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THE FAIR ACT: WHAT DOES IT ALL MEAN?

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I appreciate the opportunity to talk with you today. I have long admired the work of the National Public Policy Education Committee. The committee's annual conferences and published proceedings have enriched the public policy Extension and research programs of countless policy educators. Thank you for making me a part of this year's conference.

I'd like to talk about six general topics: (1) Without attempting to chronicle the events leading to the 1996 Federal Agriculture Improvement and Reform Act (FAIR), I want to highlight a few of the more important forces that influenced the process and content of the legislation—especially those forces and events that may have an impact on future legislative actions and debates. (2) I will present our estimates of the acreage, price and income impacts of the new bill. (3) These and other economic indicators will be tracked through 2004 and their projected levels compared to results of the assumption the 1990 legislation was extended. (4) I will discuss program crop exports, especially the changes in exports seen since 1980 and the extent to which assumptions about exports could affect the profitability of agriculture in years ahead. (5) I will touch briefly on environmental policy and expected changes in the way farm-level environmental regulations are implemented. (6) Finally, I will spend some time talking about how the new act could affect your role as public policy educators.

Forces Behind the FAIR

Usually, changes in farm legislation are heavily influenced by the economic setting of agriculture just prior to the scheduled termination of a particular piece of farm legislation. In the years prior to discussions on the 1996 farm bill, portions of agriculture experienced drought, floods and significant price variability. Still, for the most part, agriculture's economic health this time around was relatively robust and stable (Ray and Frederick).

Thus, it was the political environment surrounding the early farm bill debate that dominated all else (Orden et al. 1996a, 1996b). The overriding political sentiment favored less governmental regulation and lower federal deficits. This sentiment pervaded all legislative debate—especially after the 1992 election left the GOP with control of both houses of Congress. But, the debate environment also included political pressures and criticisms specific to agricultural legislation.

■ *A Convergence of Interests.* Farmers wanted less bureaucratic interference in their decisionmaking. Yet, regional differences and general paralysis due to confusion over what was politically feasible kept production agriculture interests from reaching a consensus on a direction for agricultural policy.

Agribusiness, on the other hand, knew exactly what it wanted: elimination of all farm program provisions that reduce agricultural production and thus the volume of storable commodities reaching the market. For agribusiness interests to achieve success in the policy process, the acreage reduction program, the 0/92 and other programs affecting short-term production would have to be eliminated. Buffer-stock programs, including the Farmer-Owned Grain Reserve, would have to be mothballed. Agribusiness also strongly argued for the release of the least environmentally sensitive acreage in the Conservation Reserve Program (CRP)—although somewhat less forcefully than it argued for elimination of short-term supply controls.

A coalition of ag-related companies—all of whom are affected by the volume of farm inputs sold or by the volume of farm products transported, processed or marketed—was quite effective in using commissioned studies and the media to get its views before the public. And, in the end, the agribusiness community got most of what it wanted, making it perhaps the most influential lobby affecting what ultimately became the Federal Agriculture Improvement and Reform Act of 1996.

Others were critical of farm programs for different reasons. Many—especially those most committed to reducing government expenditures—criticized previous farm legislation for its lack of a cap on expenditures. Even though annual deficiency payments were capped by payment-rate maximums and production-coverage limits, budget estimates were based on average weather and demand conditions and on their associated estimated prices. Hence, because payment rates vary inversely with prices, lower-than-expected prices ballooned agricultural spending—which frustrated budget planners and exasperated budget cutters.

Also, a large group wanted to reform farm policy completely. Many in this group believed farm programs were anachronistic and, therefore, unnecessary. They pointed to the changes in: (1) farm numbers; (2) agriculture's contribution to the Gross Domestic Product; (3) the degree of industrialization in agriculture, especially in the livestock sector; (4) the importance of agricultural exports; (5) the wealth and income position of farmers; and (6) other factors that had shifted since farm programs were first introduced during the 1930s. These reformers concluded that such developments meant there was no role—or a very limited role—for the federal government in modern-day agriculture. They also were very effective in getting their view before the public with articles, foundation studies and editorials.

Early on, as these diverse interests began to spawn legislative proposals and strategies, it was evident Congress was consumed by concerns about program cost and ideological content. One reform strategy was to insert provisions to deregulate agriculture in the omnibus Balanced Budget Act of November 1995. The effort to get this omnibus bill signed into law resulted in government shut-downs that lasted for days at a time and ended with the President's vetoing the entire bill—not as a result of the agriculture provisions, per se, but as a result of the general philosophy of government's role in society, as implied by the legislation.

■ *Reams of Litmus Paper.* Meanwhile, negotiations were underway to pinpoint agriculture's share of the budget cuts required to meet the overall legislative objective of balancing the budget in five or seven years. House Republicans began the bidding with a \$16 billion cut spread over five years. But, negotiations ended with House and Senate conferees agreeing to a \$13.4 billion reduction over seven years. This consensus limited agricultural spending during the seven years to about \$43.2 billion.

The \$13.4 billion cut was from the \$56.6 billion that the Congressional Budget Office (CBO) had projected as the seven-year cost of extending the 1990 act. The CBO published this baseline analysis in February 1995, but its cost estimates were based on economic conditions projected a few months earlier.

Once the budget-reduction target was set, the objective then was to find a set of policies that met budget and ideological constraints. Some proposals met or exceeded the static budget targets (including those proposals that reduced target prices or reduced eligible payment acreage and increased planting flexibility), but they didn't satisfy ideological considerations. One Republican plan eliminated acreage reduction programs and tightened deficiency payment rates, but most did not meet the litmus test of those wanting a deregulated agriculture—i.e., the elimination of short-term land-retirement programs and an absolute cap on farm program outlays. The Freedom to Farm Act (FFA) appealed to many because it met both litmus tests and, although the significance was not recognized immediately, it guaranteed that all of the \$43.2 billion in “allowed” farm program spending would be paid to farmers.

Early on, the FFA was not by any means embraced universally. Budget cutters supported the FFA. Reformers thought it was a step in the right direction, because it provided for production deregulation and budget certainty. Still, most farm groups and many lawmakers with farm constituencies expressed reservations about the bill and did not “sign on.” And, compared to previous farm bill debates, the process continued to include little time in considering the agricultural price and income effects of the alternative proposals.

■ *“In This Light, You Don't Look Half Bad.”* Then a funny thing happened on the way to farm bill enactment. Farm prices increased dramatically. By July 1995, House agricultural committee chairman Pat Roberts (R-Kan.) was ready to switch from pushing for a modification of the 1990 bill to supporting the decoupled payment approach of the FFA. There was a good reason for him to do so: Congress was required to use the CBO's February 1995 baseline to measure “budget savings.”

Rep. Roberts recognized that with the FFA, farmers could market crops at high prices, yet still receive government payments, as if prices were low. Farm organizations, farmers and others also began to see this incredible political opportunity to “capture” baseline savings that at least would make agriculture considerably better off in 1996 and 1997 (when prices were higher than baseline projections) and probably, over the entire seven-year period.

Given this awareness, the legislation passed. It passed even though the bill actually represented no budget savings, compared to estimates for extending the previous legislation, plus the bill would result in large payments to farmers in years of record receipts—results seemingly contrary to the aims of budget cutters and reformers. Thus, it could be argued that what won the day was the bill’s effect on agricultural income, not budget concerns or ideology.

I say that because the reformers—especially the Republican lawmakers—viewed the production contracts as compensation for terminating farm programs. Thus, they were willing to pay the premium government cost for the seven-year bill.

On the other hand, many farmers and farm groups viewed the lucrative payments of FAIR as a windfall and *not* as transition payments. They believed the FAIR was the best deal available at the time and that Washington will have opportunities to revisit the legislation later—perhaps then moving it back, more to their liking.

In this regard, it is important to remember that much of what happened this past year was done with very little legislative debate. O’Brien noted that the legislation was “more a product of circumventing the process than working through it.” The Senate and the agriculture committees made little use of hearings and open legislative drafting sessions. When Rep. Roberts was unable to get majority committee approval, he received permission from House leadership to circumvent his committee by inserting the FFA into the House Reconciliation Bill. (Special legislative rules were imposed for this bill, however, that included a ban on the introduction of amendments.) Similarly, during the latter stages of the legislative process, there was little opportunity for open debate as the FFA and other FFA-like bills became the FAIR that was signed into law. O’Brien suggests that the farm bill was “largely externally imposed and leaves many issues to be resolved in future farm bill debates.”

Indeed, pressures for revisiting the legislation could emerge before the FAIR’s termination in 2002. Moreover, because the permanent 1938 and 1949 legislation was not repealed, but rather suspended for seven years, farm legislation *must* be reconsidered in 2002.

Next time, it may be more difficult to avoid a broader based, more open debate that involves all factions. Even so, a deliberate decision must be made on what to do with farm programs sometime before 2003. The alternatives include: (1) continuing with a FAIR-like act, probably with annual reductions in payments; (2) eliminating farm programs altogether; or (3) moving in a completely different direction. The decision will depend upon agricultural interests’ perceptions of how the FAIR has performed—and, as usual, on the economic and political conditions of the time.

How Agriculture ‘Fares’ Under the FAIR

The next sections consider agriculture’s performance under the 1996 act, as compared with a hypothetical extension of the 1990 legislation. The comparisons are

the result of analyses just completed at the University of Tennessee's Agricultural Policy Analysis Center (APAC).

Baseline assumptions for all analyses—including interest rates, input prices and levels for a host of other variables—were provided by the Food and Agricultural Policy Research Institute (FAPRI). These assumptions and their FAIR-based baseline agricultural projections for 1996-2004 were published in May 1996. (In July 1996, FAPRI released updated numbers for the 1996-98 crop years, but with no tie back to the 1999-2004 numbers reported in the earlier publication.)

For this presentation, the baseline FAIR situation is a combination of: (1) FAPRI's crop supply and utilization estimates for the 1996-98 crop years and (2) simulation results from our Policy Analysis System (POLYSYS) for noncrop-specific economic indicators, as well as for stock carryovers, expected prices and so on for 1996-98. These POLYSYS results were then used to simulate changes from FAPRI's May 1996 baseline for 1999-2004. Thus, the FAIR baseline is really an APAC simulation after 1998. All other simulations—including extending the 1990 farm bill and alternative assumptions about exports and yields—are based on APAC simulations, as well.

■ **National Changes in Acreage.** While previous legislation was in force, it often was said that farmers planted crops for the farm program, not the market. Thus, it might be expected that under FAIR, fewer acres would be planted to program crops, compared with plantings under an extension of the 1990 legislation (with no acreage-diversion program in effect).

Our analyses show this to be true for some program crops (corn and cotton)—but only to a very limited extent. And there is significant variation from year to year.

For 1997-2004 corn, total harvested acreage averages 1 million acres less under the FAIR than under the 1990 act (Fig. 1). This amounts to about a 1.3 percent decline. Harvested cotton acreage also is down slightly (200,000 acres, out of about 13 million acres). Soybeans' harvested acreage, on the other hand, increases 1.6 million acres or an average of about 2.5 percent over the 1997-2004 period, compared to acreage under the 1990 act. Slight changes are seen in wheat acreage from one bill to the next. Total harvested acreage for all seven major program crops (corn, grain sorghum, oats, barley, wheat, soybeans and cotton) is up slightly, relative to the 1990 act's acreage—about 400,000 out of 233 million acres.

In summary, a significant, but relatively small change in the mix of harvested acreage of major crops can be expected as agriculture moves to complete flexibility under the FAIR and away from the restrictions of previous legislation. Essentially, we should see more soybeans and less corn.

Over time under the FAIR, however, (Fig. 1) the story is more complex. Depending on the time frame considered, for example, corn harvested acreage *rises*

(by 1 million acres to 75.3 million acres in 1997), *falls* (by nearly 3 million acres during 1998-2000), and *remains the same* (with 2003's and 2004's roughly at the 1997 level). Given 1996 prices, it is not surprising harvested corn acreage increases in 1997. As we will see later, however, prices do not remain at 1996 levels, and their decline causes corn acreage to decline during 1998-2000. Then, in response to rebounding demand and prices, corn acreage returns to 1997 levels by the end of the period.

Harvested soybean acreage remains reasonably steady across time. Hence, harvested acreage for both corn and soybeans is near 1997 levels at the end of the projection period. But, relative to projections for the 1990 farm bill, corn acreage is down and soybean acreage is greater over the entire period.

Wheat's harvested acreage increases by 2 million acres to total 65 million acres in 1997; then it shows a gradual decline to 62 million acres in 2003 and 2004—about the same as if the 1990 act were extended. Cotton harvested acreage varies relatively little over the period, ranging from 13.5 million acres to 12.9 million acres.

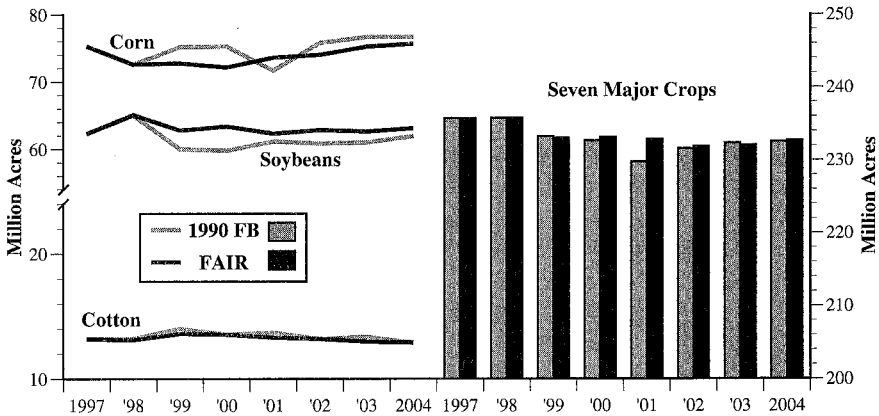


Figure 1. National Changes in Harvested Crop Acreage, 1990 and 1996 Farm Bills, 1997-2004

■ **Regional Changes in Acreage.** Figure 2 shows average changes in crop acreage over the 1997-2002 period under the FAIR Act and under a 1990 act extension for all 10 of the USDA-specified production regions. Over the six-year period:

1. **CORN AND SOYBEANS.** . . .

The **Corn Belt** corn acreage averages 660,000 acres less under the FAIR (out of 40+ million acres) than under a 1990 act extension. Soybean acreage, on the other hand, is up 990,000 acres (out of 30+ million acres).

The **Lake States** lose an average 264,000 acres of corn (out of 13+ million acres). But soybeans increase by 350,000 acres (out of 7+ million

acres), compared to the acreage projected for the previous legislation.

The **Appalachian** region also shows increases in soybean acreage of 116,000 (out of 4.7 million acres).

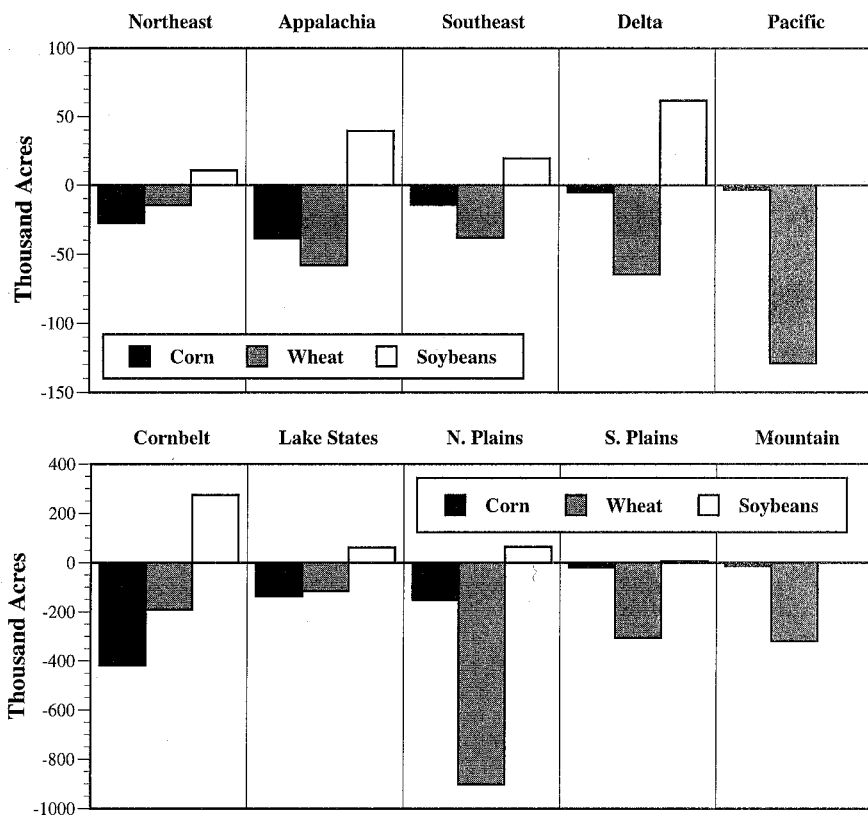


Figure 2. Average Changes in 1990-to-1996 Farm Bill Acreage Over 1997-2004, Thousand Acres

2. **COTTON**. . . Average 1997-2002 cotton acreage under FAIR, compared to that under the 1990 legislation (not illustrated in Fig. 2), is down slightly in all but two regions: the **Pacific** and the **Delta**. In the Pacific region, cotton acreage increases by 32,000 acres (out of about 1.9 million acres).

3. **WHEAT**. . . The story is mixed in the case of wheat. Compared to estimates for extending the 1990 act, FAIR wheat acreage in the **Corn Belt**, **Delta**, and **Appalachian** regions declines from 1997-2002. Average FAIR acreage in the primary wheat-growing areas of the **Southern and Northern Plains** shows some increase. As emphasized earlier, however, it is important to note that wheat acreage declines over time under the projections for either legislation. For example, under the FAIR, total Great Plains wheat acreage declines by 1.2 million acres during the 1997 to 2002 period.

■ **Crop Prices.** Crop prices are not expected to remain at their “high” 1995-96 levels over the next five to 10 years as stocks build to more normal levels and export demand growth slows. Crop prices are likely to decline through the turn of the century and then recover somewhat—but not back to 1996 levels by 2004 (Fig. 3).

In the case of corn, the price declines from \$3 per bushel in 1996 to \$2.22 in 1999 and then eases back up to \$2.57 by 2004. Wheat prices register \$4.18 per bushel in 1996, decline to \$3.23 in 2001, and then increase slightly to \$3.36 by the end of the period—but generally are relatively flat, beginning in 1998. Soybean prices follow

the same overall pattern as corn’s and wheat’s, starting out at about \$6.70 per bushel in 1996, dropping to \$5.54 by 2000, and climbing to \$6.22 by 2004.

Over most of the period, average prices will not be too different from those we often have seen: \$2.25 to \$2.50 a bushel for corn, \$3.25 per bushel for wheat, and \$5.50 to \$6 per bushel for soybeans (Fig. 3). As a farmer or banker, those are the prices I would use to make planting and investment decisions.

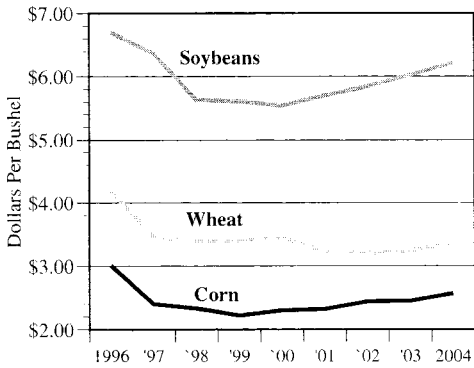


Figure 3. U.S. Season Average Crop Prices under the 1996 Farm Bill, Dollars Per Bushel

Compared to those projected for extending the 1990 act, corn prices under the FAIR are 10 to 20 cents per bushel higher. Soybean prices are 30 to 40 cents per bushel lower. These price shifts reflect a slight decrease in corn acreage and increase in soybeans, relative to the acreage likely under the old legislation.

■ **Net Returns to the Seven Major Crops.** After coming in at \$34 billion in the 1995-96 crop year, net returns above variable costs for the seven major crops jump to \$41 billion in 1996-97, due to higher prices and to \$5 billion in payments under the FAIR (Fig. 4). As prices and payments decline over the projection period, however, so do net returns. They decline nearly \$10 billion by the 2001-02 crop year. And, while net returns increase after that, they finish the projection period at \$36 billion—\$5 billion less than for the current crop year.

Under the FAIR, net returns to the seven crops are more than \$12 billion higher than they would have been if the 1990 act had been extended. The higher net returns occur in the first five years of the simulation, with the first crop year (1996-97) accounting for 41.7 percent of the increase.

■ **Government Payments.** The right side of Figure 4 shows government payments to farmers under the FAIR and under the old legislation. (2003 and 2004

FAIR payments are kept at FAIR’s 2002 level.) Under the extended 1990 act, virtually no payments are paid in 1996, because crop prices were near or above their respective target prices. Under the FAIR, on the other hand, \$5 billion in payments are made to farmers in 1996. FAIR payments also are \$4 billion higher in 1997. And, over the 1996-2002 projection period, \$11 billion more is paid to farm producers than would have been paid under the extended 1990 act.

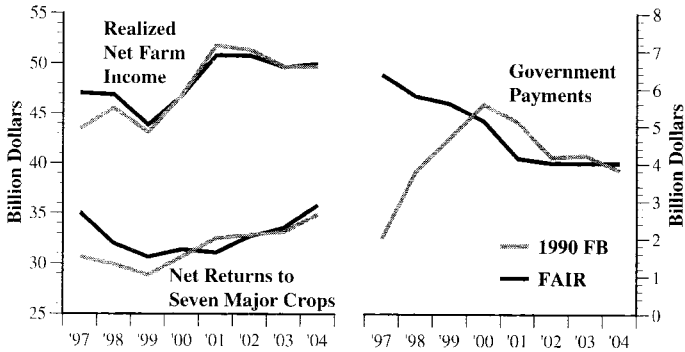


Figure 4. Net Returns to Seven Major Crops, Realized Net Farm Income, and Government Payments under the 1990 and 1996 Farm Bills

■ **Realized Net Farm Income.** The trend in realized net farm income over most of the projection period is upward, due mostly to increased returns to producers of livestock and nonprogram crops (Fig. 4). In comparison with the 1990 act’s expected outcome, the FAIR’s higher net income results from higher returns to program crops during the early years of the simulation period. Over the tenure of the new legislation, net income under the FAIR is \$9.4 billion greater.

Exports: A Wild Card in Any Analysis

Because a large portion of crop production is exported, export levels can markedly affect the level and variability of crop net returns. Here, I want to address the projected export value for major crops under the FAIR, within the context of recent historical crop export values. Next, I want to discuss briefly the impact of changing assumptions about China’s corn imports and about the European Union’s (EU) wheat exports over the period. Finally, I want to suggest how farm programs can affect the long-run and short-run demand for crop exports; then I will evaluate how the FAIR measures up against those yardsticks.

■ **Expected Crop Export Values Under the FAIR.** Figure 5 shows the historical value of corn exports back to 1980, as well as projections for 1996 to 2004 under the FAIR. Export value data are calculated by crop year, rather than fiscal year, to keep projections consistent with the historical data in Ray et al.

Using this corn graph, I want to make three points that are generally applicable.

1. Contrary to what economists were implying in the mid and late 1980s, the peaks in export value tend to be associated with years in which prices are relatively “high.” The troughs tend to fall in years when prices are relatively “low.” For example, peaks occur in the 1980, 1983 and 1995 crop years, when corn prices exceed \$3 per bushel. Troughs occur in the 1986, 1992 and 1999 crop years, with corn prices of \$1.50, \$2.07 and \$2.22.

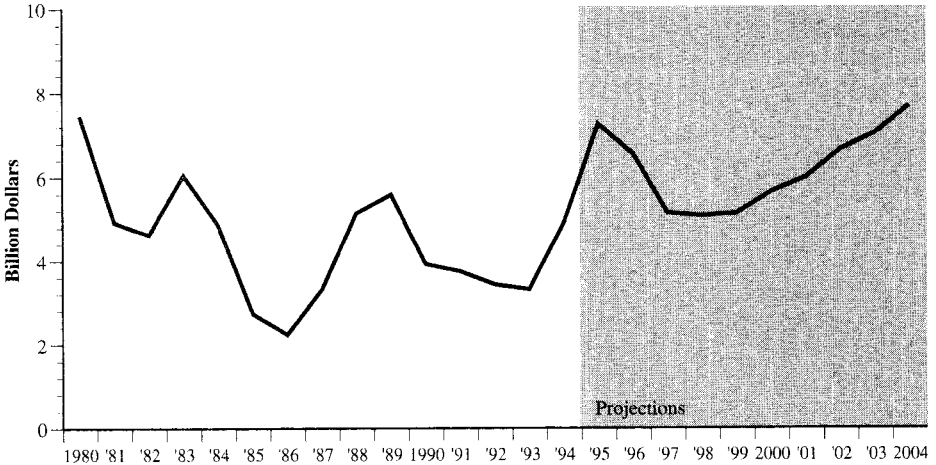


Figure 5. Historical and FAIR-Projected Value of Corn Exports

Export values rise when a rightward shift in export demand increases price and, hence, the product of volume and price. Conversely, a leftward shift in demand reduces prices and value. The data suggest that moving the demand curve down with lower prices does not generate more export revenue. The experience of the last decade should leave little doubt that grain export demand is price-inelastic. In fact, even though trade liberalization may have eased price inelasticity somewhat, I would hypothesize that major grain exports still are at least as and possibly more price-inelastic now than they were during the 1950s and 1960s. (And those decades were a time when agricultural economists explained the existence of farm programs on the basis of the inelasticity of demand and supply.)

For example, it is certain that Japan—both our major grain “demander” and the country with which we have the largest trade deficit—will buy our grain whether world prices are high or low. So long as our grain is available, price won’t matter that much, because they need to trade with us.

The overriding reason for the continued inelasticity of grain exports—and, perhaps, of its increased inelasticity—is market structure. Either we are the dominant player in the market (as with corn) or we are one of a few players in a well-developed oligopolistic market structure (as is the case with wheat and soybeans). Within days or even hours of our lowering prices, the marketing boards of the EU, Canada,

Australia, Brazil and such also drop their wheat or soybean prices. This reaction leaves world market shares virtually unchanged. Because the total volume of exports is up proportionately less than the prices decline, export earnings drop for all. Traders, transporters and input providers benefit from the increased volume, but U.S. grain producers lose revenue.

2. The steep climb in corn exports experienced between 1992 and 1995 will not continue. I point this out specifically because I sense that farmers and others expect corn and other grain exports to expand dramatically in the immediate years ahead and, with that, the prosperity of the 1970s and early 1980s to return. . . “but this time, based on fundamentals.” Given the conditions in early fall 1996, corn export volume actually is likely to decline from its 1995 level through 1998; then it should recover to its 1995 level in 1999, before increasing again in the early years of the next century.

Because projected *prices* fall during the early period and then recover more slowly, the *value* of corn exports shows an exaggeration of this same pattern. And, much of the increase in export volume after the year 2000 is due to an expected increase in export demand from China, which is discussed later.

While crop-year corn export value has increased in recent years, it took 15 years to reach its 1980 value. Actually, the 1995 crop-year value (which was heavily influenced by the mid 1996 run-up in prices) is slightly under 1980’s value. Perhaps even more surprising is that after 1995, we may have to wait until 2004 to reach the 1980 (and 1995) crop-year value of corn exports once again. A value of exports that is *unadjusted for inflation* and merely equal to the value seen 24 years earlier seems a shaky foundation for projecting a prosperous grain agriculture.

3. The export-value situation is nearly the same for soybeans, but is even less favorable for wheat and cotton (Fig. 6).

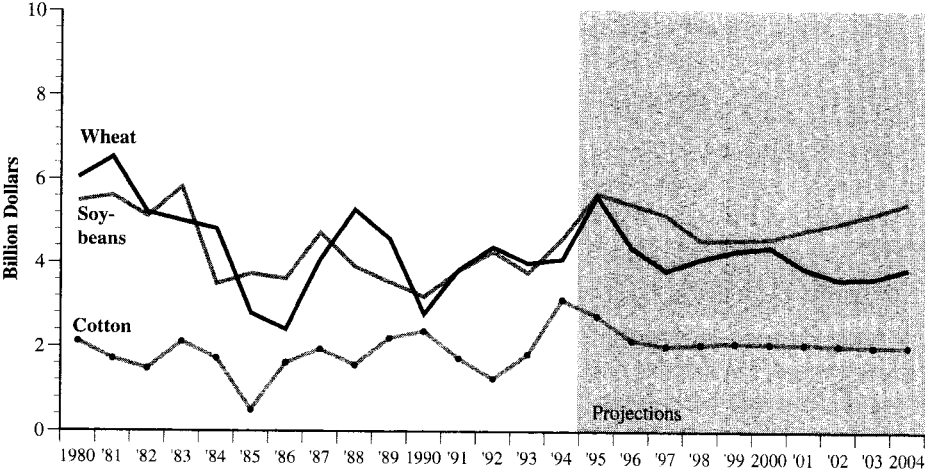


Figure 6. Historical and FAIR-Projected Value of Wheat, Soybeans, and Cotton Exports

The 1995 crop-year value of soybean exports (\$5.68 billion) nearly equals its historical-high 1983 level (\$5.82 billion). After that, it generally declines until the 2000 crop year (\$4.6 billion) and then gradually increases to somewhat less than its 1983 value in 2004 (\$5.48 billion).

Although wheat export value for the 1995 crop year (\$5.62 billion) is well above recent years' levels, it is \$1 billion below its record of \$6.53 billion, set in 1983. And, wheat export value falls after 1995. Unlike corn's and soybean's value, however, it does not recover at the end of the projection period. At \$3.88 billion in 2004, it is 30 percent below 1995's export value.

In the case of cotton, the crop-year historical record for export value was set in 1994 at \$3.13 billion. Figure 6 indicates cotton export value declines to \$2.75 billion in the 1995 crop year, drops to \$2 billion by 1997 and then remains near that level for the rest of the period. Hence, by the end of the projection period, both wheat and cotton export values are about two-thirds of their 1995 or 1994 value.

■ **Other Export Assumptions.** Exports are always difficult to predict—sometimes because the basis for an individual country's trade decisions are partly economic and partly political. The Soviet Union and European Union quickly come to mind as past examples. And, in the decade ahead, China and the EU may be the wild cards—China in case of corn and the EU for wheat. So, the question is: How would alternative trade actions by these trade partners affect U.S. agriculture?

As Figure 7 shows, China was a net exporter of corn until 1994, when it imported 4.1 million tons. China's corn imports are likely to remain near or below the 1994 level through crop year 2000. After 2000, however, China is expected to double 1994's level by the year 2002 and triple the 1994 level in 2004.

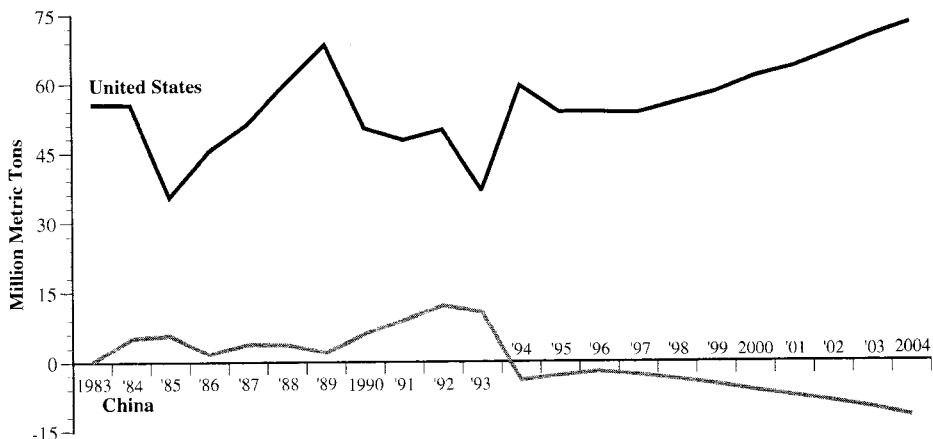


Figure 7. Historical and FAIR-Projected U.S. and China Feed Grain Exports

Whether China will remain a net corn importer is, in itself, an open question. So, the interval of possible corn trade numbers for China is extremely wide.

Recalling the increase in expected U. S. corn exports that occurs after 2000 is largely due to China, we ran a simulation that held the level of China’s corn imports at the year 2000 level. As can be seen in Figure 8, that change in assumption results in corn prices’ remaining relatively flat after the year 2000—rather than curving upward, as under the expected situation. In turn, corn prices are down by 20 cents per bushel in 2004. And, over the 2002-04 crop years, corn farmers lose about \$5.5 billion (a 9 percent reduction from what is expected for the period).

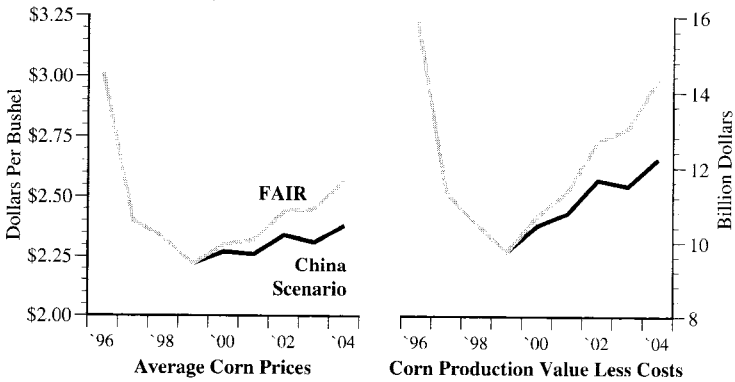


Figure 8. Average U.S. Corn Prices and Value of Production Minus Variable Costs, 1996 Farm Bill and China Scenario

Another interesting export situation/assumption concerns the EU. Our baseline projections assume that beginning in 2000, the EU will be able to export wheat profitably without export subsidies. This expectation contributes to flat U.S. wheat exports in the latter portion of the projection period and to wheat prices that continue to drop through 2003.

To gauge the effect of the EU assumption, we simulated increases in U.S. export demand from 2001-04. Those increases bring the U. S. share of world wheat trade back to its 1998-99 average.

Wheat prices and net returns increase significantly under this alternative assumption (Fig. 9). Wheat prices increase by 18 cents per bushel in 2001 and by 60 cents per bushel in 2003-04. Over the 2001-04 period, increased exports and prices boost net income to wheat farmers by more than one-fourth or \$4.5 billion (a 27 percent increase).

■ **The New Legislation and Export Demand.** Before discussing how farm programs in general and the new legislation in particular can influence export bookings,

a few comments are in order on the sources of year-to-year export variations and on the fundamental, more long-term determinants of export demand.

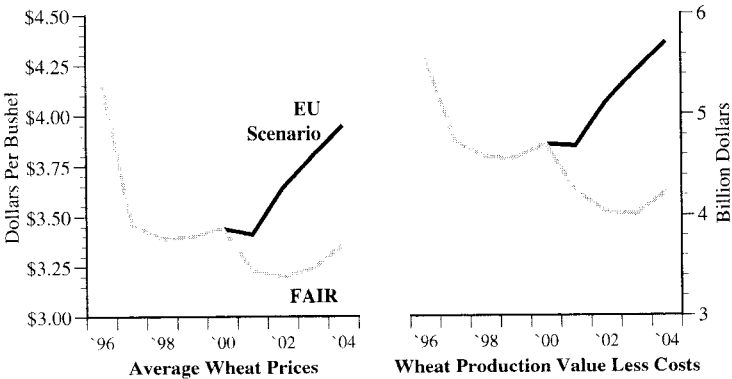


Figure 9. Average U.S. Wheat Prices and Value of Production Minus Variable Costs, 1996 Farm Bill and China Scenario

■ **U.S. Grain Exports in the Short and Long Runs.** Year-to-year variation in trade volume is influenced by changes in prices, exchange rates, credit arrangements, country-specific trade policies and a host of other factors. But, the overriding force that drives annual variation around *expected* or *baseline* trade-flows is fluctuations in grain yields and production. In the case of a country that produces a significant share of its grain needs, short-run changes in its grain imports—above or below “expected” levels—are largely dependent on whether it had a “good” or “poor” crop in the current production period. Similarly, changes in our competitors’ available “excess supply” for export—above or below “expected” levels—are largely determined by the size of our competitors’ crop. Hence, the lion’s share of the *variation* around *expected* levels in export demand for U.S. grain is due to production shortfalls/ bumper crops, either in net importing countries or in countries that compete with us on the export market.

Of course, expected or baseline U.S. grain exports are determined by population (especially in developed countries), per capita incomes (especially in less-developed countries), consumer preferences, long- and short-term credit arrangements, international and country-specific trading rules, and other demand-related factors. On the supply side, our dependability as supplier is important; in addition, the agricultural productivity of our export customers and competitors (whether that productivity is market or politically driven) can greatly affect U.S. grain export demand.

■ **How Can Commodity Programs Affect Exports?** In general, the short-term availability of U.S. grain for exports can be affected by such farm program mechanisms as an acreage diversion or other acreage/production restrictions, base acreages, buffer-stock programs, price levels that are relative to competitors’ prices, export

subsidies, and so on. Some provisions affect exportable supplies positively; others, negatively. Base acreage planting requirements, acreage or production restrictions, and noncompetitive prices are among those provisions that reduce exportable supplies. Buffer stocks could enhance exportable supplies in times of reduced domestic yields or sudden export demand surges.

In the long run, commodity programs can affect the long-term availability of exportable supplies if farm programs influence agriculture's ability to create and maintain excess capacity. By and large, the level of productive capacity of agriculture is determined by technology. Thus, to the extent that farm programs provide a stable price and income environment that encourages farmers and their bankers to invest in new capital-intensive technologies, farm programs can expand the productive capacity of agriculture. But, maintenance of diverted acreage that can be tapped on the basis of the next year or two also can allow farmers quickly to capture a large share of an export market that suddenly takes off.

So, How Does the FAIR Measure Up?

In terms of ability to respond to export markets by changing the commodities mix, the FAIR receives a five-star rating. Farmers are free to change crop mixes as market conditions suggest or as export markets emerge. In part, the CRP also serves as a store of excess productive capacity that could be brought on line, if needed.

On the negative side, the new farm bill provides no commitment to maintaining buffer stocks. Marketing loans continue and are likely to be used to ensure little or no accumulation of Commodity Credit Corporation-owned grain and cotton stocks. The Farmer-Owned Grain Reserve is suspended; so, no buffering is possible from it. Short-term diversions also are not available to "backstop" a spurt in export demand.

Hence, tremendous variations in prices and income are possible under the FAIR. Notwithstanding policymaker assurances to the contrary, if early 1996 grain production estimates had materialized and if they had been followed by an event of similar magnitude in the 1997 crop year, there would have been a very good chance that export embargoes would have been seriously considered—and perhaps implemented. While a supply-demand scenario as tight as that may not be "likely," it definitely can happen. And, whether embargoes became real or only feared, the result of such a tight situation would be the same. It would intensify the food self-sufficiency goals of our export customers and encourage those customers to arrange formal grain-delivery commitments with our competitors.

Even before the summer of 1996. . .that time when the price of corn shot up to \$5 per bushel and then fell below \$2.35 within a five-month span. . .if there was one thing analysts could agree on about the new farm bill, it was this: The bill will subject agriculture to increased price and income risk.

Also, if there is any agreement on how firms deal with risk, it's this: Firm

operators are unable to use the most efficient combinations of resources *post-hoc*, in order to produce the optimal mix of products in the short run. In addition, increased risk inhibits the adopting and banker financing of new and usually capital-intensive technologies.

Environmental Policy

Commodity programs have been deregulated. Will environmental programs that target agriculture be next?

In a word: “No.” It would be a mistake to believe there will be less emphasis on the environment in the foreseeable future.

At the same time, the FAIR’s environmental sections now allow for a more farmer-friendly implementation of environmental regulations by Farm Services Agency (FSA) and Natural Resources Conservation Service (NRCS) personnel. Their increased flexibility in administering the regulations includes the ability to waive penalties for a good-faith violation, when the operator agrees to rectify the situation. The standards remain unchanged, but farmers are given more time and technical assistance for correcting violations. In the case of wetlands, farmers will have more opportunities to substitute acreages or in other ways mitigate wetland problems.

The Role of Public Policy Educators

What is the role of public policy educators in this new era? With the virtual elimination of farm programs as we have known them, some might argue there is no longer any need for public policy educators. But I strongly disagree with this sentiment. For many educators, commodity policy has never been the main focus of their efforts. Environmental, natural resource, trade, and often state and local policy concerns consume the majority of time for a large share of public policy professionals. And, that work will need to continue—most probably, demanding more and more time.

Nonetheless, I firmly believe that *teachable* moments will be lost if we fail to work with our traditional commodity policy clientele right now. In fact, getting a good meeting turnout now may be easier than it was earlier, when the critical (although often trivial) farmer decision was whether to participate in commodity programs. Either now or very soon, farmers are likely to be highly motivated to learn how to deal better with the price and income uncertainty of the years ahead.

For example, for farm operators who want to stay with cash sales, an educational program that shows the income consequences of following alternative sales schedules might be in order. An even greater opportunity could be to initiate hands-on workshops that give farmers an opportunity to learn and, where possible, use “paper trades” to practice applying the risk-management techniques available to them. I commend the Federal Public Policy Extension Service, Farm Foundation and others who are building a set of instruction materials and sponsoring training sessions on the mechanics of risk management.

Now also may be an ideal time to educate farmers and the general public about the nature of agricultural markets. After all, except for water (which costs little in the United States), food is virtually the only “product” we *must* regularly purchase and consume—regardless of price—in order to stay alive. Of course, once a certain amount is consumed, no increase in consumer income or decrease in product price will entice people to consume appreciably more. But this idea (obviously oversimplified here) helps explain the giant share of price variability within a production period—particularly when coupled with two other concepts: (1) grain farmers’ lack of opportunity to alter within-year crop production plans significantly and (2) the inherent variability of crop yields, due to weather.

To help the problems of supply adjustment become apparent, add the following ideas to the concepts mentioned above:

1. Productive capacity is determined largely by technology—*not* long-term strategic planning.
2. Land and, to a lesser extent, other fixed resources usually stay in agricultural production—not only in the short run but also in the long run, either under the direction of the current operator or, if he/she goes bankrupt, a new farm operator.

These characteristics of the agricultural industry are quite different from those of other industries, in which dominant firms: (1) gauge current-year production, to meet expected demand; (2) develop long-term projections, to plan for future productive capacity; and (3) make any necessary sales of land, buildings and equipment to a different industry, rather than to another firm in the same industry.

As educators, we want to teach farmers the means to ameliorate the effects of agriculture’s market structure. Providing information about the “whys”—why farm prices are so variable and why aggregate demand and supply vary so little with changes in prices—can build understanding and further motivate our clientele to learn and use risk-reduction strategies.

Also, there is a need for public policy educators to be the voice of reason. As we speak, I believe a large number of traditional clientele “have expectations that will not be met and will make commitments that they will regret.” Several things are driving this surge of optimism. As mentioned earlier, many farmers expect mid-1996 or even higher prices to be the norm in the years ahead, due to accelerating growth in crop exports. This euphoria is fanned by quixotic expectations of how removing the “shackles” of government programs will affect grain agriculture.

And, a tremendous amount of money is being pumped into rural communities right now. On top of what will be relatively large market receipts, farmers received the first half of their 1996 FAIR payment last summer. They will receive the rest of their

1996 payment by the end of the calendar year and the first half of their 1997 payment in December 1996 or (if they prefer) January 1997. This influx of cash—as short-term as it is—tends to validate some farmers’ belief that agriculture has entered a new era.

How our farmer clientele choose to use their new-found purchasing power could well affect their long-term viability in agriculture.

When farmers have money, they tend to invest in land and to purchase machinery. And both are happening now. Land prices increased at double-digit rates toward the end of 1996 (Benjamin). Machinery companies are adding third shifts at assembly plants. If farmers make such purchases with cash, there is little effect on farm survival risk. Nonetheless, they remain subject to “bad business-decision risk,” because opportunities may be lost—opportunities that would have added more to (or taken less from) net worth.

In some cases, of course, replacing depreciated-out, worn-out machinery with new, more efficient machinery can be cost-effective and a good business decision. Or, circumstances may justify adding a piece of ground to existing property, even when the price makes the economics questionable.

There is no doubt, however, that many farmers who would benefit from a cash cushion in years ahead will decide to use that money as down payments—to buy land, farm equipment, pickups, recreational vehicles or home additions. And, if such decisions are based on extending this year’s cash income over the term of a loan, problems may ensue.

Again, because expectations about the export market probably are the major reason for the general optimism, our job is to point out the realities. As we have seen, it is very unlikely that exports are going to skyrocket in the immediate future. In fact, rather than increase, export values for major crops are expected to decline over the next few years and no more than to recover lost ground by the year 2004. So, given the current risky environment, it is critical that farmer investments in fixed assets be based on cash-flow projections that are realistic and err on the conservative side.

Above all, we public policy educators must be independent thinkers. We should be willing to question conventional wisdom.

With the best of intentions, we misled farmers in the early to mid 1980s, when exports began to weaken. At that time, the conventional wisdom was that grain exports had faltered because price supports and exchange rates were making our grain too expensive to compete in the world market. Hence, our analyses and our policy prescriptions—both based on the theory of perfectly competitive markets, rather than the actual oligopolistic world grain markets—promised that lowering price supports would increase not only quantities exported but also the value of those exports. Some of us went so far as to say that the increased export value would

be so large that it would offset any effects of inelastic domestic markets for grains. By suggesting that exports are exchange rate-elastic and price-elastic, we reinforced the belief that the heady export growth of the 1970s and early 1980s was long-term and that relatively little was needed to put it back on track. We generated expectations that influenced farmers to make long-term decisions based on unfilled promises of future prosperity.

This time around, we have the opportunity to redeem ourselves by providing farmers a more realistic basis for preparing for the future.

At a time when agriculture has been proclaimed to be entering a new era, we need to think especially clearly about what is important or relevant in policy analysis—and what is not. Obviously, changes in prevailing ideology or changes in the relative strength of interest groups should not affect our economic evaluation of the consequences of a given alternative. Nor can policy conclusions necessarily be drawn on the basis of changes in the organizational structure of agriculture.

Analytically, so long as no one farmer produces a sufficient quantity of a program crop to influence price, it makes no difference whether there are 6 million or 100,000 producers of program crops. What traditionally has been of paramount importance, however, is the nature of the supply and demand structure for program crops. A fundamental shift in the magnitude of supply and demand elasticities would affect our analyses greatly. And, depending on the new values, a shift could indeed set the stage for a new agricultural era, devoid of excessively gyrating crop prices and depressed farm incomes.

Thus, as analysts, we should focus on whether the demand for program crops remains as price-inelastic as it has been in previous decades. . . or whether it has become elastic enough that the quantity demanded increases greatly in response to a small decline in price, therefore exerting a stabilizing effect on the market. Similarly, we should focus on whether the elasticity of supply has increased enough that farmers promptly and completely respond to price changes by moving land and other resources in and out of production, thereby helping stabilize the markets and prevent chronic oversupply.

Literature is unavailable to build a convincing case that either demand or supply has become price-elastic. In fact, *a priori*, it probably would be easier to build a case for greater price inelasticity, compared to what we saw decades ago.

For example—now, as earlier—the largest use of corn and soybeans is as domestic livestock feed. Until relatively recently, however, livestock was produced in small units by individual farmers, many of whom were “inners and outers.” In contrast, today a large share of livestock—almost 100 percent for some species—is produced under some type of contract in fixed facilities that are so specialized and expensive that casual shifts in and out of production are not economically feasible.

In the very short run, these large livestock concerns likely use more sophisticated procurement strategies than previous producers used. One way or another, however, feed must be purchased.

Although shifting rightward as a result of health and preference changes, the domestic food demand for wheat and other grains in all likelihood remains the most inelastic of all. Surely the experience of the last decade has convinced (nearly) all that the export demand for grains is inelastic. As mentioned earlier, I would venture the hypothesis that grain export demand is as inelastic now as it was several decades ago, despite efforts to liberalize trade. On the supply side, while the complete planting flexibility of the FAIR may marginally increase the direct- and cross-supply elasticities for individual crop acreages, there is little reason to believe the new bill will significantly affect the price elasticity of supply for all cropland. If anything, because most of the land most likely to enter and leave production is in the Conservation Reserve Program, total program crop acreage is likely to be more, rather than less price inelastic than it was decades ago.

References

- Benjamin, Gary L. "Farmland Values and Credit Conditions." In *AgLetter*. The Federal Reserve Bank of Chicago, November 1996.
- O'Brien, Patrick. "Economic Analysis and the Shaping of Public Policy: A Farm Bill Perspective." Paper presented, abstract published in *American Journal of Agricultural Economics* 28, no. 1, July 1996, p. 12-23.
- Orden, David, Robert Paarlberg, and Terry Roe. "Can Farm Policy Be Reformed?" In *Choices*, first quarter 1996, p. 4ff.
- Orden, David, Robert Paarlberg, and Terry Roe. "A Farm Bill for Booming Commodity Markets." In *Choices*, second quarter 1996, p. 13-16.
- Ray, Daryll E., and Roy Frederick. "Economic Setting for Food and U. S. Agriculture." In *Food Agriculture and World Policy Into the Twenty-First Century: Issues and Trade-offs*. Eds. M. Hallberg, R. Spitze, and D. Ray. CO: Westview Press, 1994, p. 3-24.
- Ray, Daryll E., Steven P. Slinsky, Robert M. Pendergrass, and Richard White. "An Analytical Database of U.S. Agriculture, 1950 to 1992: The APAC Database." APAC Staff Paper No. 4-94. University of Tennessee: Agricultural Policy Analysis Center, December 1994.
- "The Food and Agricultural Policy Research Institute (FAPRI) 1996 Baseline Briefing Paper." CNFAP No. 9-96. University of Missouri-Columbia and Iowa State University-Ames: the Center for National Food and Agricultural Policy and the Center for Agricultural Rural Development, May 1996.
- "The Food and Agricultural Policy Research Institute (FAPRI) 1996 Baseline Briefing Paper Amendment." CNFAP No. 9-96. University of Missouri-Columbia and Iowa State University-Ames: the Center for National Food and Agricultural Policy and the Center for Agricultural Rural Development, July 1996.