APAC Agricultural Policy Analysis Center
The University of Tennessee

PolicyPennings by Daryll E. Ray & Harwood D. Schaffer

Multiple predicaments: One core solution

With members of Congress back home campaigning, we expect that they may be getting an earful from their constituents weighing in on the state of the 2012 drought-reduced corn crop and what to do about it.

The livestock industry and others that use corn as key input are calling on Congress and the administration to modify or suspend the ethanol mandate for the 2012 corn crop. Pressure for modifying the mandate is also coming from a hunger community that is fearful that a further rise in corn prices will trigger an increase in the number of food insecure people as it did in 2008 when over 200 million were added worldwide to the rolls of the food insecure.

Corn farmers, on the other hand, are concerned that a change in the ethanol mandate may collapse prices just when they are facing a reduced crop. At this point we have a better idea of the size of this year's crop than we do about how the ethanol mandate debate is going to shake out. What we are certain about is how we got into this pickle.

There are two parts to the story and they both hinge on the same policy change. The first part has to do with sharp shifts in either the demand for or the supply of corn. The second has to do with the political economy surrounding the development of the ethanol industry. We'll get to the policy change toward the end of this column—regular readers will not be surprised by our analysis.

The export boom of the 1970s began with a decision by policy makers in the Soviet Union to import grain rather than reduce their domestic grain demand by reducing the size of their cattle herd. While US corn exports averaged 500 million bushels in the 1960's and were 506 million bushels in 1970, by 1975 they had tripled to 1.7 million bushels. Meanwhile the price of corn doubled putting pressure on cattle producers.

Fast forward to the drought of 2012 where the projection is for the corn yield to fall for the third year in a row to 123.4 bu./ac., 16 percent below the 2011 yield and 25 percent below 2009. 2012 farmgate corn prices are projected to be more than double their 2009 farmgate average of $3.55.

Now to the second part of the story. Beginning in 1998 the farmgate price of corn fell below $2.00 for only the second time in the prior 25 years. And unlike 1985, it stayed there for four years. Even with the emergency payments, corn farmers were desperate. They were told that the problem was overproduction and the solution was to get involved in non-food-related demand enhancement.

And so they began to cast about for uses that did not involve food products. They looked at converting corn starch into clothing fibers—it works. They funded research into using corn to make glues that could be used in the fabrication of a wide variety of industrial products. And they looked at ethanol.

That corn could be used to make ethanol was a no-brainer. Whiskey makers had been doing it for centuries. (Note: In the years following the American Revolution, whiskey making by farmers living west of the Allegheny Mountains triggered what became known as the Whiskey Rebellion as farmers protested a tax on whiskey. During that period, Western farmers converted their grain to whiskey before transporting it over the mountains because it was a less bulky, higher value product and equalized their competition with farmers east of the Alleghenies. The tax to pay off the American Revolution war debt put them at a disadvantage with Eastern farmers who were closer to major urban markets and so they rebelled against the new government of George Washington.) And, unlike the other non-food products, the production of ethanol as an automotive fuel oxygenate could be ramped up very quickly. Given the sustained low prices, quickly was good.

Corn farmers began to organize meetings to set up ethanol plants. To fund the ethanol plants, we saw farmers plop down a $10,000 investment in shares of an ethanol coop for the right to sell 10,000 bushels of corn to the coop at a 2 to 5 cents per bushel premium over the local market.

It looked like a fool's investment, but, with sub-$2.00 per bushel corn, their backs were up against the wall. As it turned out, hurricanes in the Gulf of Mexico, the discovery that a competing fuel oxygenate was carcinogenic and was leaking into the groundwater in California, and a war in an oil-producing nation in the Middle East made the investment look brilliant in retrospect. A bit of sustained lobbying for an ethanol mandate didn't hurt.

It did not take long for non-farmer investors to see the money that was to be made in ethanol production and soon the use of corn for ethanol production went from a number close to zero to 5 billion bushels a year.

What policy instrument do both parts of this story have in common. Grain reserves, well more precisely, the lack of grain reserves.

For more than 3 millennia, people have known that agricultural production is highly variable from year to year while the demand for food is very stable. To solve this problem, the ancient Egyptians and Chinese implemented the use of government-organized reserves to buy grain during periods of high production and then sell the grain when crops failed.

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In the US, the use of grain reserves was successfully implemented during the depression and used off and on over the next 5 decades. By 1961, corn reserves were 65 percent of annual utilization and policy makers decided that they had to empty out the larder. Want to guess when Old Mother Hubbard's cupboard was bare?

Yes, you're right, it was the early 1970s, just when we needed the grain. By the 1977 crop year, with prices two-thirds of their recent levels, reserves were back in favor.

Once again, in the late 1980s reserves fell out of favor and were effectively eliminated in the 1996 Farm Bill. And what happened two years later? The government lacked the ability to purchase reserves to stabilize prices—exports were supposed to do it—as a result prices plummeted. The result was an ethanol industry that developed at a much faster rate than it would have in the absence of extremely low corn prices.

In 2012, like in the early 1970s, we find ourselves with a drought-reduced corn crop and no reserves to fill in the gap.

And now, for the rest of the story we have two parts—one demand story and two supply stories.

In the late 1940s, the US accumulated significant grain reserves and policy makers were looking for ways to reduce them. But before the government could get rid of them, there was a sharp increase in demand. Uncle Sam got involved in the Korean War and needed grain reserves to feed hungry soldiers.

As we noted in last week's column, we had significant yield and production problems with corn in 1983 and 1988. In 1983, production dropped by 49 percent, yet the total utilization (sum of domestic and export corn uses) declined by only 8 percent. Similarly, in 1988, U.S. corn production declined by 31 percent from the previous year, while total utilization declined by only 6 percent.

In both years, it was the presence of reserves that made the difference. In 1983 and 1988, total beginning stocks brought into the marketing years exceeded 3.5 billion bushels with well over half being non-commercial reserves stocks. Today—without such stocks—total utilization must track production declines nearly bushel-for-bushel.

What about the years ahead? Will the shortfalls of 2012 reset corn's demand base?

Demand destroyed may take make time to reconstruct. In addition, the current high prices may trigger increases in production that could result in extremely low prices in the future.

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