

## Agriculture: Global Trends and Investment Implications

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Jeff Auxier

Not far from the Oregon Trail, in a beautiful valley where 90 percent of the country's hazelnuts are grown, are the offices of Auxier Asset Management and its founder, Jeff Auxier. In addition to managing over \$400 million in assets, Auxier is an owner and operator of a farm, where he grows hazelnuts, timber, hay, and raises cattle.

We turned to Auxier to understand the recent surge in agricultural prices, and spoke with him on June 6, 2008.

A new book, *The End of Food*, by Paul Roberts (whose previous book, *The End of Oil*, won numerous awards), also explains many of the long term trends in the agricultural commodities.

### Why a Gallon of Milk Costs More than a Gallon of Gas

"Globally, we have under-invested in agriculture since 1990. There has been a dramatic drop in technology research," says Auxier. Going back 300 years, there have been regular cycles, lasting approximately 18 years, characterized by declining food prices leading to food shortages, followed by a surge in prices and investment in research and development. From 1975-2005 food prices dropped by around 70%, adjusted for inflation. He says, "The food market was flooded, and wheat and grain prices went down without a lot of investment."

Now we are on the up cycle. "A perfect storm triggered the surge in food prices," says Auxier. Its elements include a globally growing middle class, drought conditions in Australia, which cut back on grain production and the demographics of the U.S. farming industry (where the average age is now 62) The bio-fuels mandate, which took away one third of the U.S. corn crop, and urbanization, which has taken away large areas of desirable farmland, including in local Portland also fueled the deluge.

Transportation costs play a big role. Auxier notes that the food is transported between 1,200 and 1,500 miles from where it is grown to where it is consumed. Recently trends toward locally grown produce have had little impact.

Both Roberts and Auxier view agricultural challenges as a global problem. Roberts' central thesis is that the system of food production is no longer sustainable for the billions of consumers it was built to serve.



Roberts believes water is the most constrained resource and expects “rising temperatures and shifting patterns in rainfall and storm frequency” to push down global food output. He cites research that the Ogallala Aquifer, the world’s largest underground lake and the primary source of water for U.S. farmers, may run dry in a few decades. “Water shortages may dwarf oil as a limit to future food output,” says Roberts. “By 2025, even with dramatic improvement to irrigation systems, meeting global food demand will require 16% more water than our existing overburdened system is currently producing.”

An important nexus connects food and oil, which Roberts, an energy analyst by training, makes clear. “Modern farming runs on oil,” in the form of fuel and fertilizer, says Roberts. Roberts is a believer in Peak Oil (see our [article](#) in this issue) and expects oil shortages to coincide with a sharpening of global food demand.

“The problem with agriculture is that it is not a pure free market,” says Auxier, adding, “governments are involved, and that adds to complexity.” He notes that 36 million acres are in the government’s conservation reserve program, where the government pays farmers not to grow crops, although some of this has now been released to produce hay on that ground. On the foreign side, trade protection is growing as other countries apply export tariffs on grains, further increasing price pressure.

Emerging markets are driving global demand for food. Many countries see half of the typical family budget spent on food. “Adding consumers that are more westernized, particularly among the BRIC (Brazil, Russian, India, and China) countries heighten demand,” says Auxier.

### **Long Term Supply and Demand**

Roberts traces the explanation of the problem to Thomas Malthus who, in 1798, predicted an apocalyptic cycle of agricultural responses to population growth. Food scarcity would lead to technology development and increased production, which in turn would lead to population increases, which would require increasing food supplies.

The only way for the cycle to end would be through famine, according to Malthus. Both Auxier and Roberts are decidedly more optimistic.

“In order to solve the problem we need higher prices,” says Auxier, to support the research and development needed to improve technology. Auxier traces today’s high prices to shortages in three fundamental resources: water, fertilizer, and seed technology. “More brainpower might solve this, and I am seeing



encouraging developments from global think tanks,” he says, although he expects it will take three to five years for capacity increases and conservation efforts for productivity to meet demand.

“In the 1960s there was a pronounced food shortage, while the economy was growing globally,” says Auxier. A significant capital investment in the 1970s to improve irrigation, fertilizer, and seed technology followed. “There was a lot of attention to mass production and techniques to get yields and productivity up, mostly through the development of synthetic fertilizers,” he said. He sees this scenario repeating itself in today’s markets.

Roberts believes the technology-driven improvements that resolved past crises have shown diminishing returns over the last several decades, and are not a long term solution. While calling for a massive commitment for funding research, he believes we need “thousands” of solutions on a global basis, involving new crops, farming methods, land-use laws, transportation systems, and boosting local production.

Dietary changes also will help, adds Roberts, to stem the increase in global meat consumption, which is not an energy-efficient way to consume calories.

### **Investment Implications**

Auxier sees agriculture from an operational and a capital markets perspective. For his funds, his biggest concern is inflation, with food and, of course, energy prices leading the way. “We want companies with enduring franchises that can price through an inflationary cycle.”

He also likes companies with high inventory turns that sell necessities, like Wal-Mart, Costco, and supermarkets. He sees consumers de-levering in the recessionary environment. “Until recently, 50% of the money spent on food in the U.S. was spent in restaurants,” says Auxier, who expects that to change, as people eat at home to save money.

“As stewards of life savings, advisors must look at the downside,” says Auxier. In addition to higher inflation, Auxier is worried about P/E compression, noting that P/E ratios have tracked fairly closely to 20 minus the inflation rate. “Once you properly adjust for reported CPI measures to reflect reality, we could be in for some bad news on the P/E front,” he says.

“This is an exciting time for long term investors, and advisors can add a lot of value. These problems are not easy to solve,” says Auxier.



Neither Roberts nor Auxier sees short term relief to increased grocery bills. Unlike the oil markets, where multiple competing theories – including speculation – seek to explain increased prices, only supply and demand provide a rational explanation for food inflation. Food prices represent approximately 15% of the CPI and even with the criticisms that have been leveled against the government reported CPI data, fundamentals in the agricultural markets spell higher inflation.

In the last two years, Auxier has seen much of his own hazelnut crop headed for China. Growth in world's developing economies fuels their thirst for luxury goods. As the world's most populous country adds hazelnuts to its diet, it takes one more step in constraining the global supply of food.

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