The Regional Distribution of Farm-Level Impacts
from Acreage Set-Asides

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Executive Summary

The question of whether the United States should once again authorize acreage set-asides will be addressed now that Congress has decided to hold hearings about a possible early rewrite of farm policy. Questions about the impact of acreage set-asides on farm income and national policy goals will need to be answered. This paper takes an initial look at three pertinent questions: (1) What impact will acreage set-asides have on the prices of corn, soybeans, and wheat? (2) What would be the differential farm-level impacts of set-asides across regions? And (3) How might acreage controls work with existing marketing loans?

A 10 percent reduction in corn, soybeans, and wheat would significantly raise prices in a one-year time frame. Over a three-year period, production in other countries would increase, and processors and livestock feeders would adjust their demands, so the price impact would be much less significant. Thus the major benefits from a permanent reduction in supply would be relatively short-lived and not shared equally across crops. For example, soybean producers would benefit much less than corn producers because the soybean buyers have a greater ability to find alternative supplies and ingredients than do corn buyers.

The attractiveness of supply control programs, either voluntary or mandatory, also would not be equal across farmers of the same crop in different production regions. Those producers that reside in areas that have low per-acre land rents relative to per-acre crop revenue would receive a disproportionate share of program benefits. Corn Belt farmers with their high cash rents and high per-acre yields should be much less enthusiastic about a program that ties payments to land set-asides than irrigated corn farmers in Oklahoma with relatively high yields, high costs, and low land rents.

Supply control would have to increase prices above loan rates before any farmer would see a benefit if marketing loans were continued. Thus, maintaining current eligibility requirements for marketing loans would make the attractiveness of voluntary set-asides quite low. Some additional inducement, such as a higher loan rate for participating farmers, would have to be enacted before a voluntary program would become feasible.

Set-aside programs would tend to target subsidies and would tend to reduce production in regions that would otherwise go out of production first when prices were low. One possible justification for this type of program would be to counteract the acreage-expanding impacts of the U.S. marketing loan and crop insurance programs.

THE REGIONAL DISTRIBUTION OF FARM-LEVEL IMPACTS FROM ACREAGE SET-ASIDES

Larry Combest, chairman of the U.S. House Committee on Agriculture, has announced that his committee will be holding farm bill hearings with a possible objective of an early rewrite of the Federal Agriculture Improvement and Reform (FAIR) Act. Without a rewrite, the Act will expire with the 2002 crop. One of the key questions that his committee will have to address is whether to bring back acreage set-asides. In past farm bills, the secretary of agriculture could limit eligibility for program payments to those farmers who set aside a certain percentage of their normal planted acreage. Set-asides were used to control total production and increase price—which reduced per-bushel payments—and to limit the acres that qualified for payments, thus reducing program costs.

Under the FAIR Act, all farmers are eligible for marketing loan payments and there are no government controls on what can be planted. Rather than planting their "base" acres to protect program payments, farmers began to make planting decisions guided more by the relative profitability of different crops. The result has been a dramatic change in farmers' planting decisions across the United States. As shown in Table 1, soybean acreage has dramatically increased in many states. Wheat acreage has decreased significantly in most states, and corn acreage has expanded in most states, with the largest percentage increases occurring outside the Corn Belt.

The surge in corn and soybean acreage comes despite weak prices for both crops. And wheat prices remain depressed despite the drop in wheat acreage. Some feel that U.S. farmers are planting too many acres for their own good, and that the FAIR Act should be abandoned in favor of a farm bill that would allow the U.S. Department of Agriculture (USDA) to reinstate acreage controls. For example, Professor Darryl Ray at the University of Tennessee, in a series of policy papers and presentations, argues that U.S. farmers would be better off if U.S. crop acreage could be constrained by USDA when price is low. He argues that low crop prices indicate that the United States has

TABLE 1. Planted acres ('000) in major producing states in 1995 and 2000

	Corn		Soybeans		Wheat	
State	**1995**	**2000**	**1995**	**2000**	**1995**	**2000**
Colorado	950	1,350	0	0	2,940	2,548
Illinois	10,200	11,200	9,750	10,300	1,480	950
Indiana	5,400	5,700	5,000	5,700	700	550
Iowa	11,900	12,300	9,300	10,600	50	20
Kansas	2,150	3,400	2,100	2,900	11,700	9,800
Minnesota	6,700	7,100	5,900	7,200	2,298	2,022
Missouri	1,650	2,950	4,600	5,150	1,350	1,050
Nebraska	8,000	8,400	3,100	4,700	2,150	1,750
North Dakota	700	1,100	660	2,100	11,290	10,170
Oklahoma	160	330	290	500	6,800	6,100
South Dakota	2,800	4,300	2,550	4,300	2,883	3,020
Texas	2,100	2,000	250	380	5,800	6,000
U.S. Total	71,479	79,579	62,495	74,501	69,031	62,529

excess supplies of crops. Furthermore, he argues that these low prices and excess supplies are not self-correcting because U.S. farmers will not let their land go idle.

Given this policy context, it will be useful to examine the economic impacts of acreage controls. This paper gives insights into three questions: (*a*) What would be the market price effects if crop acreage were reduced? (*b*) Who would be the winners and losers from acreage controls? and (*c*) How might acreage controls work with existing marketing loans? While these questions have been studied previously, they have not been adequately addressed in the context of the FAIR Act. Answers to these three questions should help guide interests groups and policy makers in their current farm policy deliberations. Before addressing these three questions, it will be useful to first examine the economic forces that influence farmers' acreage decisions to determine if we are indeed in an "oversupply" situation.

Farmers' Acreage Decisions

A useful framework to examine farmers' decisions is to make the simplifying, yet straightforward, assumption that farmers take actions that make them financially better

off. This leads to the conclusion that farmers will not plant an acre if revenue (price times yield) from the acre will not cover the additional costs that vary with the planting decision. Variable costs include the cost of seed, chemicals, fertilizer, labor, fuel, and repairs. Costs that do not change, such as fixed land expenses and depreciation, are not considered in the planting decision. To maximize their financial well-being, farmers will tend to plant the crop that achieves the highest excess of revenue over variable expenses.

Clearly, farmers can lose money in a crop year by following this decision rule if the excess of revenue over variable cost fails to cover all fixed expenses. But if the land is not planted, both revenue and variable costs are zero, which means that none of the fixed costs are covered.

When land rental markets are functioning, the best measure of the difference between expected revenue and variable cost for a parcel of land is its rental rate. The maximum a farmer would be willing to pay to farm an extra acre is the excess of revenue over variable expenses. If there are many potential renters, then we should expect land rents to be bid to this difference.

This simple decision rule can be used to explain why we might not see large acreage decreases when price declines. Consider an Iowa farmer who has the opportunity to plant corn, soybeans, or nothing. Assume that fixed costs for this farmer are $150, expected yields are 150 bu/ac for corn and 40 bu/ac for soybeans, and variable expenses are $120/acre for corn and $90/acre for soybeans. Suppose the farmer expects to receive $1.50/bu for corn and $4.10/bu for soybeans at harvest sales. At these low prices, revenue less variable costs is $100/acre for corn and $94.50/acre for soybeans, so the farmer would tend to want to plant more corn and less soybeans. With corn planted, expected farm profit for the year would be -$50/acre for corn, compared to -$150/acre if nothing is planted, so the land will not be left idle. In fact, as long as the expected price of corn is greater than $0.83, the land will be planted.

What would happen if the expected soybean price rose to $5.00/bu and the corn price was held constant? Now soybean net revenue (expected revenue less variable costs) would be $35/acre greater than with corn. This increase in soybean price would result in a fairly dramatic increase in soybean acreage with a resulting decrease in corn acreage.

However, if corn prices were to increase by the same proportion (to $1.83/bu), then the farmer would still tend to choose corn, and not soybeans.

This simple example illustrates that we should expect to see acreage shift between crops only if relative prices change. If all prices rise or fall together, then we should expect only modest changes in crop acreage decisions. What will change is land rental rates, rising as crop prices rise, and falling as prices fall.

This example also illustrates that when all prices fall together, total crop supplies may not decrease significantly in the short run (one year). Crop supply will not fall at all in the most profitable areas (where land rents are highest) if the price decline is less than that required to drive land rents to zero. Only in those locations where land rents are already low will a general drop in prices result in land being taken out of production.

Over time, however, the drop in crop supply due to low prices will increase as farmers have more flexibility to change fixed expenses into variable expenses. When this occurs, variable expenses increase, and it makes more sense not to plant land when prices are low.

Effect of AMTA Payments

Before leaving this discussion of land use decisions, consider what would happen to our corn-soybean farmer if the government announced a doubling of Agricultural Market Transition Act (AMTA) payments (also known as transition payments and freedom to farm payments). Because AMTA payments flow to farmers regardless of which crop is grown, such a doubling would have no effect on the relative profitability of the two crops, so a doubling of AMTA payments would not affect acreage decisions. Of course, the increased payments would help the farmer cover fixed expenses, but they would not influence the choice of crop.

Effect of Loan Rates

Now, suppose the farmer was guaranteed $5.16/bu for soybeans and $1.76/bu for corn through the government loan deficiency payment (LDP) program. Net revenue from soybeans is now $142.20/acre compared to $139/acre for corn. The availability of LDPs increases the relative profitability of soybeans, so LDPs should be expected to increase

acreage devoted to soybeans. Marketing loan programs will only be acreage neutral when loan rates do not affect relative profitability of competing crops. Many argue that the large expansion in soybean acreage shown in Table 1 can be attributed to soybean profitability enhanced by the soybean loan rate. Furthermore, marketing loan programs will tend to keep acreage in production in some higher cost areas because they prevent land rents from being driven to zero.

Do We Have Excess Supplies?

Many argue that we need to adopt acreage set-asides because modern agriculture will always generate surplus supplies, unless crop yields fall short due to adverse weather (for example, see Schnittker and Harl). To an economist, a surplus or excess supply exists when more is produced than is consumed in a market. Using this definition, the FAIR Act cannot generate excess supplies because the policy is designed to make sure that all that is produced in a crop year is consumed in the following marketing year. The LDP and marketing loan programs have taken government out of the business of multi-year crop storage, and market prices are allowed to adjust freely to guarantee that all that is produced will be consumed or purchased and stored privately.

How then, can advocates of acreage set-asides argue that we have excess supplies? Because current policy guarantees a price to producers and allows market prices to adjust below this price guarantee, there can exist a wedge between the loan rate price that producers receive and the price that consumers pay. In this regard there is indeed an excess supply—but it is caused by acreage being planted in response to the government-guaranteed loan rate.

Thus, supply is larger than what would be produced without government intervention. One solution to this oversupply situation is to eliminate the price guarantee. This would drive production out of the highest-cost regions and reduce the overall supply of crops.

But this policy prescription is not what advocates of acreage set-asides have in mind. Rather, they believe that even without federal price guarantees, farmers' own free actions will lead to crop supplies too high to sustain a price level that they would like to achieve in the marketplace. Instead of $1.40 corn at harvest, advocates would prefer that market

prices were $2.20. But a 10-billion-bushel corn crop is too large to support a $2.20 price. So supply control advocates define surplus production as the amount by which production must be reduced to support the price they have in mind, thus giving excess supply a normative meaning; that is, a meaning that makes sense only when you adopt their vision of what market price should be.

This somewhat detailed discussion of farmers' acreage decisions and current farm policy sets the framework for an examination of the economic impacts of reinstating acreage controls for corn, soybean, and wheat farmers.

Market Price Effects from Production Restrictions

If U.S. farmers were to reduce their planted acreage of a particular crop, the price for that crop would rise. The magnitude of the price response depends primarily on the availability of substitutes for the crop. When good substitutes are readily available, the magnitude will be small. If few substitutes are available, prices may increase dramatically.

Consumers of U.S. corn, soybeans, and wheat include domestic and foreign processors and livestock feeders. Faced with higher prices, these consumers have four options: they can pay the higher prices and continue to consume the same quantities as before; they can reduce the quantities consumed; they can switch to corn, soybeans, or wheat produced in other countries; or they can switch crops, from corn to barley for example, or from soybean meal to canola meal. Because of the dominant position of the United States in world corn markets, the ability of consumers to switch from U.S. corn to other countries' corn is limited. The United States enjoys less dominance in world wheat and soybean markets, and soybean meal and oil can be replaced by other meals and oils. Thus, the responsiveness of corn prices to a reduction in production is likely greater than the responsiveness of wheat and soybean prices.

The number of substitutes for a particular crop will increase over time, as consumers have time to adjust their buying habits and learn how to make do with substitute ingredients, and as other countries have time to ramp up production of the crop that enjoys the price increase. Thus the magnitude of the price response will decline as time passes.

This responsiveness is best measured by the price sensitivity of demand (which is the inverse of the own-price elasticity of demand). Price sensitivities measure the percentage change in price from a 1 percent change in quantity produced. Estimates of one-year price sensitivities are 2.9 for corn (a 1 percent decrease in production will result in a 2.9 percent increase in price), and 2.0 for wheat and soybeans. These sensitivities will decrease substantially over time. Estimates of the three-year price sensitivity from a permanent decrease in U.S. production range are much more difficult to estimate. But for the subsequent discussion, price sensitivities of 1.0 for corn, 0.7 for wheat, and 0.5 for soybeans will be used. These figures likely overestimate the responsiveness of price over a three-year period.

Table 2 shows the price impacts of a 10 percent permanent reduction in U.S. production of corn, soybeans, and wheat in one year and in three years. Base price levels are set at the level projected by the Food and Agricultural Policy Research Institute (FAPRI) for the 2001–02 marketing year.

The one-year effects are calculated assuming that other countries do not have time to adjust their production plans and that livestock producers have limited time to adjust their feed requirements. Given this lack of adjustment, the price effects are substantial. This reflects the widely accepted notion that agricultural prices are quite sensitive to production reductions in the short run. However, these price impacts cannot be sustained over time. Other countries will respond to these price increases by increasing their production levels and livestock feeders will reduce their feed demands. Some economists estimate that price sensitivities of corn, soybeans, and wheat would eventually fall to nearly zero as supplies around the world responded to cutbacks in U.S. production.

TABLE 2. Price effects of a 10 percent decrease in U.S. production

	Corn ($/bu)	Soybeans ($/bu)	Wheat ($/bu)
Base price	2.02	4.33	2.67
Price with 10% Supply Reduction			
After one year	2.61	5.20	3.20
After three years	2.22	4.55	2.86

Before concluding this discussion of the price impacts, it is important to note that a 10 percent decrease in production will not come about from a 10 percent decrease in acreage. We have learned from past experience with set-aside programs that the average yield of land taken out of production is typically less than the average yield of land in production, so that production decreases less than does acreage. As will be discussed in the next section, participation in voluntary acreage reduction programs will tend to be highest in the high-cost production areas. Generally, high-cost production areas are, on average, low yielding, which makes the average yield of land taken out of production less than the average yield of land in production. And, clearly, participating farmers have an incentive to minimize the cost of setting aside land by taking their highest-cost land out of production first.

Slippage may approach 100 percent (no supply decrease) at low levels of acreage reduction. As acreage reduction increases, slippage rates will tend to decrease. Past studies (Gardner; Tweeten; Love and Foster) estimate that acreage reductions of somewhere between 14 and 24 percent would be required to reduce aggregate supply by 10 percent. Hoag, Babcock, and Foster estimate that the primary reason for this slippage is that regions with low-yielding land participate in voluntary set-aside programs at a much higher rate than do regions with high-yielding land. The next section shows that this is as would be expected from self-interested farmers.

Winners and Losers from Acreage Reduction Programs

A simple model of farmer profit will prove useful to seeing how regional heterogeneity in yields and cost affect the magnitude of benefits from a supply control program. Profit from a single crop on a farm in region i can be written as

$$\pi_i = A(Py_i - c_i) \tag{1}$$

where π_i is profit, A is acres, P is output price (assumed constant across all regions), y_i is crop yield per acre, and c_i is variable cost per acre. Fixed costs are ignored in this analysis because they will not change if acreage is reduced.

First consider the effects of a mandatory reduction in acres. Although this option has been rejected many times by both politicians and producer groups, it is a useful place to begin the analysis. Let α be the percentage of acres that must be left unplanted. Profits will change because acreage is reduced and because price will be increased. For now, assume that yields and per-acre costs remain constant. The change in profit can be written

$$A[\Delta Py_i - \alpha(P_1 y_i - c_i)] \tag{2}$$

where ΔP is the magnitude of the price increase, and P_1 is the new higher price. The term in parentheses is simply the return over variable costs in region i, which, as discussed in the first section, is simply land rent if land rental markets are functioning. Equation (2) shows that the net benefit from an acreage reduction has two parts. First, the farmer benefits from the increase in price. The magnitude of the increase is simply acreage times yield times the increase in price. The farmer loses, however, because planted acreage is reduced. The cost of this restriction is simply the number of acres set-aside times the per-acre land rental rate. Note that this rental rate is determined by the price that exists under restricted supply.

Thus, areas that have high yields and low land rents benefit the most from acreage set-asides. One way that high yields go hand in hand with low land rents is where production costs are high. Perhaps some irrigated corn acreage in Kansas or Colorado where irrigation costs and pesticide costs are high is the best example. Areas that lose the most from set-asides are those areas with low yields and high land rents.

Often, yields and high land rents are highly correlated. Where yields are high, so too are land rents. And where yields are low, land rents are low. In this case the high-yielding farmer benefits the most from the price increase but also suffers the most because highly productive land remains unplanted. The low-yielding farmer benefits least from the price increase, but the cost is quite low.

Who Benefits from Mandatory Acreage Controls?

We can determine when a farmer will have a positive net benefit from a mandatory set-aside program by rearranging the terms in equation (2). The net benefit from the

program will be positive when the percentage change in price divided by the percentage change in acreage is greater than the ratio of land rent to per-acre revenue. That is, if

$$\frac{\%\Delta P}{\%\Delta A} > \frac{P_1 Y_i - c_i}{P_1 Y} \tag{3}$$

then the net benefit is positive. If there is no slippage, then the left-hand side of this equation equals the price sensitivity of demand. With slippage, the price sensitivity puts an upper limit on the left-hand side. The right-hand side of the inequality is always less than one because land rents (the numerator) will always be less then per-acre revenue.

If the price sensitivity is greater than one, as it is with corn, soybeans, and wheat with a one-year time frame, then it always is in the short-run interest of farmers to cut output because total production costs will go down and total revenue will go up. However, when the price sensitivity is less than one, as it is in the longer run, production costs may go down, but so too does total revenue, so whether a farmer is better off depends on the ratio of land rent to per-acre revenue. If this ratio is large in a region, then farmers in the region are less likely to favor an acreage set-aside program.

Table 3 presents estimates of the ratio of land rent to total revenue for a number of states for each of the three crops using the prices that are estimated to exist after three years of a 10 percent reduction in supply. The land rents used are based on expected 2000 prices and yields. Thus they may understate land rents that would be prevailing under crop prices that have increased due to supply controls. The states have been ranked according to their corn ranking.

A higher value of this ratio implies a lower net benefit from an acreage set-aside program. Thus the states have been ranked from low to high in terms of net benefit from mandatory supply control. Iowa, Illinois, Indiana, and Nebraska-Irrigated would benefit the least from such a program. Non–Corn Belt states such as Oklahoma, North and South Dakota, Kansas, and Missouri would benefit the most. Ohio, Minnesota, and Michigan farms are somewhere in-between. The rankings are largely consistent across crops with the exception of Colorado, which is in the middle with respect to corn but near the bottom with respect to wheat.

TABLE 3. Ratio of land rent to per-acre revenue by state and crop

State	Corn	Soybeans	Wheat
Illinois	0.39	0.61	0.78
Iowa	0.37	0.56	Na
Indiana	0.35	0.53	0.60
Nebraska-Irrigated	0.35	na	Na
Colorado	0.29	na	0.17
Nebraska-Nonirrigated	0.29	0.36	0.57
Minnesota	0.26	0.42	0.70
Ohio	0.26	0.40	0.42
Michigan	0.25	0.38	0.46
Missouri	0.23	0.40	0.45
Wisconsin	0.23	0.33	Na
Kansas	0.22	0.33	0.32
South Dakota	0.17	0.25	0.40
North Dakota	0.16	0.25	0.42
Oklahoma	0.09	0.26	0.30

Data sources: Land rents taken from "Agricultural Cash Rents 2000 Summary," USDA-NASS, July 2000. Yields are the average yield by state for each crop from 1995 to 2000. Prices are taken from the last row of Table 2.

The rankings may reflect strength of preference, but would farmers in these states still be better off if we use the three-year price sensitivity? To answer this question, the left-hand side of equation (3) can be rewritten as

$$\frac{\%\,\Delta P}{\%\,\Delta A} = \frac{\%\,\Delta P}{\%\,\Delta Q}\frac{\%\,\Delta Q}{\%\,\Delta A} = \varepsilon(1 - slip) \tag{4}$$

where ε is the price sensitivity of demand and *slip* is the slippage rate. Using a slippage rate of 10 percent and the three-year price sensitivities, then the left-hand side of (3) gives 0.90 for corn, 0.45 for soybeans, and 0.63 for wheat.

When the ratios reported in Table 3 are less than these values for a crop, then the state's farmers, on average, would be better off under mandatory supply controls. A comparison reveals that all corn farmers should prefer mandatory supply controls, but soybean farmers in Iowa, Illinois, and Indiana would be worse off under supply controls. Soybean farmers in other states would be better off. Wheat farmers would be better off with the exception of Illinois and Minnesota wheat farmers.

Of course, there are other important factors that will influence whether a region's farmer would actually prefer mandatory supply controls. This simple model captures only the influenced change farm income.

This analysis shows that preferences for mandatory supply controls should vary across states and crops, with farmers on the most productive land being less in favor of supply controls than those on less-productive land. However, mandatory supply controls are unlikely to be seriously considered in the next farm bill debate. The emphasis will be on a voluntary supply control where participants will receive an inducement to voluntarily reduce their acreage.

Incentives for Participation in Voluntary Supply Controls

Suppose a farmer in region i is eligible to receive a payment of k_i per planted acre only if a portion, α, of acres are not planted. It is easily shown that such a farmer would participate in such a program if

$$\frac{1-\alpha}{\alpha} \frac{k_i}{Py_i} > \frac{Py_i - c_i}{Py_i} . \tag{5}$$

The right-hand side of equation (5) is the same ratio used to determine if a farmer would benefit from a mandatory program. Increases in this ratio, holding all else constant, decrease the attractiveness of participation in a voluntary program. The left-hand side of (5) is a measure of the benefit from setting aside acreage. It has two terms. The first term is simply the ratio of acreage planted to acreage set-aside. Small set-aside requirements increase this ratio, which makes it more likely that a farmer will participate. The second term is simply the ratio of the per-acre payment to per-acre revenue. So large per-acre payments and small set-aside requirements increase the likelihood of participation.

If per-acre payments are proportionate to actual yields or expected yields, then the left-hand side of equation (5) is approximately constant across regions. (Current AMTA payments are roughly proportionate to expected yields because they were based on prevailing yields in a region in the early 1980s. And current LDP payments are proportionate to actual yields.) With a constant left-hand side, the attractiveness of the voluntary program decreases as the right-hand side increases. Referring to Table 3,

Illinois, Iowa, and Indiana are the states that would least prefer to participate in a voluntary program because they have the largest ratios of land rent to per-acre revenue.

What this analysis shows is that corn and soybean farmers outside the central Corn Belt states would be the most likely to participate in a federal program of voluntary set-asides. Farmers in the most profitable regions would be the least likely to participate in such a program. If we had a program like the proposed Flexible Fallow program—which would increase commodity loan rates for a farmer that chooses to set-aside acres—then it is likely that the proportion of federal dollars flowing to Corn Belt states would be significantly less than under current programs given that participation would be highest in non–Corn Belt states. Only if payments increased more than proportionately with yields would participation incentives be equal across regions with heterogeneous yields and costs.

How Would Acreage Restrictions Work with Marketing Loans?

The previous section showed that a voluntary set-aside program is only attractive to those farmers where the payments are large enough to offset the costs of setting aside land. But it is not straightforward to figure out how the payments should be made, given that most commodity organizations do not want to give up existing marketing loans. One approach might be to make eligibility for loan deficiency payments contingent on land being set aside. Justification for this approach would be that set-asides would reduce the cost of the LDP program by restricting supply, which would increase price and reduce the cost of the program. The problem with this approach is that if enough land was set aside, then market prices would rise above loan rates, and nobody would have an incentive to participate in the program. Also, marketing loans are an established program and eligibility has not been limited in the past. It would be difficult to add eligibility requirements now.

Another option is to raise the loan rates for farmers who set aside acreage as proposed in the Flexible Fallow program. Justification for this payment scheme is that the acreage reduction would increase price, reduce acreage eligible for payments, and thereby decrease the cost of the program as before. But farmers would still have an incentive to participate if the loan rate for participants was high enough. A problem with

the Flexible Fallow program approach is that, as shown in the previous section, participation would be most attractive to those farmers who farm outside the main production areas. The ability of these farmers to cut production enough to significantly impact price is limited. Thus, the original justification for acreage set-asides—to give farmers a higher price—may not be met by this proposal.

What Might Be the Justification for a
Voluntary Acreage Set-Aside Program?

The inescapable finding of this paper is that voluntary acreage reduction programs that make payments in proportion to yields would be most attractive to farmers outside the most profitable production areas. Thus, tying program benefits to acreage set-asides would tend to disproportionately benefit those regions with high costs of production. If there is a production requirement for such a program (as there must be given that farmers would need to plant acreage in order to show that a portion of their acreage was not planted), then the net effect of such a policy move could be to encourage production in areas that are least suited for crop production.

One justification for such a policy is to reduce the cost of current programs. Reducing acreage would reduce the number of bushels that would qualify for LDPs and crop insurance subsidies, and perhaps other direct government payments. Also, market prices would increase, thereby reducing per-bushel LDPs. Thus the cost of these programs would be reduced. So acreage set-asides might be justified as a cost-control measure, and the fact that most of the acreage set-aside is outside the most profitable regions is not really relevant. But Congress would have to take care that the incentives offered to reduce acreage are not too extravagant before one can conclude that costs would actually be reduced. Cost of the most well-intentioned government programs are typically much higher than one initially expects.

Another related justification might be that acreage set-asides are needed to counteract the supply-expanding effects of other policies. For example, LDPs and crop insurance subsidies tend to encourage production in high-risk, low-land-rent areas. Adopting an acreage reduction program that is most attractive to high-risk, low-yield,

low-land-rent regions would reduce acreage that would qualify for LDPs and crop insurance subsidies. The resulting acreage decisions might be closer to those that would be made under no government programs. That is, a new government program is needed to counteract the effects of previous programs. Environmentalists who are alarmed at the increase in planted acreage might support a program that reduces planted acreage in regions that probably should not have been planted in the first place.

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