

1996 Farm Bill: A Pattern for Future Legislation or Failed Experiment

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Introduction

The Federal Agriculture Improvement and Reform Act (FAIR) of 1996 staked out a new direction for U.S. farm policy. Crop agriculture was set free to produce for the market unconstrained by planting restrictions or conditional direct payments. While previous farm legislation had become more market oriented by emphasizing direct payments over price supports and by incorporating a degree of planting flexibility, the FAIR Act firmly embraced this market oriented vision by doing away with target prices and target-price-based deficiency payments, base acreages, the acreage reduction/set aside program and the Farmers-Owned-Reserve.

For the most part, only two direct payment programs, decoupled contract payments and loan deficiency payments, are all that stand between 1996 FAIR Act, as passed into law, and a crop agriculture free from government price and income supports.

Had prices continued at the relatively high 1996 or 1997 levels from 1998 to 2000 and on to 2002, no loan deficiency or market-loss emergency payments would have been paid over the period and contract payment levels would have declined through 2002 as legislated. Furthermore, debate on the next farm bill likely would have focused on the speed at which contract payments would be reduced to zero.

But prices did not remain at 1996 or 1997 levels. They dropped by as much as 40%. As a result, government payments—those available from the 1996 act and from special emergency legislation—are at record levels and crop farmers are more dependent on the government now than under earlier legislation.

So what went wrong? Basically, it was a matter of excessive optimism. We were overly optimistic about 1) export prospects, 2) the supply responsiveness to lower crop prices and 3) the competitiveness of U.S. agriculture on the level free trade playing field they clamored for. In retrospect, the signs were there, we just failed to heed them. In addition, while all of the data were there, 4) little attention was paid to the impact freer trade would have on agricultural input suppliers, and processors and other producing nations.

Excessively Optimistic Export Expectations

Much of the debate on the current farm act occurred during 1995 and early 1996, a time when crop prices and exports were on the rise. In addition, the baseline projection providers, Food and Agriculture Policy Research Institute (FAPRI), U.S., Department of Agriculture (USDA) and the Congressional Budget Office (CBO), painted an extremely

rosy picture for crop agriculture over for the next decade. Using corn exports as an indicator of this optimism, the top dashed line in figure 1 shows USDA's World Agricultural Outlook Board (WAOB) long-term agricultural projections of corn exports through the 2005 crop year, published in February 1996. The solid line displays actual exports and the broken line displays USDA-WAOB's February 2000 projections for 2000 through 2005.

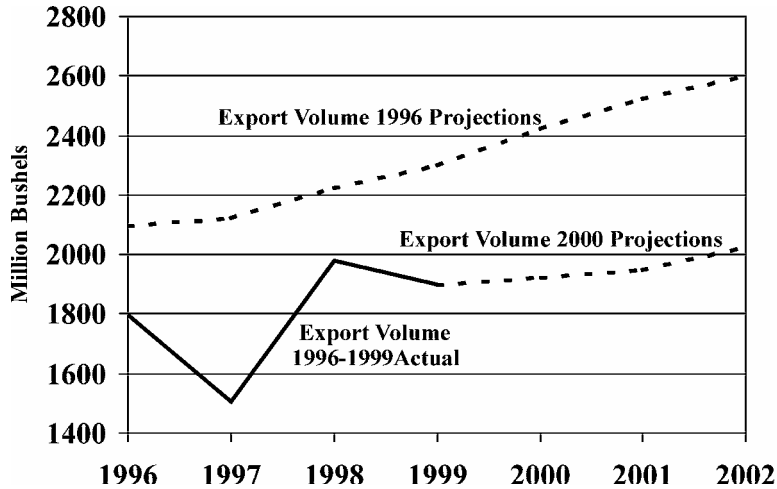


Figure 1. Export volume of corn, 1996-2002; February 1996 USDA projections, 1996-1999 actual and February 2002 projections.

The February 1996 USDA corn export projections for 1996 thru 1999 averaged 400 million bushels greater than the 1.8 billion bushel annual average exports actually realized during the four years. For the 2000 to 2005 marketing years, USDA's 1996 projections of corn exports averaged 25 percent greater (500 million bushels) than the same projections made four years later in February 2000.

Price projections for 2000 to 2005 made in 1996 compared to those made in 2000 averaged \$0.50 per bushel higher for corn, \$2 per bushel higher for soybeans, and \$1 per bushel higher for wheat. Annual crop market receipts projections for 2000 to 2005 were from \$10 to \$15 billion higher in the 1996 compared to 2000 projections. FAPRI and CBO projections during late 1995 and early 1996 told the same story as the USDA projections.

The generally held perception at the time was that increased per capita incomes worldwide, especially in China and other Asian countries, and freer international trade resulting from regional and global trade agreements would launch U.S. agriculture onto an export-driven path of sustainable prosperity. Had this description of the future come to pass, basically this farm program, the previous farm program, or nearly any farm program would all have performed relatively well.

Part of the appeal of the demand growth argument was that it was a natural extension of what many in and outside of agriculture had come to believe about the role of agricultural exports in recent years. Since the mid-eighties and before, politicians, agribusinesses, farm organizations and others explicitly tied agriculture's current and future prosperity to the export market. With this being the prevailing conventional wisdom, the glowing forecasts

in the mid-90s of a sustained export-driven prosperity for agriculture were enthusiastically embraced by agriculture's stakeholders.

But the impression that exports are the driving force behind crop demand growth, while true in part of the seventies and early eighties, has been incorrect since the early eighties. In fact since then, export demand has been relatively flat while domestic demand has grown significantly. Figure 2 shows U.S. experience with domestic demand and export demand for all grains and seeds as defined by USDA's PS&D database since 1961. The data are shown in index for with 1979=1.0. Also, for comparison U.S. population is also shown indexed so 1979=1.0. This figure shows a number of things. The 1970s multi-year burst in exports is evident as is the steady upward growth in domestic demand since the mid-70s. In fact, domestic demand, which includes industrial as well food and feed demands, has increased faster than U.S. population since 1979.

Note especially what has happened to export demand since 1979. By 1983, exports of all grains and seeds had fallen to about 80 percent of its 1979 level. Exports have varied around the 80 percent mark ever since.

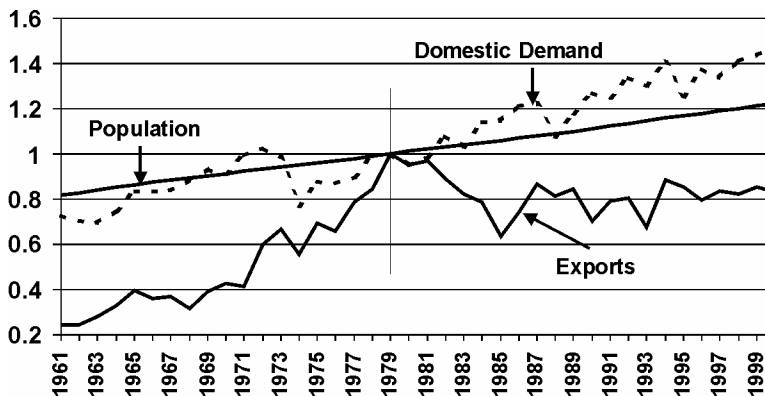


Figure 2. Growth in U.S. population, domestic demand for grains and seeds, and exports of grains and seeds, 1961-2000. Indexed 1979=1.

The details are slightly different commodity by commodity but the conclusion is the same: export growth has grown slower than domestic growth. Figure 3 shows corn domestic demand and export demand for 1976-1999.

In the case of wheat, the trend for exports has not been sideways but down. Wheat exports average 1,464 million bushels during the period of the 1977 Farm Bill and 1,044 since 1996. Exports made up 59 percent of total wheat demand during the 1976-1985 period but only 33 percent since 1996.

Soybeans show some upward trend in exports as does rice but the increase in domestic demand is much steeper. Converting soybean meal exports to soybean equivalents and adjusting soybean exports and domestic demand accordingly, domestic demand increases by 21% between 1996 and 1999 while soybean complex exports increase by 11% during the same time period.

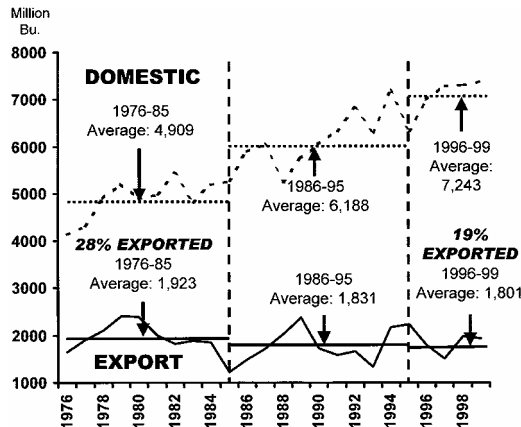


Figure 3. Levels of corn export and domestic demand 1976-1999 with averages for the ten years before and after the 1985 Farm Bill and the current period.

In fact, over the last century and a half, there have only been three periods of export-driven financial prosperity in agriculture. Following an extended depressed period after the Civil War, farm prices and incomes increased after the turn of the last century partly due to stronger exports. But it was World War I that ushered in a major boom in agricultural exports as war-torn Europe turned to the U.S. for food and fiber. Historian Wayne Rasmussen writes: “Farm prices rose, the government called for increased production, and farmers responded...Then, agricultural prices collapsed in July 1920...” Prices never recovered in the twenties and fell considerably further in the 1930s.

Conventional wisdom, at the time, was that the low price and income problems were temporary and would evaporate once domestic and export demand strengthened. In the 1920s, large national cooperatives for major commodities and an early federal agency, the Federal Farm Board, went bankrupt as they accumulated stocks for later sale. The return to demand expansion did not occur.

The second surge in crop exports came during World War II. Again, as exports soared, so did prices. Rasmussen writes, “Secretary of Agriculture Claude Wickard called for increased production of many commodities...” Following the reconstruction of Europe, exports stopped being a growth market and excess capacity again set in.

This time around, few expected a return to brisk export growth any time soon. In fact, agricultural export demand was characterized as fickle and inherently unstable. Few believed that hundreds of thousands of farmers would voluntarily idle land to eliminate excess supplies. Again, farm programs were used to reduce production and to ease the adjustment process by providing a measure of price and income stability

The third grain export boom began in the early 70’s and peaked in 1981. Just as in the previous two export booms, a sizable share of the surge in exports had political roots. Oft cited triggers for the boom include the 1971 devaluation of the U.S. currency, the USSR decision to import grains when their production fell short of needs rather than slaughter livestock to cut feed demand as they had previously done. Feeding into this was the *El Nino* of 1972-1973 which simultaneously caused the failure of the anchovy harvest off the Peruvian coast and a drought in central Africa resulting in the reduced harvest of peanuts

and production of high-protein peanut cake. This increased the export demand for protein substitutes like soybean meal

In addition, a portion of this export boom was related to the decision of the Organization Petroleum Exporting Countries (OPEC) to raise oil prices, profits, and bank balances by forming an oil cartel. As OPEC profits began to pile up in major western banks, the banks began to look for opportunities to recycle the petro-dollars back into the international community.

With the help and encouragement of the U.S. government, loans were negotiated with underdeveloped countries. The money was intended to spur economic development and facilitate trade. However, much of the money was used to import agricultural products. Our exports of major crops took off. Unaware of the quicksand nature of the newfound export demand, government officials, including the Secretary of Agriculture, told farmers that agriculture had finally turned the corner and urged them to plant fence-row to fence-row.

Exports remained strong until the loans came due. Excess capacity returned despite repeated assurances by policy and agricultural leaders, as late as 1981, that the farm problem of the future would be how to expand capacity not constrain it. Agriculture again faced declining exports of major crops and to this day, nearly twenty years later, farmers continue to face a flat crop export market

Similar to the export collapse following World War I, the reaction following this third export surge was largely denial. When exports and U.S. share of world exports began to decline after 1981, the consensus was—The previous higher export levels and export shares are ours to recapture and sustain, and all we need do to achieve that goal is lower crop export prices. Once those export levels are recaptured, crop agriculture will again be prosperous.

So our collective optimism about export growth occurred despite the flat to downward trend in crop exports over the last three decades and the fact that, over the last century, decade-long spurts in demand have had more to do with political decisions and events than economics. Just as we were overly optimistic about exports we were also overly optimistic about the extent to which aggregate crop agriculture would adjust to lower prices.

Excessively Optimistic View of the Price Responsiveness of Production in Crop Agriculture

Had the export expectations of the mid-nineties materialized, the increased demand would be generating stable-to-increasing farm prices and incomes. Under those conditions, interest in the price responsiveness of crop output and utilization would fade into obscurity. But the demand-shifting-faster-than-supply expectation has not reflected reality, and the issue of price responsiveness emerges as the key issue. The crop market will self-correct and prices will recover from a price drop only if crop output declines significantly in response to the lower price and/or crop use increases substantially as price declines.

At one time, the conventional wisdom was that crop supply and demand were not sufficiently price responsive to preclude relatively long periods of depressed prices and incomes. 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 demanded.

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

During the last couple decades, conventional wisdom shifted toward a belief that crop supply and demand had become considerably more price responsive. Several lines of reasoning were used to reach that conclusion.

Supply Responsiveness

Arguments are made that farming is much different from when the first farm legislation was passed nearly seven decades ago. There are fewer farmers. Agriculture makes up a much smaller proportion of the rural economy. Agribusiness provides many of the inputs farmers, themselves, previously provided. In addition farmers are more highly educated and more adept at utilizing risk moderating devices such as futures markets, crop and revenue insurance, contracting and other methods. With these changes in place, farmers were expected to readily alter production decisions with changes in prices and profitability.

The 1996 farm legislation provided a real-time public policy experiment to test this increased price responsiveness hypothesis which says, "Without planting restrictions, high price supports and other government program interventions, grain producers and grain users would respond to price signals sufficiently to overcome market disturbances and inventory imbalances." With the data in hand let us test this hypothesis.

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.

Figure 4 shows the index of total planted acres and three composite price indices for corn, wheat, soybeans and cotton. One is an index of season average crop prices. Another is computed with loan rates replacing season average prices whenever a crop's loan rate exceeded its season average price. The final price index is a government payment-adjusted price index. To compute this index, the payment-adjusted price for each of the four crops (corn, cotton, soybeans and wheat) was computed by dividing the sum of the crop's value of production, AMTA payments, and any market loss payments by the crop's production. The crop's value of production was computed using the season average price or the loan rate, whichever is greater.

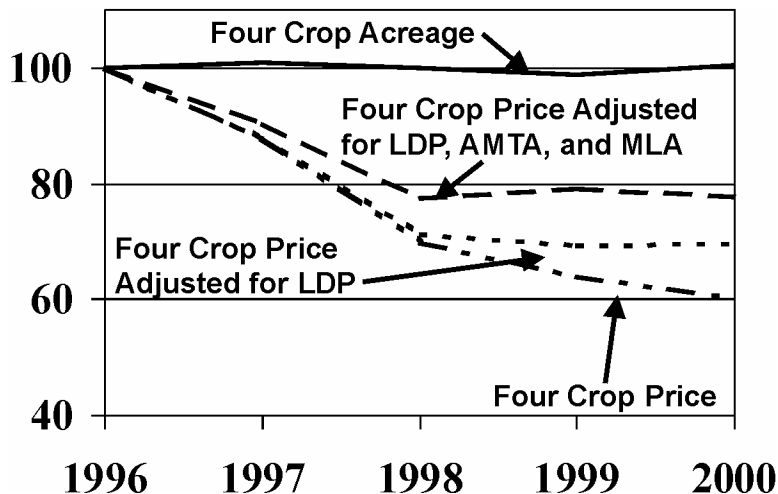


Figure 4. Composite indices of four crop (corn, cotton, soybeans and wheat) acreage and various measures of price (1996=100).

Clearly, total acreage of the four major crops has remained virtually unchanged from 1996 to 2000 while market prices, market prices adjusted for loan rates and market prices adjusted for loan rates and direct payments have declined by 40%, 30% and 22% respectively between 1996 and 1999. There is no apparent one-year or multiple-year impact of lower prices on total acreage of the four major crops.

In other sectors, decisive action would be taken if oversupply of a product caused burdensome inventories or necessitated price reductions approaching 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 of their cropland all of 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.

Demand Responsiveness

On the demand side, the increased importance of exports in the 1970s and early 1980s lead to a view that agricultural demand had become more price responsive as well. If crop demand is significantly more price responsive than in previous decades, prolonged periods of extremely low prices and incomes should not occur because markets would self-correct.

What has the two-year 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 but relatively low.

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. As more and more livestock are produced under relatively fixed contractual arrangements, domestic demand for feed is apt to become increasingly unresponsive to price. Minimal price response does not characterize the demand for most nonagricultural products.

One thing is for sure, during the last few years, quantity demanded has not increased sufficiently in response to lower prices to draw down inventories and significantly raise grain prices.

Non-price 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.

Figure 5 shows harvested acreage for the eight major crops for our nine major competitors: Canada, Argentina, Brazil, EU-15, Australia, Pakistan, India, Thailand, and Vietnam. Thirty of the nearly 40 million acre increase in 1996 foreign harvested acreage came from our competitors. Our competitor's acreage remained constant in 1997, but then increased significantly each of the next three years, increasing by 11 million acres between the relatively low-price years of 1999 and 2000. The acreage reductions occurred in countries that neither are major export competitors nor are currently sizable markets for U.S. agricultural exports.

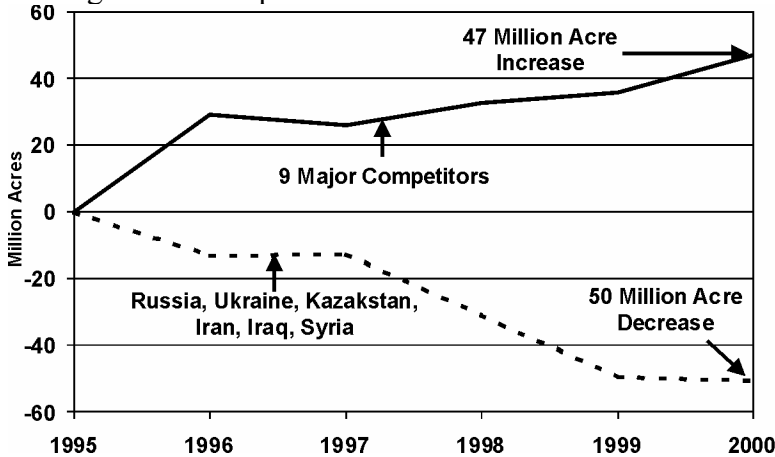


Figure 5. Gain or loss in harvested acres by 9 competing exporting countries and by a grouping of three former Soviet Union republics and three Middle East countries when compared to 1995.

The nine competing exporting countries include Canada, the European Union (15), Brazil, Argentina, Australia, India, Pakistan, Thailand and Vietnam.

Brazil, Argentina and EU-15 are three of our leading export competitors; Brazil for soybeans, Argentina for soybeans and corn, and EU-15 for wheat. Brazil's harvested soybean acreage increased by 17 percent since the first year of the 1996 Farm Bill while U.S. nominal prices declined by 40 percent. The Brazilian soybean export price decreased by 32 percent while the Brazilian soybean export price adjusted for exchange rate and inflation was down about 3 percent.

Argentina's soybean acreage increased by over 60 percent between 1996 and 2000, while the soybean prices in Argentina declined by 32 percent nominally and 23 percent in real terms (figure 6). Clearly, in the cases of both Argentina and Brazil, U.S. engineered reductions in prices did not sufficiently offset other forces affecting the level of soybean acreage. In fact, especially in Argentina, soybean acreage actually accelerated during the time when soybean prices were at levels not seen in decades.

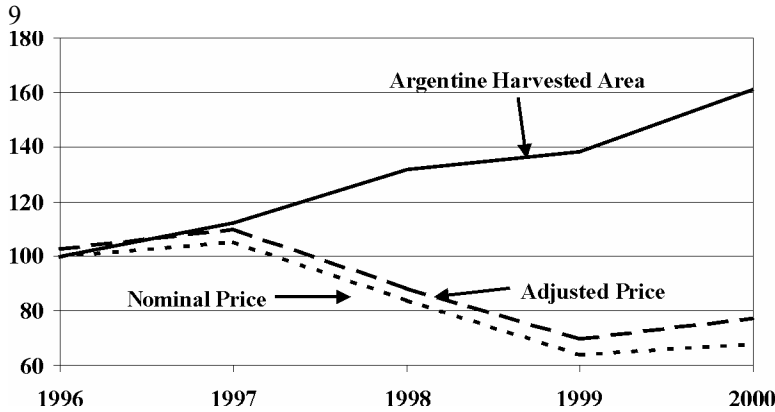


Figure 6. Argentine harvested area for soybeans, nominal price, and adjusted price. 1996=100. Nominal price is the export price posted by Abiove, the Brazilian Vegetable Oil Industry Association. Adjusted price is adjusted for changes in exchange rate and inflation.

Since the 1997 crop year, wheat plantings have increased in the European Union (Figure 7) and other major wheat exporting countries except Canada. Behavior by our export competitors in recent years suggests that as long as prices are within a fairly wide range, production plans are relatively unaffected.

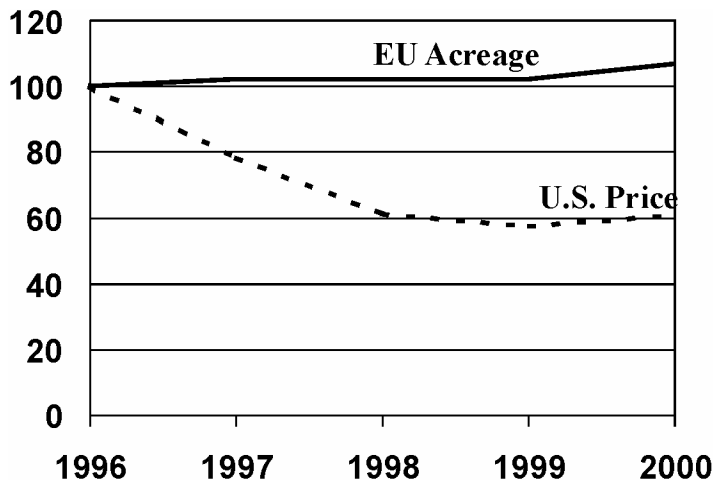


Figure 7. Area in European Union devoted to wheat production and U.S. price for wheat. Indexed 1996=100.

Taking the longer view, lower U.S. loan rates and prices have not brought the “EU to its knees” as it was so popular to say during the policy debates of the mid-1980s. After years of receiving price-depressed wheat export revenue in the U.S. and experiencing continued erosion of our share of the world wheat exports, we not only were unsuccessful in reducing wheat exports from the EU over the years, it now appears that the EU is capable of exporting wheat without export subsidies.

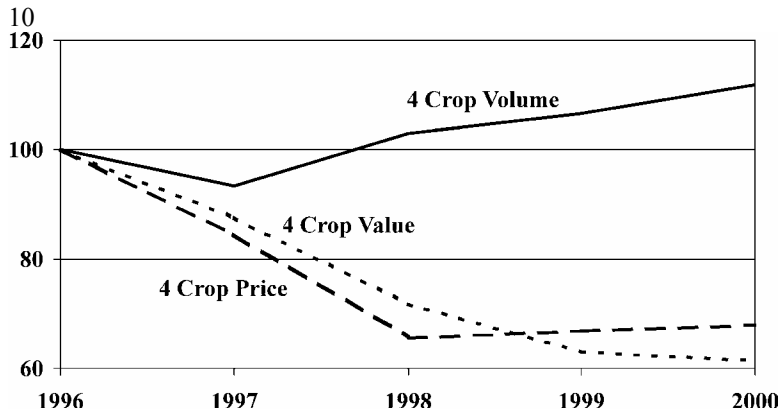


Figure 4. Indices of four crop (corn, cotton, soybeans and wheat) export value, volume and U.S. price for 1996-2000 (1996=100)

Little Attention Paid To Impact Of Free Trade on Other Factors

“It’s a free country.” This phrase means different things to different people. But it usually encompasses the idea of freedom to make one’s own decisions and choices from among a multitude of available options.

As it relates to farmers’ business decisions, it means the economic freedom to buy Case International or Kubota tractors, sell grain to the coop or Cargill, buy seed from Delta Pine or Pioneer, borrow operating capital from the local bank or an input supplier and so on and so on.

And that brings up what may be the most important impact of freer trade and the increased globalization of agriculture on international trade: Its impact on world agricultural supply. While the U.S. and other agricultural exporting nations have focused on the expected trade liberalization benefits to commodity exports and to U.S. farmers, the largest agriculturally related impact may be on international sales of farm inputs with multinational agribusinesses being the primary beneficiaries. Some of the increased agribusiness sales, as a result of trade liberalization, will come from existing operations, but, for the most part, it will come from increased investment and presence in the customer countries.

Joint ventures with foreign entities allow agribusinesses, many of which are headquartered in the U.S., to more effectively tap international markets for genetically enhanced seeds, fertilizers, pesticides, machinery and transportation, storage, marketing and services. With increased access to the latest yield enhancing and cost-reducing technologies, farm commodity importers, as a group, will import less and exportable supplies of existing (and perhaps new) U.S. export competitors will expand.

In the past, farmers in many countries did not have such freedom of economic decision-making. In some countries, seed, fertilizer, credit, machinery and replacement parts were managed centrally with little opportunity for choice or entrepreneurial innovation. In other—mostly less-developed—countries farm managers also operated with few agribusiness alternatives. Generally, multinational agribusinesses had little or no presence in these countries.

But two events have helped increase the presence of multinational agribusinesses in

many of these countries. One is the transition of several countries from centrally-planned to more market-oriented economies. The other is the increased globalization of the world's economies and the movement toward freer international trade. Not that multinational agribusinesses have not been active internationally before these events—they have. But these events either opened up formerly unavailable markets or permitted greater access to existing markets.

This increased presence of multinational agribusinesses and the infrastructure investment, logistics expertise, and technology transfer that they bring to a country's agriculture is the stealth of economic globalization and freer trade. That is, it was not seen as an important consideration during analyses of freer trade on the world's agriculture economies and still little attention seems to be paid to it. It is not that multinational agribusinesses are trying to hide their increased involvement in the agricultures of the world. In fact, they often trumpet it.

During the last year John Deere has entered into joint production agreements in both China and India for the production of tractors suitable for use in those nations. Cargill had signed a joint venture agreement to upgrade a large fertilizer production plant in China and announced it was investing \$8 million to double the capacity of its fertilizer plant in Rosario, Santa Fe, Argentina. AGCO has inked a deal to manufacture agricultural equipment in Russia and has acquired a company that gives it access to the latest in precision agriculture technology for use throughout the world.

Summary

I think it is fair to say that the 1996 FAIR Act was not passed with the expectation that prices would plummet to levels not seen since the 1970s. Rather, the expectation was for buoyant prices fueled by accelerate export growth, primarily due to per capita income growth in China and other less developed countries. Failing that, the expectation was that, with decoupled payments and without government market intervention, the price responsiveness of supply and demand would accommodate any shocks to commodity supply or demand. Finally, the primary impact of freer world trade was expected to be on the demand side of the international market for crops boosting U.S. exports.

These expectations were not realized. Real increases in crop prices occur only periodically, usually as a result of a multiyear spurt in exports caused by external political events. Also, while farms are larger and most of the {something like highly} technology-embedded inputs are purchased off farm, the nature of the crop supply appears to have changed very little, that is, it continues to be extremely price inelastic. Similarly, even though exports and industrial uses now make up a significant portion of crop use, crop demand continues to be highly price inelastic. The market has revealed that the combined price responsiveness of crop supply and demand does not result in market self-correction. Also, Freer international trade affects the both the demand side of the crop market and the supply side. The loosening of trade restraints has unleashing multinational input suppliers, marketers and processors to improve productivity and marketing efficiency of the agricultural sectors of U.S. crop export customers and competitors.

Future discussion of agricultural policy needs to take into account the following:

- Exports cannot be depended upon to absorb excess U.S. agricultural commodity

production on a sustained basis. Given the capability, most countries would prefer to be food self-sufficient and not dependent upon imports.

- Neither supply nor demand price responsiveness is sufficiently elastic to clear the market place of excess production. On a short to medium-term basis lower prices do not bring about a significant decrease in production or a significant increase in consumption. Both supply and demand are relative fixed, regardless of the price.
- Multinational agribusiness firms are making massive investments in countries around the world. In many cases it would appear that these investments result in significantly improved productivity and lower per unit cost of production.

Looking Ahead

The 1996 Farm Bill did not work. It didn't work because the contended changes in the economic environment under which crop agriculture operates had not occurred. The question is are we going to continue to use post-hoc-cleanup-the-mess-after-the-crash type farm and special legislation or are we going to recognize, even celebrate, our sustained tendency, because of continuing and largely publicly supported new technologies, to expand agricultural output faster than it can be utilized at profitable prices? Are we going to recognize that promising that export growth "will make it all better real soon now" demolishes our credibility?

It is time to reexamine the objective of commodity policy. I do not want to believe that farm programs exist only because agriculture has the political muscle to extract billions of dollars from Congress. And that farmers receive large piles of money, not because the payments partially offset severely depressed market receipts, but because the farm program is a money spigot that the richest of farmers are addicted to.

To me commodity programs are part of an overall farm and food policy that ensures an ample quantity of safe, nutritious food at reasonable prices. It is our public policy to invest in experiment stations and other institutions and mechanisms to increase agricultural productivity. Commodity programs' intended policy contribution is to provide a measure of price and income stability in an industry in which the technology-driven supply tends to expand faster than demand and neither supply nor demand respond to lower prices sufficiently for the industry to self-correct on its own.

I think the commodity portion of a farm policy that recognizes the nature of aggregate major-crop markets should include a number of key elements. With nearly vertical supply and demand curves, random shifts due to weather-based yield fluctuations in the U.S. and/or abroad can cause wide price fluctuations. A farmer-owned-buffer stock program can be used to truncate the low and high tails of the price distribution. Even moderate reductions in short-term price fluctuations would ensure that the U.S. crop industry is a dependable supplier to domestic livestock producers and other domestic and international grain and oilseed customers.

Recognizing that public investment in "agricultural overproduction capability" is a good thing, mechanisms should be put in place to hold excess productive capacity in reserve in various short-term and longer-term forms.

Recognizing that domestic demand, not export demand, has been the source of demand growth for the last quarter century, policy incentives and market development expenditures should focus on existing and potential domestic sources of demand growth. Use of major crops to produce industrial and energy products already represents a significant part of demand growth for major crops. New crops that have potential to provide energy feedstock to electric utilities, for example, could provide farmers with an alternative to major crops which could provide a new income source and, since some major crop acreage would be displaced, provide higher prices and incomes for major crops.