

Food Price Inflation Bites

There are many reasons why the decade of the 1970s elicits a cringe from those who lived through it. The low-hanging fruit here are cultural icons such as disco and leisure suits, or political foibles such as the consecutive administrations of Nixon, Ford and Carter, but economists reach a little higher up the tree and go for the worst spate of economic mismanagement since the Great Depression.

Stock market historians are fond of noting bull markets do not die, they are killed. Economists are fond of noting inflation simply does not happen, it is created by policy decisions. Sometimes these decisions are borne from sheer ineptitude or inexperience; no central bank in the early 1970s had any idea of how to manage floating exchange rates. Other times these decisions are quasi-deliberate: The grim record of history is governments everywhere do not like to expose their populations to the true costs of war while one is underway. They like to borrow, expand the money supply recklessly and then pay off their debts in depreciated currency. Or, as was painfully obvious by the end of 2007, central banks worldwide were trying to inflate their way out of the credit crisis.

The present situation in the food and agricultural sector of the economy falls into some combination of ineptitude and reckless abandon. In the interests of time and space, let's simply stipulate one major conclusion first and then examine the consequences thereof.

The conclusion is the subsidized production of ethanol from corn is a gigantic policy mistake. The subsidization comes in three forms: The 51¢ per gallon motor fuel excise tax holiday granted to ethanol, the 54¢ per gallon tariff on sugar-derived ethanol from Brazil and the mandated use of ethanol in automobile engines. Without these subsidies, ethanol would not be economic as a motor fuel. With these subsidies, the price of corn at the margin is set in the motor fuel market, not in the food market. We are in an agricultural economy with a massive incentive to grow corn at the expense of soybeans and feed it to yeast, not to livestock and people. The disruptions have led to higher prices throughout the agricultural sector.

What about energy independence? Yes, what about it: If the price of gasoline at the pump has declined as ethanol production has increased, it has escaped the attention of nearly all. We may not like the people from whom we import crude oil – the lack of refining capacity is a domestic problem and is another separate issue – but David Ricardo demonstrated in the eighteenth century if you can import something cheaper than you can produce it domestically, then you should import it.

Corn And Soybeans

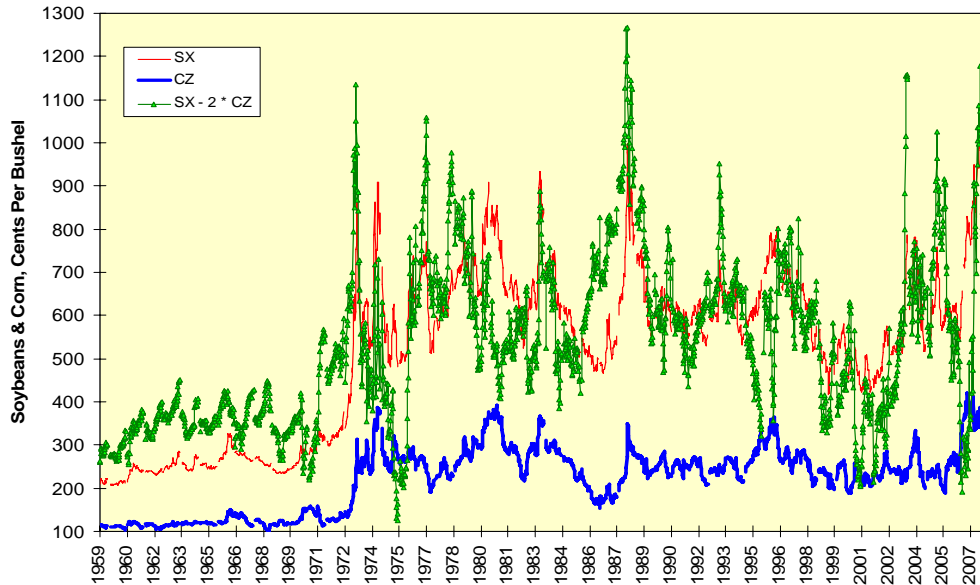
Farmers throughout much of the country's midsection have to decide between corn and soybeans each year. Sometimes the crops are rotated as corn requires heavy fertilization and irrigation, while soybeans with their deep taproots and nitrogen-fixing bacteria nodes are easier on the soil. But the main determinant of the decision is relative price expectations.

Enter the U.S. Department of Agriculture and its planting intentions reports. Normally, if private businesses signal each other as to their intentions, the antitrust enforcers will invite them in for a little coffee and conversation to be followed by a severe beating. But when the USDA surveys farmers and publishes the results, no one bats an eye let alone a kneecap.

In game theory terms, this is a multiple-player non-cooperative game wherein your best move is not some objective standard, but rather a response to your opponents' anticipated best move. This is why the USDA information is so valuable.

The 2007 planting intentions report released at the end of March 2007 indicated farmers intended to respond to ethanol demands by planting more acres with corn than at any time since World War II. The actual acreage planted, as released by the USDA on June 29, 2007, exceeded those numbers. The price response was predictable: prices for new-crop (November) soybeans surged, while prices for new-crop (December) corn plunged. Moreover, as seen in the Chart 1 for the long-term history of November soybeans, December corn and the spread between them, the soybean-corn spread surged while corn and soybeans headed in opposite directions. The folly continued into the first USDA planting intentions report for 2008, released in January 2008.

Chart 1: The New Crop Soybean - Corn Spread



Note On Spreads

As an aside, trades such as this are why the NASD Series 3 exam always asks the question whether spreads are less risky than outright positions. They are not. Mathematically, the higher the covariance between two markets and the lower the standard error of estimation surrounding the beta between the two markets, the lower the expected risk. But this is mere statistical armor against the actual slings and arrows of outrageous fortune, and all you really need to know is the list of quantitative traders who have crashed and burned in recent years (Bankers Trust, Long Term Capital Management and Enron, and everyone within a country mile of subprime mortgage derivatives, just to name a few) by confusing the measurement of risk with the actual management thereof. The fancier the trading and risk management system, the greater the complexity of the trades, the lower their liquidity and the exponentially greater the arrogance of the traders involved. A paradox of modern finance is you have to be really smart to be allowed to do really stupid things.

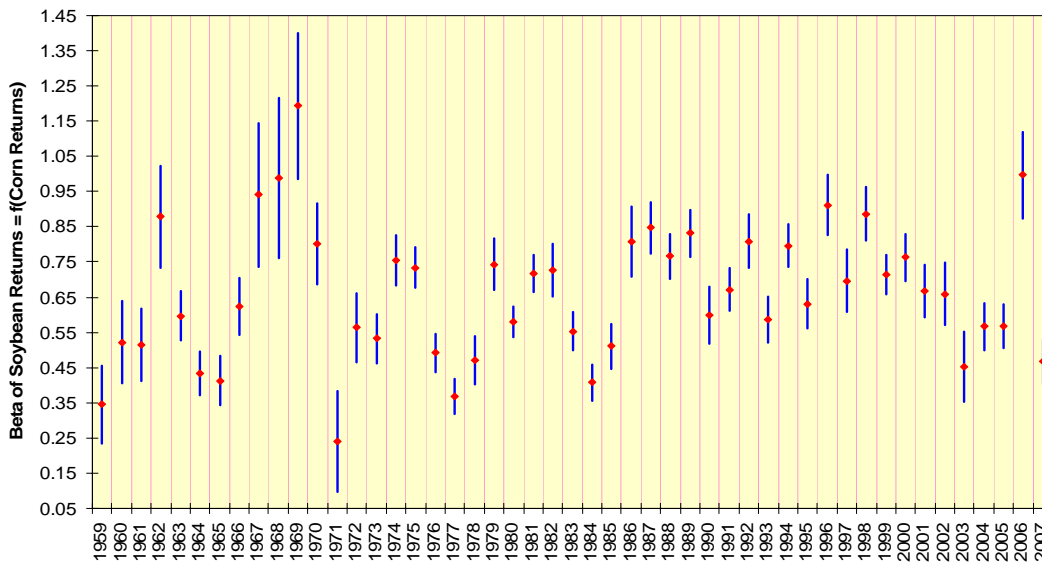
Uncertainty On The Rise

But let's not disparage statistics too much; we occasionally need them to prove our point. If the spread between soybeans and corn has been distorted by ethanol, what will the lesson of 2007 as we move forward in 2008?

Let's return to the topic of spreads and the concept of covariance and the standard error of estimation mentioned above. The long-term regression coefficient, or beta, of new-crop soybean returns as a function of new-crop corn returns bounces around pretty widely from year to year. It ranged from 1.19 in 1969 to 0.23 in 1971; in 1969, soybean returns were 19% more volatile than those for corn, while in 1971, they were 77% less volatile.

The betas are shown in red diamonds in Chart 2 below; the 90% confidence interval, a multiple of the standard error, is depicted by the blue bars. The high and variable regressions of the late 1960s were followed by the worst years of food price inflation in recent decades; the low and non-variable regression of the 1980s and 1990s were characterized by stable food prices. You are free to draw your own conclusions so long as they agree with the statement we are heading into an era of high and volatile food prices created by greater uncertainty. Many people forget the powerful impact of uncertainty on a market; here farmers need to be compensated for the greater risk their decision between corn and soybeans will be the wrong one. If 2008 becomes as uncertain as 2006 was, this summer's grain trading will be volatile indeed.

Chart 2: Uncertainty For New Crop Corn & Soybeans
Beta \pm 90% Confidence Interval

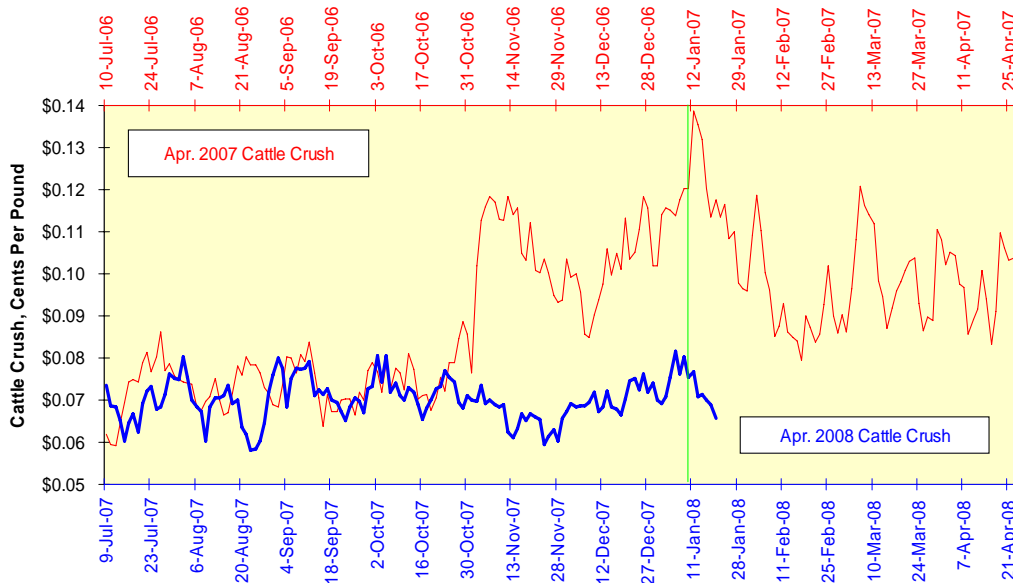


Where’s The Beef?

Uncertainty affects all industries related to corn prices; we could digress at this moment to discuss the stock prices of farm equipment manufacturers such as John Deere, agricultural chemical firms such as Monsanto, or food firms such as Tyson, Smithfield, ConAgra or Kraft. Let’s focus instead on the economics of feeding cattle. Here the key metric is the “cattle crush” spread of buying corn and feeder cattle futures and selling live cattle futures for ultimate delivery.

Here the effects of higher corn prices in 2007 became a truly perverse exercise in the game theory noted above. The April 2007 cattle crush (April FC, May C and August LC) remained firm as cattle feeders reduced their cattle-on-feed in response to higher expected corn prices. The picture after the January 2008 planting intentions report, visible in Chart 3, was quite different. Here higher corn prices have reduced the profitability of cattle feeding quite drastically. Once again, the uncertainty engendered by bad policies destroys real businesses such as cattle feeding.

Chart 3: Uncertainty And Cattle Feeding Margins



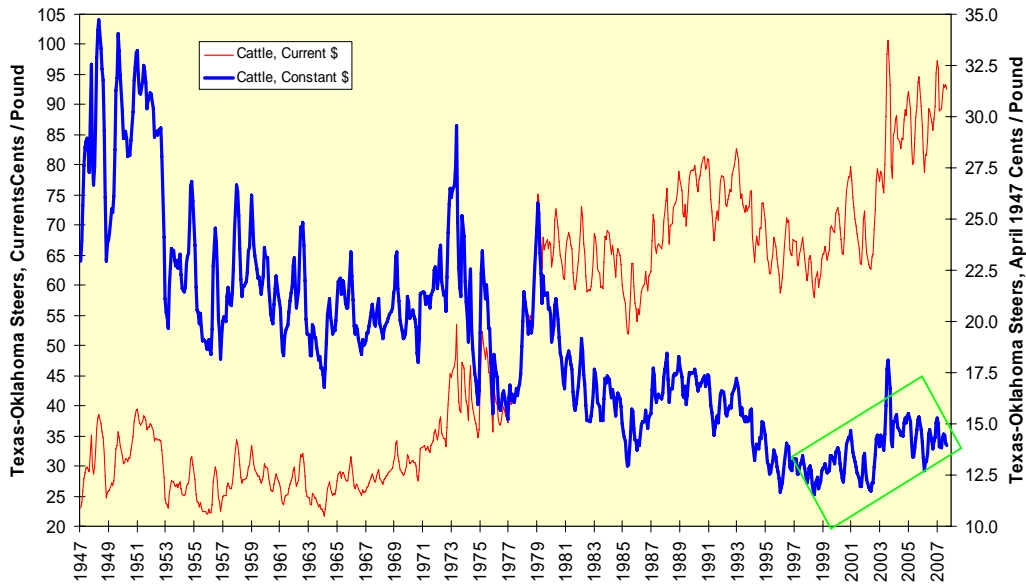
Creating Food Inflation Momentum

Does any of this matter to food prices? It most certainly does: Veterans of the 1970s may recall how corn and soybean prices first started to rise in 1972, followed by cattle prices in 1973 as Richard Nixon’s wage and price controls, first

imposed in August 1971, disrupted the agricultural sector of the economy. Both of these preceded the first oil shock, which did not commence until October 1973. As an aside, how higher oil prices get blamed for causing inflation truly is head-scratching; you cannot cause something that began two years before.

As we can illustrate in Chart 4, constant-dollar beef prices had been on a steady decline from the end of World War II into 1999 with two prominent interruptions during the inflationary 1970s. They now are on the rise again, as highlighted in the green rectangle.

Chart 4: The Real Trend In Cattle Starting To Rise



Just as a supertanker takes miles to slow down or turn, inflation has a powerful inertia. If, as in Chart 5, we map the relative rates of inflation for food and all items ex-food as reported by the Bureau of Labor Statistics, we see only a few episodes where food price inflation grew faster. These episodes coincided with rising prices for April live cattle. Food price inflation is starting to grow. That certainly is one more reminder of just how much people should not miss the 1970s.

Chart 5: Cattle Prices And Relative Food Price Inflation Since 1964

