investments in agricultural research lagged in response to agricultural surpluses in the 1980s and 1990s. Over the past four to eight years, depending on the commodity, growing demand and sluggish productivity growth led to the change from a surplus to a shortage era and set the stage for commodity price increases. When weather and crop disease shocks hit commodity markets in 2006 and 2007, stocks of many agricultural commodities were already low, thus exacerbating the price impacts. The policy actions of some countries to isolate their domestic markets through export restraints made the situation even worse, particularly for rice. Increased investment in agricultural research is important, but it will not provide a short-term solution.

While the effects of supply and demand on commodity prices are clear, the effects of changes in the structure of commodity markets, in particular increased speculative activity, are not. There is no doubt that the amount of hedge fund and other new monies in the commodity markets has mushroomed. Price volatility has increased, partly due to increased trading volumes. Based on existing research, it is impossible to say whether price levels have been influenced by speculative activity.

Most commodities, including crude oil and grains are priced in U.S. dollars, but are purchased in the local currency. When the dollar falls, as it has over the past six years, there is a link with rising

commodity prices. The link between the U.S. dollar exchange rate and commodity prices is stronger and more important than many other studies imply. The decline of the dollar is linked not only to higher demand for U.S. agricultural commodity exports, but also to higher oil prices.

Some studies conclude that oil prices and rising production and transportation costs have helped drive current commodity price increases. But many of these impacts occur with a significant lag. Higher crude oil prices have pushed up the cost of producing agricultural commodities through increases in the price of inputs, such as fertilizer and diesel, but the long-term impact of these increases has yet to be felt.

Crude oil's strongest and most direct impact on food prices has been through its effect on the demand for biofuels. Policies, including subsidies and mandates, in the United States and European Union led to the development of the biofuels industry and its growing demand for corn and vegetable oils. In the last four years, most of the growing global demand for corn has come from its increased use for ethanol production. The ethanol blender credit, tariff and Renewable Fuel Standard are factors causing increased corn price, but quantitatively most of the increase has been driven by higher oil prices.

While the factors are complex and some of the interactions of economic forces and policy are subtle, the global effects of rising commodity and food prices are real. Agricultural commodity price increases have a much greater impact on low-income consumers, especially in developing countries, because food is a much larger fraction of total expenditures and commodities are a larger share of their food consumption. Another side of the higher commodity price story that has gotten relatively little attention is the potentially large supply response that could result as farmers in developing countries increase production and productivity. Higher prices could induce these farmers to purchase and use inputs such as improved seeds and fertilizer, which would lead to substantial increases in productivity and economic gains. For this to happen, governments would have to permit higher prices to be transmitted to farmers.

Historically, commodity prices rise and fall. Consumers and farmers respond and markets adjust. While the current turn in the cycle may look somewhat different than those of the past, we can be reasonably sure that supply will increase in response to higher prices while demand will diminish reducing the pressure on prices. The challenge facing policy makers is to find policy options that deal with the short-term effects created by rising food prices without creating a new set of long-term problems.



1301 West 22nd Street, Suite 615

Oak Brook, IL 60523

Tel (630) 571-9393

Fax (630) 571-9580

www.farmfoundation.org