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A "Pattern" for Regional Adjustment

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downward influence on land prices. The forces of this influence and of the following "minus" factors simply have been much more than offset by the "plus" factors during the past 2 decades.

—*"Tight money"* has had about the same kind of influence as higher interest rates in keeping some buyers off the market.

—*Uncertainty about government programs*, despite the positive force of government programs generally, shows up in some research results as one of the factors tending to retard the increase in land prices in recent years. The extent of its influence on land prices isn't known, but this uncertainty has been with us in the

past and is likely to continue in the future.

Can We Predict?

No — especially when it comes to specific tracts of land. Here, with the general land market as a base, buyer and seller "make their own deal." Taken all together, however, the weight and number of the "plus" factors indicate no immediate or serious break in farm land prices.

But remember that the "plus" factors outlined are classified by the over-all influence they've had in the past 20 years, and some could become "minus" factors with a major change in psychology. The best bet is to consider

each of the factors on its own merit and in relation to the others. As to possible changes in mass psychology, your guess is as good as ours. This article merely outlines some of the factors that research has tied down as having some influence—positive, negative or erratic—on land prices during the past 20 years.

Regardless of the causes of the increase in land prices, there is one other observation to make: The rise in land prices, now coupled with decreasing farm incomes, is tending to make it increasingly difficult to pay for land from farm income. This, in turn, tends to increase the pressure to use the land in the most efficient resource combination possible.

"PATTERN"

for Regional Adjustment

Since a land-retirement type of program on a regional basis is among the possibilities for overcoming surplus farm output, an analysis has helped to determine an approximation of how such a program might work.

by **Alvin C. Egbert and Earl O. Heady**

TO OVERCOME the surplus problem, it's likely that most of the adjustment will have to be in land—at least in the short run and, perhaps, even in the long run. One way or another, enough land will have to come out of crop production to curtail our rapidly increasing surplus stocks.

The other main alternative would be to expand demand rapidly enough to use all that agriculture can produce as well as

to absorb surplus stocks. But it appears that little short of a miracle could cause demand to expand this much. Improving demand—while it has some merit as a much longer-run solution—just isn't likely to handle our problem within the next 10 years or more.

Many types of production control programs have been suggested: production quotas, an expanded soil bank or conservation reserve with land in all regions taken out of production, land retirement on a regional basis, land-use easements, marketing quotas and many others.

All of these proposals need careful consideration to find out which would be best for holding output in line with demand over

the next few years. We need to know several things about each of them—their cost; their acceptability; the burdens placed on communities; their fairness to producers who participate in them; the extent to which, as short-run policies, they contribute to the long-run problem, etc.

Considerable research is underway at Iowa State on the various types of production and supply adjustment problems. Such studies are difficult and time consuming to provide sufficient detail for all of the different areas of the country. Progress in research methods, however, permits analyses for the country as a whole. This article reports on the results of our analysis of one of the al-

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ternatives — regional land retirement. We don't have all of the answers yet. But the results so far are useful in getting a "first picture" of one of the types of adjustments which might be made in supply and output.

Our analysis indicates that a land-retirement program based upon regions could be used to accomplish three things:

- To bring wheat and feed-grain production in line with demand;
- To reduce surplus stocks of grain; and
- To keep production and demand in balance in the future.

Why Regional?

A regional approach to land withdrawal—as opposed to a single national "across-the-board" approach — recognizes existing differences among the various areas of the nation. Some areas are more suited to producing certain crops than others; some areas, in other words, have a greater comparative advantage for certain types of production than do others.

The idea would be to adjust production by regions so that the nation's total output would equal demand and not pile up stocks. Our research method indicates, in general, which regions would produce certain crops — if demand were met so that land in a region with the greatest comparative advantage for a crop were used in producing that crop.

We chose wheat and feed grains for this analysis. These crops are the most pressing segments of our present surpluses. Their total value makes up about 45 percent of average farm income, and, in 1957, the realized cost of farm programs dealing with these grains amounted to about 1.6 billion dollars. Production of these grains is spread throughout the United States. So they're especially useful in showing some of the kinds of possibilities involved in regional adjustment.

Regional Production . . .

The method for specifying a regional grain-production pattern to balance production with demand uses the idea that there's a wide

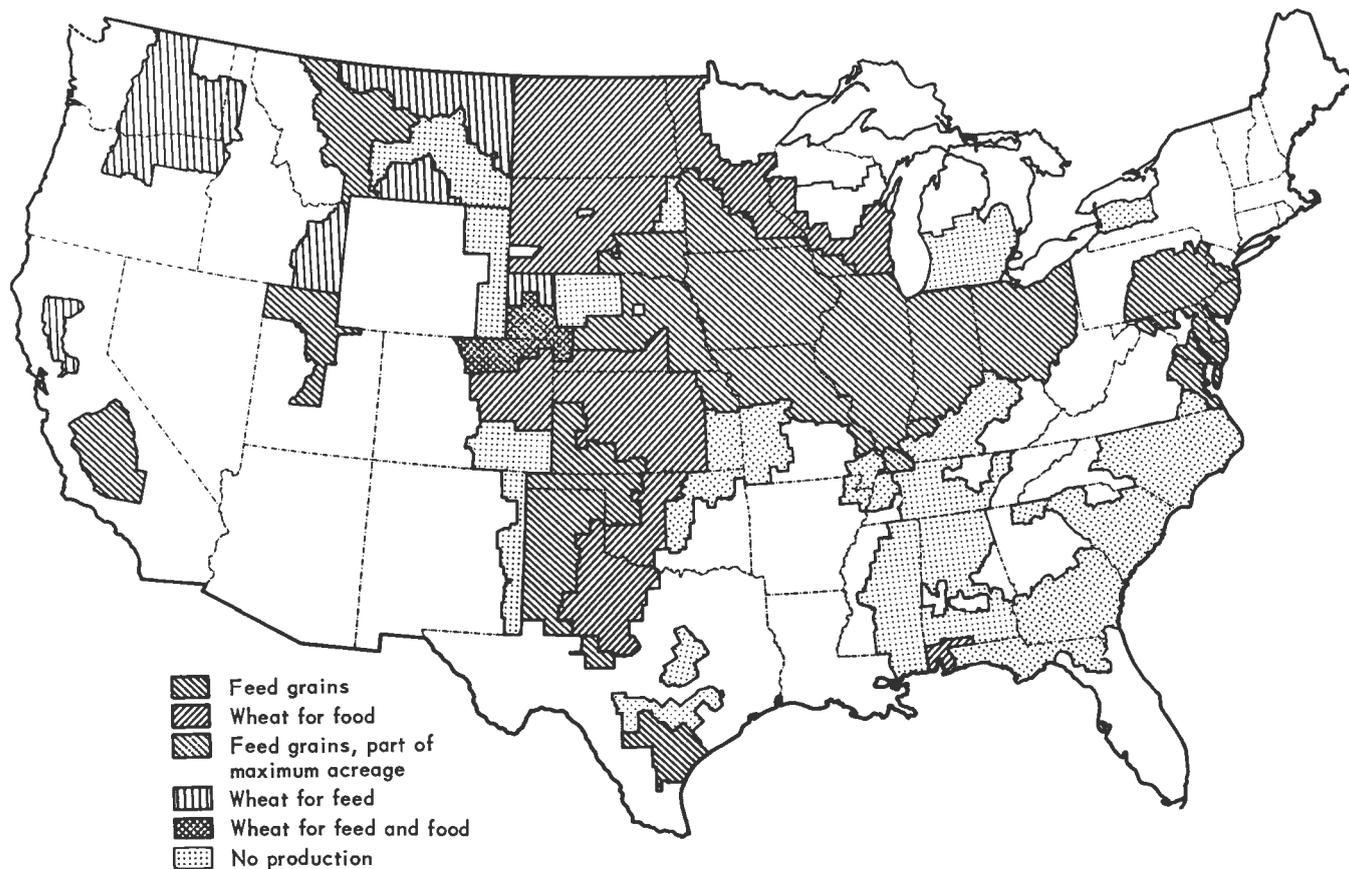
range of grain production costs in different parts of the country. Thus, if production is to be brought in line with demand and if agricultural resources are to be used efficiently, most of the contraction in grain production would take place in the "marginal" regions of higher production costs.

The general objective for specifying a regional production pattern for an efficiently balanced grain economy is this: to locate similar grain-producing regions that would produce normal wheat and feed-grain requirements at lowest cost.

We made several analyses to find the group of grain-producing regions that could produce annual grain needs most efficiently. First we found the set of regions that could produce the necessary grain at minimum total cost. Finally, we determined which set of regions could meet wheat and feed-grain needs with farm families as a group receiving maximum net returns.

The Results . . .

The results of our several anal-



yses weren't greatly different. But the maximum net return pattern probably is the most realistic (see map).

The dark-shaded regions are the ones that would ideally stay in production of wheat and feed grains if production were to equal annual use and be produced most efficiently. The lighter-shaded regions are of less comparative advantage not presently needed to meet the nation's wheat and feed-grain demand. These are the most likely areas where grainland would be removed from production and used for nonsurplus production in an effective regional adjustment program. About 30 million acres normally are used for wheat and feed-grain production in the lighter-shaded areas.

About 20 million acres of land normally used for grain production were expected to be in the conservation reserve program in 1960. These 20 million acres, however, are scattered throughout the country—not concentrated in particular regions as under a regional withdrawal program. Even so, we'd expect that roughly twice that many acres would have to come out of production before wheat and feed-grain production would come into balance with annual use. This would be a sizable additional adjustment.

Only Approximate . . .

The regional pattern shown in the map represents mainly a "first approximation" of a possible regional program to balance production with demand. Our data wasn't complete enough for a "this-is-it" plan. We weren't, for example, able to remove from our data all of the influences of past and present farm programs. For another thing, we used average production costs to represent all farms in an entire region. Certainly some farms within the higher-production-cost regions (lighter shading) are competitive and would continue in grain production.

These and a number of other aspects, such as resource reorganization on individual farms, would need further study to pinpoint production changes necessary un-

der a long-run regional adjustment program.

For Long Run?

Three distinct parts would have to be considered for a regional grain adjustment program for the long run. The first is the balancing of annual production and use. The others are (1) getting rid of surplus stocks and (2) the impact of additional production technology, population shifts and changing demand patterns over time. Our analyses aren't yet complete enough to show specifically how a regional approach could include the latter two points, though they do indicate one method of attack.

Grain stocks could be liquidated through a relatively simple extension of the regional adjustments for balancing supply and demand. Some decision would have to be made first on the rate at which the stocks should be worked off. Given this, the method would be to temporarily shift some of the grainland in the darker-shaded areas to other crops not in surplus. Once the stock disposal rate was decided, relatively little further analysis would be needed to pinpoint sub-areas for this purpose. As grainland in these sub-areas was withdrawn from production, excess stocks could be marketed without depressing prices.

The amount put on the market each year would vary because of annual variations in yields. But the essential point would be to achieve the goal of no surplus stocks at the end of a relatively short period. Then, producers in the sub-areas temporarily shifted to nonsurplus crops would resume grain production.

Judging from past history, it's reasonable to expect that, for some time to come, fewer and fewer acres will be needed to meet normal annual demands for wheat and feed grains. If so, there'd be a need to keep the regional pattern up to date.

Also, improved production techniques wouldn't necessarily be neutral with respect to regional production advantages and disadvantages. A new, more efficient harvesting machine, for example, might be usable in some areas but

not in others. Thus, a region in a poor competitive position under present conditions might become highly competitive virtually overnight.

Population shifts, too, could improve or worsen competitive positions; the cost of shipping grain from producing to consuming centers often exceeds the cost of production.

In Brief . . .

The results of this study suggest that a regional grain production adjustment program offers one means of bringing and keeping feed-grain production more closely in line with demand. Such a program is one of a number of alternatives of a land-retirement nature. The main disadvantage of a regional approach is that it would concentrate the burden of adjustment on particular regions.

We've also studied land-retirement approaches (1) with land withdrawn equally over the country and (2) with no more than 25 percent of the land in any one region withdrawn. Either of these two types of programs would call for higher public treasury costs, but they wouldn't place so much of the burden on particular regions.

The objective of our research and analysis along these lines is to examine, appraise and/or develop alternative approaches which might be used in both the short and long run to overcome our surplus farm output problem. For land-retirement programs in general, we found that the number of acres required and the public cost depends (1) on how the program is spread over the country and (2) the farm price level to be achieved by controlling the supply.

All of the proposals being made need to be examined, analyzed and understood as fully as possible before a choice is made. It's important to be reasonably certain that a program will do the job intended and that it isn't so short-sighted as to give only temporary relief but further complicate the situation in the future. And the social and other consequences must be considered as well as the economic ones.