

Policy Matters

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Agricultural Policy Questions VII:

Freedom To Farm: An Agricultural Price Response Experiment - What Have We Learned In Four Years?

Freedom to Farm as transition

The 1996 Farm Bill, commonly known as Freedom to Farm, was intended to be transitional legislation. The vision was that if we “give the market a chance” there would be no need for restrictive governmental programs that can distort prices and constrain farmers’ ability to freely decide which crops they plant. Acting on that vision, the 1996 legislation eliminated all farm program mechanisms that directly support or moderate farm prices or restrain, or in some way affect, planted acreages.

The legislative vehicle for the transition away from governmental programs was a gradual reduction in direct payments to farmers over the seven-year life of the legislation. The stated intent of the legislation’s most ardent backers was the total elimination of farm programs, after the 2002 expiration of the legislation, along with the federal budget outlays needed to support those programs.

Price responsiveness is the issue

By its design, the 1996 farm legislation provides a real-time public policy experiment where the farm economy is the laboratory and agricultural producers and consumers are the test subjects. The hypothesis under test is: Without planting restrictions, price supports and other government program interventions, grain producers and grain users will respond to price signals sufficiently to overcome market disturbances and inventory imbalances. For the last seven decades, we could only speculate about how price responsive farmers and users of farm products would be in a free market environment.

Recall that it was the lack of price responsiveness that led to the enactment of farm programs in the first place. During the 1930s, output growth outpaced demand growth causing lower prices. Farmers did not respond by significantly reducing output nor did consumers respond to the lower prices by significantly increasing the quantity

demand. Inventories kept building, and prices continued to plummet. Since the grain markets failed to self-correct, farm programs were instituted.

Of course, if population, per capita income and other non-price factors annually shift demand faster than technology shifts supply, prices would trend upward over time. From a commodity policy standpoint, there likely would be no long-term chronic price and income problems. As discussed in previous issues of *Policy Matters* (Vol. 5, No. 3), this happy event for grain producers, while possible for brief periods, is at odds with historical experience. Also, short-term reprieves from low prices and incomes due to bad crop years here or abroad could temporarily mask any fundamental price responsiveness problems.

Again, **if grain agriculture has chronic price and income problems, lack of price responsiveness is the likely culprit—everything else is secondary.** Everything else is secondary because the exact cause of the initial lower commodity prices or increased per unit cost is immaterial. It could be a downward shift in export demand due to the Asian or some other crisis, increased exchange rates, higher fuel or other input prices, increased environmental regulations, or any other systemic or random event. Whether self-correction occurs depends on the responsiveness by grain producers and buyers to commodity prices and production costs.

The last six issues of *Policy Matters* explored various aspects of the price responsiveness issue, looking at both the supply side and the demand side. The findings can be summarized as follows.

Grain Supply

In the case of grains, production response to grain price changes is really acreage response. While the yield portion of the production identity is affected by price-induced changes in input application per acre, the major

near term factor influencing yield is weather, which is out of the hands of the farmer. Therefore the farmers' greatest opportunity to change production levels is via acreage decisions.

Harvested acreage of the eight major crops declined from 239.3 million acres in 1997 to 235.6 million acres in 1999 or 1.5%. Using the index of crop prices for March 1997 and March 1999 as supply price response proxies for the 1997 and 1999 crops respectively, crop prices declined by 15.5%. Since non-price shifters of the aggregate acreage function are of relatively little consequence, this 1.5% decrease in acreage in response to a 15.5 percent reduction in the price should translate almost directly into a two-year acreage price elasticity of 0.1.

This elasticity would have to be further adjusted for the changes in yields that resulted from lower input use due to reduced crop prices. While these adjustments would raise the supply elasticity of the total program crops somewhat, a supply elasticity in this general area of 0.1 to 0.2 is extremely low and, hence, could not be expected to effect a timely rebalancing of inventories and price recovery. A 0.1 elasticity would mean that for every ten percent reduction in the index of crop prices, total acreage of the eight major crops declines by 1 percent. Even with continued depressed prices, the March prospective planting intentions report for the 2000 crop year shows a slight increase in the total acres intended to be planted to the eight major crops compared to actual 1999 plantings.

The planting flexibility provision of the current legislation has enhanced farmers' ability to change from one crop to another, making it a very popular provision. However, one of things that should be indelibly etched into our consciousness by now is that planting flexibility does not necessarily mean that total crop acreage will be sufficiently price responsive to initiate rebalancing of inventories and market self-correction. It is important to keep in mind that planting flexibility and decoupled farm payments provisions of the new legislation only eliminated distortions affecting the crop mix.

But, the major problem in crop agriculture is not that the mix of crops is wrong, the overriding problem is the general oversupply of all crops. In allocating crop acreage, farmers need something that is not in the same price/profitability pinch as the crop they are replacing. The prices of most major grain crops are somewhat interdependent so that switching to another of the eight major crops tends not to provide a long-term advantage. There are few alterna-

tives in cropping—farmers, in a given production region, do not have the opportunity to choose from 25 profitable alternatives, each with sufficient markets to absorb the extra production.

In the case of supply the major source of low price responsiveness is the fixity of land. Land that is in production tends to stay in production. Over the short term, low prices alone are not sufficient to take large quantities of land out of production. As price takers farmers have every incentive to produce at full tilt.

As discussed in the January *Policy Matters* (Vol. 5 No. 1) the very limited supply price responsiveness of total crop acreage is the historical expectation. This is one of several ways the grain sector is different from other non-farm sectors. In other sectors, decisive action would be taken if oversupply of a product caused burdensome inventories or necessitated price reductions to near the variable cost of producing the product. Management would curtail output by shutting down assembly lines, reducing or eliminating shifts, or close factories for a few weeks or months. Since an individual farmer produces so little and can have no effect on price, farmers tend to farm all their cropland all the time.

Even if financial bankruptcy forces a farmer to leave agriculture, another operator typically takes over the land and continues agricultural production. In another industry, faced with a continued oversupply of its product, land and other resources would be shifted to a totally different industry.

The eight major crops account for less than 30% of total crop and livestock receipts. Almost all the \$22.7 billion of direct government payments that went to farmers in 1999 were tied directly or indirectly to those eight crops. These payments accounted for about 47 percent of the \$48.1 billion net farm income which includes net returns from livestock and specialty crops—not just the eight major crops. Clearly, most of the net income not attributable to government payments ($\$48.1 - \$22.7 = \$25.4$ billion) belongs to the other farm commodities representing the remaining 70% of farm cash receipts. Hence, the numbers suggest that even relatively large major-crop farms received most of their net income as government payments in 1999. This, also, would suggest that further farm consolidation would do little to solve the price and income problem in agriculture as long as land remains in production. Remember, since the 1930s, the number of active commercial farm operators has declined from over 6 million to less than 600

hundred thousand but problems persist.

Of course, over time, some of the least productive land will go out of production. But keep in mind that this land produces very little anyway and much of the least productive land is already part of the 36 million acres in the Conservation Reserve Program. So in addition to farm families' adjustments and the accelerated adverse affect on rural communities, it is doubtful that a "let them fail" course of action advanced by some would succeed in solving the economic problem in the short to intermediate run. It would probably take a decade of extremely depressed prices to reduce the total crop acreage sufficiently to make agriculture profitable in the open market. The economic damage inflicted on the farming and rural communities during this period would be staggering.

Grain Demand

While historical expectations and actual experiences of the last couple years suggest that total crop supply is extremely insensitive to crop prices, what has the experiment shown on the demand side? Statistical identification problems make it more difficult to disentangle price responsiveness of demand from other demand influences compared to the supply side where a relatively static total crop acreage curve is of primary concern. Yet, the experience of the last couple years suggests that the price responsiveness of grain demand is definitely not large, probably higher than total grain supply responsiveness but relatively low.

One thing is for sure: during the last couple of years, quantity demanded has not increased sufficiently in response to lower prices to draw down inventories and significantly raise grain prices. This apparent low price responsiveness of grain demand should come as no surprise to agricultural economists since conventional wisdom has long held that agricultural demand is inelastic. The demand elasticity controversy (some would call it confusion) grew out the concern about being price competitive in the international markets during the middle 1980s.

Since the mid-1980s, the U.S. share of world exports dropped from their heady levels in the early 1980s. Agricultural economists and others became convinced that the higher market shares of late 1970s and early 1980s could be recaptured by lowering prices. But, our competitors also lowered their prices and the rest is history (*Policy Matters* Vol. 5, No. 3). The flurry of analysis and

the discussion was so intense during the mid-1980s that many, if not most, observers came to believe that grain export demand was price elastic. Market experience of the last 15 years casts serious doubt on that belief.

As discussed in the last issue of *Policy Matters*, other considerations often overpower the influence of price on export demand. For many countries, especially those that have experienced food shortages, wars, and other instabilities, any short-term economic distortions from government interventions in markets are dwarfed by longer-term considerations including preservation of the country itself, domestic tranquility, and economic and political independence. While the WTO and other trade organizations will have some successes freeing trade, it is naïve to think that these countries will carry out a wholesale withdrawal of support for their farm sectors so they can import more from the U.S. As a result, it is unlikely that our current export customers will purchase substantially more grain solely in response to the lower prices.

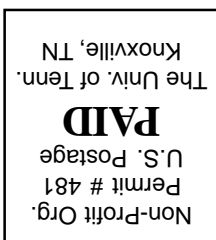
Further complicating the issue is the fact that total crop acreage of our export competitors tends to decline little with depressed prices as they seek to hold on to their own domestic and export markets. As a result, lower priced U.S. produced crops tend to wrangle little from the sales of our export competitors.

In the case of domestic demand, by far, the characteristic that most defines the nature of food (and feed and other indirect food ingredient) demand is its absolute requirement for life. Because it is a necessity for life—like insulin for a diabetic—price is of little consequence. You will pay whatever is required to purchase the food you need but you will purchase little more even if prices drop to near zero. Again, this minimal price response does not characterize the demand for most nonagricultural products.

What have we learned?

If the value of Freedom to Farm, as an experiment in public policy, is to be judged on the basis of lessons that can be derived from it, then it can be judged a success. Much can be learned from this experiment. Freedom to Farm appears to be reaffirming the basic assumptions of traditional agricultural economics that the price responsiveness of the grain markets is not sufficient to bring about a timely self-correction in those markets.

Given this inability of the market to self-correct quickly, Freedom to Farm, as an experiment, may show that the



Agricultural Policy Analysis Center
310 Morgan Hall
Department of Ag. Econ and Rural Sociology
Institute of Agriculture
The University of Tennessee
Knoxville, TN 37996-4500

unfettered market does not consistently generate politically acceptable incomes. Farm payments by the federal government hit an all time record in 1999, even though the premise of Freedom to Farm was that it would eventually reduce governmental outlays to agriculture to zero. At the same time many farmers are in increasingly difficult financial condition.

The thing farmers like best about Freedom to Farm is the freedom to switch their acreage from one crop to another. Even though flexibility has not guaranteed farm prosperity, statements are made that suggest planting flexibility should carry the day, trumping all other considerations.

Summary

In the final analysis, after stripping away all the “only ifs” and side issues, whether or not setting grain agriculture “free” will result in a robust and prosperous crop sector hinges on the price responsiveness of crop agriculture. **Price responsiveness IS the fundamental farm policy issue.** For timely market self-correction to occur under free markets, a price drop must result in a relatively large decline in the quantity of major crops supplied and/or a relatively large increase in the quantity demanded. Evidence to date suggests that such responsiveness does not occur. Rather evidence supports the decades-long conventional wisdom that both the aggregate supply and demand of grains are relatively unresponsive to price, that is they are highly price inelastic.

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If you have comments, questions, or suggestions for issues to be looked at you may contact APAC’s director, Daryll E. Ray, at:
310 Morgan Hall, University of Tennessee,
Knoxville, TN 37996-4500.
(865)974-7407
dray@utk.edu

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Agricultural Policy Analysis Center • 310 Morgan Hall • University of Tennessee • Knoxville, TN 37996-4500

(865)974-7407 • dray@utk.edu • <http://apacweb.ag.utk.edu/>