

1. Assessment of the causes of the food price crisis

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High food prices are making newspaper headlines around the world. Grain and oilseed prices doubled or tripled from 2006 to the Spring of 2008, while accompanying food prices rose sharply – increasing by 40% or more in one year in some developing countries. We will estimate the relative importance of the various factors that lie behind the 2007-2008 rise in prices of several agricultural commodities. We examine whether this run-up in prices is likely a short-term price bubble or a more permanent shift in supply and demand fundamentals that will keep prices high for years to come.

The ongoing boom in agricultural commodity prices is partly due to policy choices in the U.S. and Europe, where large amounts of cropland have been diverted from food production and into biofuels. Rising incomes in China and other developing countries have also contributed to the surge in agricultural commodity prices. Other potential factors include rising oil prices, weather shocks, low interest rates, the falling value of the U.S. dollar, export controls, and speculation in futures and options markets.

There is disagreement about the relative importance of the various possible causes of the rapid price increases. The International Food Policy Research Institute estimated that biofuels policy explains 39% of the increase in corn prices, 21% of the increase in rice prices and 22% of the rise in wheat prices. An internal World Bank study found that increased biofuel production is the major cause of the higher food prices, and that speculative activity is a response to higher prices and not a cause.

Several estimates of the effect of biofuel were presented during the summer of 2008. Former USDA chief economist Keith Collins wrote that ethanol could account for up to 60 percent of the expected corn price increase between 2006/07 and 2008/09. CEA Chairman, Edward Lazear presented a smaller estimate, stating that ethanol production accounts for about one-third of the increase in corn prices during the past year. Similarly, USDA Chief Economist Joseph Glauber testified that 29% of the corn price rise from the 2005/06 to 2007/08 crop years was due to increased ethanol production. However, in their testimonies before the U.S. senate, both Lazear and Glauber emphasized the broad

IMF Global Food Price Index rather than individual commodities. They claimed that ethanol production accounted for only 2% of the 43% increase in that index over the past year because corn is only a small component of the index. Some of the difference in assessment is due to the difference in questions being asked (such as different dates for comparison, future time horizons and commodities). It is important to clarify the range of estimates

Our research measures the relative importance of some of the contending explanations by analyzing differences in price growth across commodities and through time. We will use regression analysis to model the relationship between weekly price changes in a variety of commodities and a set of explanatory variables. These models will answer questions such as the following: Did commodities with greater speculative futures trading activity show greater price increases? Did commodities increase more in weeks when speculative trading increased more? Did commodities hit by export controls show greater increases than those not subject to the controls, and did the timing of price increases coincide with the controls? Did commodities with relatively low inventories exhibit greater price increases than those with substantial inventories? We will also include macroeconomic variables, biofuels-induced demand, and energy prices as explanatory variables.

Disentangling causality from correlation is an essential component of this research, especially for estimating the effects of speculative trading. A positive correlation identified by a regression model could indicate that price increases cause speculators to bet on more price increases, or alternatively that speculative trading causes higher prices. We will search for variation in trading activity that is unlikely to be caused by price changes and estimate the effect of this exogenous trading variation on prices. Analysis of intertemporal price spreads can also illuminate this issue because commodity index traders roll out of nearby futures contracts and into more distant contracts at pre-set times.