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by Lyle Schertz and Warren Johnston sk any economist what happens if the government promises a selected group of people a check for seven years with very special provisions—the checks are attached to assets and will be sent annually to the asset owners or to particular people designated by the asset owners—and they will surely answer, "The value of the asset will increase to reflect the discounted value of the forthcoming checks."

Simple as it is, this capitalization of program benefits is the important story coming out of the 1996 Farm Act. We confirmed its importance by means of a project undertaken for the Economic Research Service in the spring of 1997 with the support of the Farm Foundation. This story is important for at least two reasons. First, it means that the benefits of the commodity provisions of the 1996 Farm Act rewards land owning—not land operating. Second, this capitalization is one of the driving forces leading to changes in lease arrangements between land owners and share croppers and tenants.

Some clarification of four particular words is in order. *Checks* are the Production Flexibility Contract Payments (PFCPs) initiated with the 1996 Farm Act. *Assets* are farm land. *Asset owners* are, of course, farm land owners, but only certain ones: those who own land that has an official record of growing certain crops. And, *particular people* are tenant and sharecropper operators of farm land.

The 1990 Farm Act, which expired with the

1995 crop, had continued a system of payments geared inversely to commodity prices when prices were below support prices. In its place our federal government, in the spring of 1996, the year of welfare reform, chose a different approach. At almost the last minute, legislators settled on a policy advocated starting in August 1995 by Congressman Roberts (R-Kans.), the then chairman of the U.S. House of Representatives's Committee on Agriculture.

Essentially, the new policy was quite simple. If you had received a farm commodity program check in any one of the past five years you then were qualified to receive a check (a PFCP) in each of the coming seven years. Importantly, the size of the checks, as with the older program, would be related to your historic production of particular crops, such as wheat, corn, cotton, and rice. The larger the historic production, the larger would be your checks, subject to payment limitations. Past production of commodities such as cattle, hogs, blackberries, apples, vegetables, and hay would not qualify you for a check regardless of your financial situation. But there is also a very important detail that is key to understanding the capitalization of farm program benefits into land values and transfer prices. Your "right" to your check is not because you are you. It is because you own the land. If you should decide to sell your farm land, the "right" to the checks would go to the new owner.

To begin the discussion, we present a word or

two about the study on which this article is based and the conditions of the farm economy in 1996. Next, we move to a fuller discussion about PFCP capitalization. Finally, we present a perspective on capitalization that is of critical importance to what happens as we approach the new millennium and engage the politics of a new farm act in 2002 or, more likely, in 2003.

The study

Our information comes from eight panels of professional farm managers and farm operators in regions of the country with historical importance of past farm programs to local and regional economies. The focus was on management responses to the 1996 Farm Act. Panel members were identified through interactions with state chapter leaders of the American Society of Farm Managers and Rural Appraisers (ASFMRA) and university and cooperative extension staff members with interests in farm management decisions. Meetings were held in the following areas:

- · Great Plains
 - -North Dakota
 - -Kansas
 - -Texas High Plains
- · Corn Belt
 - -Illinois
 - -Ohio
- · South
 - -Georgia
 - -Delta Region
- California
 - -Western Sacramento Valley

Previous to each panel meeting, information was solicited from the eight or so farm managers or operators planning to participate in the meeting. The participants' information focused on important 1996 management decisions, including selection of crop mixes, use of risk strategies, and adjustment of lease provisions, as well as changes in land values. These responses provided "base" information which was utilized to prepare workbooks for use during the panel meetings. The workbooks summarized the information received earlier and provided a framework for the panel discussions focused on prospective conditions and management decisions in 1997 and the 2000–2002 period.

The new law eliminated planting restrictions as a qualification for government checks, but panelists indicated they did not have time to fully incorporate this new flexibility into their 1996 farming decisions. In many regions of the country preliminary cropping plans and production financing based on those cropping plans, and even some plantings for

Payments Worth \$166 in 1996 for Each Corn Contract Acre with Interest Rates at 8 Percent			
Year	Expected PFCP	Discount Factor	Present Value of PFCP
1996	\$21.94	1.00	\$21.94
1997	42.09	0.93	38.97
1998	32.72	0.86	28.05
1999	31.69	0.79	25.16
2000	29.04	0.74	21.35
2001	23.38	0.68	15.91
2002	22.67	0.63	14.29
Total			\$165.68

the 1996 crop year, were necessarily made before the law was signed by the president on 4 April 1996.

Capitalization of the expected checks—the important story

Panelist-provided base information and discussions affirmed that the PFCPs quickly affected the price of land and cash rental rates for land. They became an additional component of the income stream. This was logical. If your farm acreage had been "enrolled in the earlier acreage reduction program" in at least one of the past five years you were on the list for a check. If it had not been, you were not on the list.

So it was relatively simple arithmetic to estimate the present value of the PFCPs associated with any tract of land: list the amounts promised by the legislation for each of the years from 1996 through 2002 and apply discount factors which recognize that a dollar that you won't receive until 2002 is not worth as much to you today as a dollar that arrives in the mailbox tomorrow. Our arithmetic using an 8 percent discount factor shows that for corn the PFCPs had a 1996 present value of \$165.68 per contract acre (see table). Similar calculations give these numbers: for wheat, \$104.04; for cotton, \$212.58; and for rice, \$601.92 per contract acre. We recognize that not all farmers and land owners know the finer points about discounting future streams of income, but common "barn door" arithmetic will give essentially the same answers and reveal the substantial value of these PFCPs to land owners. Nationally, based on an 8 percent discount factor, the 1996 present value of all of the PFCPs authorized through 2002 by the 1996 Farm Act is \$29.7 billion.

In thinking about capitalization of commodity program benefits surely one must take into account that the 1996 Farm Act's new system of checks (PFCPs) substituted for the 1990 Farm Act system of transferring income from the federal government to farmers. Listening to and evaluating what the

panelists told us leads us to conclude that the 1996 Farm Act benefits were being valued more than what benefits associated with a continuation of the 1990 Farm Act would have been.

The high degree of certainty attached to the PFCPs makes their valuation fundamentally different from the valuation of price deficiency payments, which were a prominent feature of the 1990 Farm Act income transfer system. With the new act, the stream of PFCP income and its timing is known through 2002. In contrast, the anticipated value of deficiency payments under the old law was conditioned by commodity price outcomes and the realization that the deficiency payments were to vary inversely with commodity prices: higher prices would lead to lower (or no) deficiency payments, and vice versa.

Thus, although deficiency payments under the previous farm bill could be counted on to provide some stability to the combination of commodity price and deficiency payment, their eventual amounts were unknowns since they were dependent on market outcomes.

In the heady atmosphere of early to mid 1996, with farm prices of corn close to \$4.50 per bushel and farm wheat prices over \$5.50 per bushel, the anticipation of strong commodity prices gave rise to expectations for low or nil deficiency payments if the 1990 Farm Act was continued into the future. In that setting the capitalized value of the PFCPs appeared as a bonus to many land holders, whether they were actual operators or landlords, and to land buyers. In fact, the expectation of low deficiency payments because of expected high commodity prices in comparison to the prospective "sure" PFCPs was used in soliciting political support for the proposed PFCPs.

PFCPs affect value of farm land

PFCPs did quickly affect the price of land and land rental rates. The land market in many areas was already adjusting to higher commodity prices and the optimism over commodity exports in the future when the 1996 Farm Act became law. PFCPs became an important additional component of demand for land. If the 1996 Farm Act had not included provisions for PFCPs or some similar payment, land prices and farm land rents would be lower than they are today in most, if not all, areas of the country. In areas where demands for land have evidently not increased substantially, like the Texas High Plains dry lands and western Sacramento Valley rice land, the PFCPs are reflected in land prices which in early 1997 were holding their value in the face of lower crop returns.

The stream of PFCP income, ranging from \$5.6 billion for FY 1996 to \$4.0 billion for FY 2002,

directly affects the value of farm land because the PFCPs are attached to the land. If the rights to the PFCPs had been granted outright to people, including legal entities such as corporations (regardless of the criteria used to make the grants), and not attached to the land, there would be no link between the PFCPs and farm land values and farm land rental rates.

PFCPs and land leases

The capitalization of the PFCPs to the land owner is quite clear for cash lease situations. The negotiated cash lease payment to the land owner reflects the expected receipt of the PFCPs by the renter. In many cases, intense competition among operators to increase the size of their operations was already contributing to higher cash rents to landowners. The resulting rents that were paid essentially passed on much if not all of the PFCPs to the landlords even though technically the renters received the checks.

However, the capitalization of the PFCPs into farmland rents is much more problematic when crop share leases are involved. County committees and USDA personnel review crop share leases for compliance with local practices regarding the split of PFCPs between land owners and tenants. Panelists perceive that the general policy is that the PFCPs are to be divided between land owner and tenant proportional to the sharing of the crop. Thus, for the land owner to extract the full economic rent from the PFCPs attached to the land rented they need to negotiate adjustments in other clauses of the lease in an equivalent amount. There are opportunities, of course, to do just that-change the crop shares and input cost shares. But these kind of changes take time and can raise questions as leases are reviewed.

Nonetheless, comments by panelists indicate that PFCPs provide incentives for farm land owners to negotiate changes in the terms of their crop share leases to take into account the value of the PFCPs and that they are doing so. In some cases they are even changing from crop share leases to cash leases and less risk sharing.

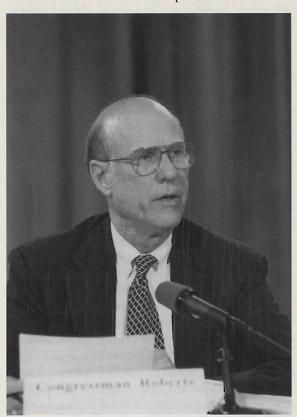
In still other cases, panelists indicated that some land owners quit renting their farm land in order to more directly "capture" the PFCPs. Then, rather than directly operating the land, the landowner hires operators (sometimes the person who had been the tenant) to do custom field work and pays input suppliers to make the appropriate applications of inputs. USDA rules evidently permit this type of change—a change which avoids questions about who gets the PFCPs. This custom-operation approach to farming seems most likely in areas of intensive crop production with a high proportion

of land being cropped with standard cultivating and harvesting practices.

These observations imply that there is a basic incompatibility between the Farm Act's implicit attachment of the PFCPs to the land and the act's Subtitle B, Sec. 111 (c) which states, "In carrying out this subtitle, [Subtitle B-Production Flexibility Contracts] the Secretary shall provide adequate safeguards to protect the interests of tenants and sharecroppers." One's appraisal of this incompatibility depends on the definitions one attaches to several words, including adequate, safeguards, protect, and interests. Even so, it is clear to us, based on the panel discussions, that the 1996 Farm Act drives a wedge between land owners and tenants who have quickly become aware of the value of PFCPs. Legislators can no longer anticipate that culture and personal relationships will protect tenant interest in the face of a law attaching benefits to land and permitting those benefits to be transferable with the land. In spite of the legislation directing the secretary to safeguard the interests of "tenants and sharecroppers," the attachment of the PFCPs to land makes most steps in this direction charades, simply because they can, in effect, be evaded.

Approaching year 2003

From our perspective, there are some important questions to be considered in the context of the next farm act. These relate to possible reduction of



Then House Agriculture Committee Chair Pat Roberts, defending in 1995 his proposed farm legislation.

land values to reflect the decline in the present value of remaining PFCPs as the end of the 1996 Farm Act is approached and the uncertainty about whether there will be any PFCP checks after 2002.

Gradually the value of farm land attributable to PFCPs will diminish for two reasons. One reason is that the discounted value of the PFCPs for the years remaining under the 1996 Farm Act will gradually decline. For example, the value of the PFCPs for years 1996 through 2002 discounted to 1996 was \$165.68 per contract corn acre. In comparison, the value of the PFCPs for years 1997 through 2002 discounted to 1997 was \$143.72. Similar calculations show \$104.72 for 1998, \$76.70 for 1999, \$51.54 for 2000, \$30.20 for 2001, and \$14.29 for 2002.

The other reason is the uncertainty about PFCPs after 2002. In 1996 it was relatively easy to find the numbers to write on the barn door. But as 2002 gets closer the question of numbers to write for 2003, 2004, and beyond becomes critical. And, if you develop some guesses, what confidence do you have in them?

The popular farm press and even some university professors would have you believe that the PFCPs from 1996 through 2002 are farm program payment phaseouts. But the 1996 Farm Act does not say that. To our knowledge its chief architect, Mr. Roberts, has never said that either. So why should farmers?

At the same time, the record of the Congress on previous farm legislation suggests that there will certainly not be a new farm act until 2002, and very likely not until 2003. Consequently, we expect widespread and great uncertainty in the 2000–2002 years about payments after 2002, and this uncertainty, in contrast to the certainty about the payments between now and then, will indeed have an effect on land prices and on land rents for leases extending beyond 2002.

The magnitude of the effects of these prospects in combination with prospects for commodity prices on land prices is, of course, unknown. But it is certain that policy makers, economists, and land owners need to be alert to the expectations, offset or not by changes in commodity prices.

■ For more information

Reports related to the project reported on in this article are available online. The ERS staff report, Staff Paper No. AGES 9711, December 1997, Managing Farm Resources in the Era of the 1996 Farm Act, as well as several manuscripts for each of the area panels and several appendices, are posted at the following URL: http://usdafarm.ucdavis.edu

Lyle Schertz is retired from the U.S. Department of Agriculture, founding editor of CHOICES, and author of a forthcoming book, The Making of the 1996 Farm Act. Warren Johnston is professor emeritus (on recall) in the Department of Agricultural and Resource Economics at the University of California, Davis.