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WHEAT PRICE AND INCOME SUPPORT AND ACREAGE REDUCTION POLICY INSTRUMENTS

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ABSTRACT

Farm programs are used to provide prices and income protection for farmers, but usually at a cost. Program instruments such as nonrecourse loans, target prices, and acreage reduction programs inevitably involve tradeoffs. By altering one instrument at a time, tradeoffs between program objectives are more clearly identified and measured.

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Introduction

Conflict among crop policy objectives is inevitable, leading to tradeoffs in farm program operation. Changes in crop programs usually consist of adjustments in three primary policy instruments--nonrecourse loans, target prices, and acreage reduction programs (ARPs). The consequences of changing the specifics of crop programs may differ widely because of the interactions between policy instruments. Hence, careful consideration of these interactions is necessary to achieve effective policy.

The magnitude and the direction of the effects of changing crop policy vary according to the economic environment facing agriculture. In the current environment of excess commodity supplies, low commodity prices, and weak export demand, there are strong incentives for the producer to participate in farm programs. This study focuses on the effects of individually adjusting the levels of nonrecourse loan rates, target prices, and ARPs within the wheat program in the current environment.

Assumptions and Limitations

Changes in the three policy instruments were analyzed using an annual econometric simulation model, the Food and Agricultural Policy Simulator

(FAPSIM) (2, 5).[1] The policy rules for establishing loan rates, target prices, and ARPs as defined by the Food Security Act (FSA) of 1985 (3) are continued through 1990. Also, commodity program options offered to the producer for 1987 through 1990 are assumed to be similar to those offered in 1986. Maximum ARPs allowed by the farm bill were assumed to be in effect from 1986 to 1990. The optional 2.5 percent PLD in place in 1986 for wheat and feed grains was assumed not to be offered from 1987 to 1990.

Having established these initial conditions, the model is used to simulate the effects of increasing and decreasing the three policy instruments. The relative magnitude and direction of the effects which occur are suggestive of how the farm sector might behave under the assumed conditions. An important consideration in policy analysis is whether effects are temporary or permanent. As the economy has time to adjust to changes in policy, the benefits may vanish while the costs remain. So the time path of the economy's adjustment to changes in policy may even be more important than either the initial effect or the average effect over time.

Policy Instruments of Crop Policy

The policy instruments evaluated here are the nonrecourse loan rate, target price, and acreage reduction level. Much has been written about these instruments elsewhere. For this reason, I merely give a brief description for each.

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[1]Underscored numbers in parentheses cite sources in the References section.

Nonrecourse Loans. CCC loans (offered at established loan rates) are available to eligible farmers with the stored commodities serving as collateral (4). Eligible farmers are those who grow the designated commodity, sign up for the program, and comply with any acreage reduction or other program requirements. Producers may satisfy the loan obligation by repaying the loan plus accrued interest at any time prior to maturity or forfeiting the commodity to CCC in the event prices at loan maturity are below the loan rate. The CCC has no recourse but to accept the forfeited commodities as complete settlement for the loan. Further, the CCC stores the forfeited commodities, and they are not available to the market unless prescribed price levels are met.

Target Prices. The target price is a price set by legislation which in conjunction with the loan rate and market price provides a level of income support for program participants (4). Deficiency payments (income support) are calculated as the difference between the target price and the higher of either the average market price (over the first five months of the marketing year) or the national average loan rate. Deficiency payments are made on the basis of each farm's eligible base acreage and program yield. To receive deficiency payments and other benefits, producers are required to sign up for the program and comply with any acreage reduction or other program requirements.

Acreage Reduction Programs. ARPs require that producers idle a specified portion of their crop base acres as a condition of eligibility for CCC loans,

purchases, payments, and other program benefits (1). ARPs are strictly voluntary and generally unpaid.

Interaction of These Instruments. The relationship between target prices, loan rates, and ARPs and their effects on the economy are complex (1, 4). Participation in price and income support programs is voluntary, and if an ARP is required, adequate incentives must be offered to encourage producer participation. Not only are the levels of target prices and loan rates important, but also their relative levels to each other and to farm prices. When farm prices are below the target price, the target price encourages more acres to be in the program. Diversion payments add to the income of program participants. The loan program diverts surplus output into public stocks such that prices received by program participants are supported at desired levels. By program design, these stocks are kept for periods of shortfalls in production. There is a tendency for public stocks to accumulate beyond desired levels and government spending to soar. ARPs are used in an attempt to keep public stocks from getting too large and to control the level of government program costs.

Changing Target Price Levels

Increase in target price. Setting target prices for wheat at 20 percent above current and projected levels for the 1986 - 1990 period, with no change in nonrecourse loan or acreage reduction programs, results in a boost in the deficiency payment producers expect to receive if they participate in the wheat program. As a result of higher participation, seven percent more acres

are planted in the wheat program. However, there is little change in total planted acres and production. The target price rise makes the wheat farmer-owned reserve more attractive, resulting in less wheat being held as commercial (free) stocks. Despite the buildup of total ending stocks, the tightening of free stocks places upward pressure on wheat prices. Over the first two years of the policy change, wheat farm prices increase on average 13 percent. The price effect dampens when the wheat reserve hits the program ceiling level in 1988. Domestic use and exports move accordingly with prices.

Total deficiency payments show an average increase of nearly 8 percent. By 1990, total storage payments are nearly 28 percent above baseline. Combined, there is an 8 percent increase in direct government payments made to crop producers. CCC net lending activity for crops is not affected by the increase in wheat target price. The modest increase in cash receipts dampen through time. Other income (which includes direct government payments to producers) increases through time. Net farm income is up on average less than 5 percent. There is little change in consumer prices.

Decrease in target price. Setting wheat target prices at 20 percent below initial and projected levels, with no change in the other program tools, results in lower expected deficiency payments. With less participation in the wheat program, 8 percent fewer acres are planted in the program. There is a modest increase in total acres planted and production. Lower participation allows for less loan activity, less wheat held in the reserve, and more commercial stocks. As a result, farm price falls to loan rate levels. Domestic use and exports rise accordingly.

Deficiency and storage payments are smaller. Overall, there is a 7 percent decrease in CCC direct payments made to crop producers. There is little decline in CCC net lending activity. There is little decline in farm cash receipts and other income. With little reduction in farm expenses, net farm income is down nearly a percent the initial year, falling even more to 6 percent down over the last two years. By the second year, there is a modest decline in consumer prices for all food items.

Summary. Generally, target prices act more as income support than price support. Most of the change in net farm income occurs through direct government payments as opposed to cash receipts. However, if the reserve program is made attractive enough, the tightening of free stock results in a price increase. Inasmuch as the reserve and CCC-stock release price levels are keyed to the target price, the levels of price in order for these stocks to be made available to the open market are also affected. The largest changes in direct government payments are affected by changes in target price levels. Only with declines in market prices, will changes in target price affect net lending activity.

Changing Nonrecourse Loan Rates

Increase in loan rate. Setting wheat loan rates at 20 percent above the current projected levels, with other program tools unchanged, results in an increase in price support and a decline in expected deficiency payments. Further, relatively high loan rates tend to support prices for all producers.

As a result, participation in the program declines. There are small increases in both acres planted and production, which dampen through time. Since fewer acres are planted in the program, the increase in wheat plantings come from producers not in the program. The higher loan rate encourages heavier loan activity for those who remain in the program. Reserve stocks reach the program ceiling by 1987. Then CCC-stocks accumulate such that commercial stocks are 20 percent tighter. Prices receive by farmers rise substantially, but are at loan levels throughout. Domestic use and exports decline accordingly.

Total deficiency payments are down less than 5 percent while reserve storage payments increase more than 16 percent. In total, direct payments are 4 percent lower. There is a large increase in net lending activity for all crops. Despite the large increase in wheat price, there is little improvement in total cash receipts. Starting in the second year, there is a small decline in other income. The modest increase in net farm income dampens through time. There is little increase in consumer prices for all food items.

Decrease in loan rate. Setting wheat loan rates at 20 percent below current and projected levels results in a decrease in price support and an increase in the maximum possible deficiency payments. There is a modest decline in participation in the wheat program and increase in total acres planted and production. Although program participation declines, the loan activity is such that reserve stocks build at the expense of commercial stocks. Farm level prices average an increase of 5 percent. However, when the reserve hits the ceiling level in the fifth year of the effect, farm price effect dampens.

Domestic consumption and exports decline accordingly.

Deficiency payments are lower while storage payments are higher, resulting in a modest decline in total direct payments. Although there is less CCC net lending activity for wheat, overall there is a small increase in total CCC net lending activity. Despite the large increase in wheat price, there is only marginal improvement in farm receipts. There is little change in other income. The small increase in net farm income dampens when the wheat reserve hits the program ceiling. There is little increase in consumer prices for all food items.

Summary. Changes in loan activity can result in unexpected results such as the price rise which occurred with the 20 percent decline in the loan rate. Despite the increase in farm prices, there is little improvement in cash receipts. While an increase in loan rates boosts net farm income, a decrease in loan rates does not necessarily mean a loss in income. Lower loan rates allow for higher deficiency payments, which may buoy net farm income. However, in neither of the scenarios is there any significant movement in net farm income. Therefore, loan rates act more as price supports than income supports. Both the increase and decrease in wheat loan rates resulted in modest decreases in government outlays.

Changing Acreage Reduction Programs

Increase in ARP requirement. Adding another 10 percent ARP to the basic wheat program, reduces the portion of base acreage which is eligible for target

price protection (deficiency payments). In effect, this lowers the expected net return of the program participant. As a result, more than 18 percent fewer wheat acres are planted in the program. This reflects both the fall off in participation in the wheat program and the increase in the ARP requirement. Total planted acreage is down only about 4 percent and production is reduced less than 3 percent. With less of the wheat crop being eligible for the loan program, reserve stocks are on average nearly 20 percent lower and commercial stocks 3 percent higher. Total ending stocks average 4 percent lower over the period, with all stock effects increasing through time. Despite the modest increase in free stocks, prices increase nearly 4 percent. Domestic use and exports decline.

With less wheat being eligible for program benefits, total deficiency payments decline more than 4 percent and reserve storage payments are down nearly 3 percent. Total direct government payments to producers are down 4 percent. Although not for wheat and corn, there is a modest decline in CCC net lending activity for other crops. The increase in cash receipts from crops is countered by declines in livestock cash receipts. Modest declines in other income result in modest declines in net farm income starting in the second year. There is no change noted in consumer prices.

Decrease in ARP requirement. Taking 10 percent ARP requirement away from the basic wheat program increases the portion of base acres eligible for support. Nearly 20 percent more acres are planted in the program reflecting both the increase in participation in the wheat program and the decrease in the ARP requirement. As a result, the wheat crop is larger. The loan activity is

such that the reserve stocks are larger and commercial stocks are tighter. The stock effects increase through time. Despite the tightening of free stocks, wheat prices decrease more than 3 percent. However, wheat farm price is below the adjusted loan level in 1986 and at the adjusted loan level in 1987 and 1988. Domestic use and exports increase slightly.

With more wheat being eligible for program benefits, total deficiency payments and storage payments are larger. Therefore, the reduction of the wheat ARP requirement results in about a 3 percent increase in direct government payments to producers. There is no change in CCC net lending activity for all crops. There is little change in farm cash receipts. Other income grows through time. After an initial decline, net farm income shows modest improvement primarily attributed to direct government payments. There is no change in consumer prices.

Summary. An increase (decrease) in the ARP requirement results in a decrease (increase) in program participation, but little effect on production, utilization, and price. Furthermore, these effects are symmetric with respect to corresponding increases and decreases in the ARP requirement. At the same time, changes in stock levels are much more responsive to a loosening of the ARP requirement then to a tightening of the requirement. Also, the change in prices moves counter to what one would expect given the directional change in free stocks. There is little effect on farm cash receipts. A change in the ARP level directly effects the amount of the crop eligible for support. This leads to large effects on direct government payments. Therefore, any income effect should mainly accrue to program participants. Little change is

observed in CCC net lending activity.

Conclusions

Economic issues related to choices about program implementation involve the inevitable tradeoffs in measures such as net farm income, consumer prices, and government costs. In reality, changes in more than one program instrument are usually combined in policy proposals. However, by demonstrating the effects of changing one program instrument at a time, the tradeoffs between program objectives are more clearly recognized. The consequences of changing these programs may differ widely because of the tradeoffs involved. Hence, careful considerations of the interactions of policy instruments is necessary to achieve effective policy. Often adjustments made in policy to correct some perceived ill in one area of the market often results in an undesirable effect in another area.

The results show that it is possible for farm programs to effect prices or net farm income, but at a cost. Changing target prices effects net farm income through direct government payments. Any change in price is affected through changes in the level of free stocks. Changing loan rates have large effects on farm price as long as the free market price is below the loan rate. However, there is little effect on net farm income. Changing ARP levels affects price and government payments, with little effect on net farm income. The magnitude of the effect in any case depends upon changes in program participation.

Figure 1. Change in wheat price

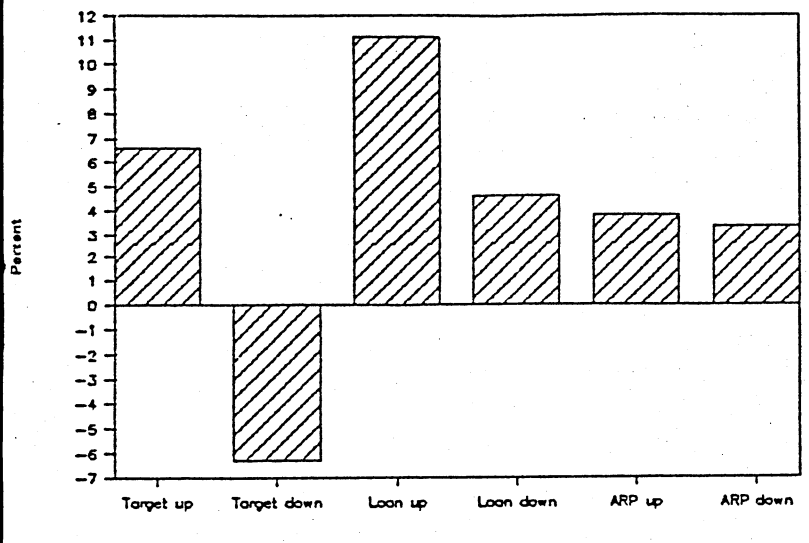


Figure 2. Change in net farm income

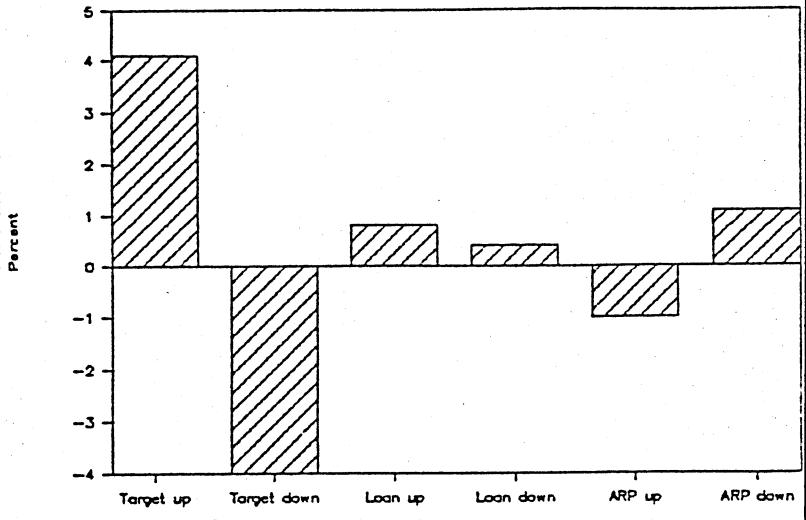


Figure 3. Change in direct government payments

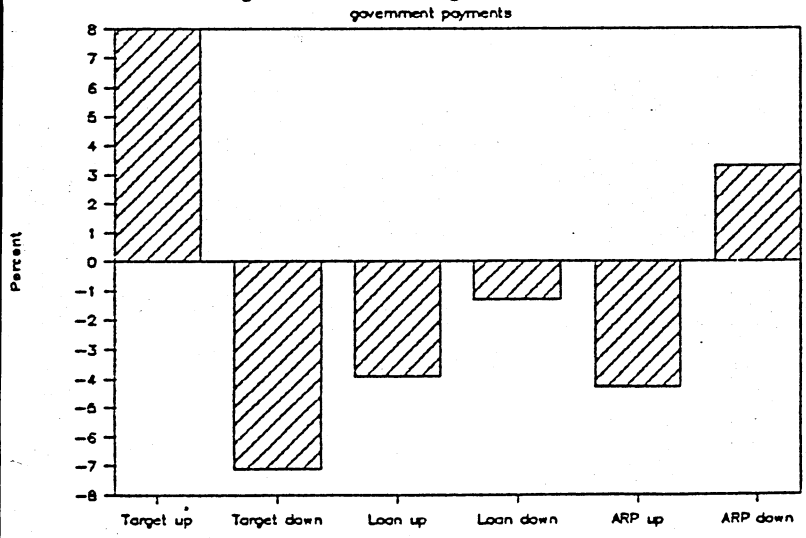
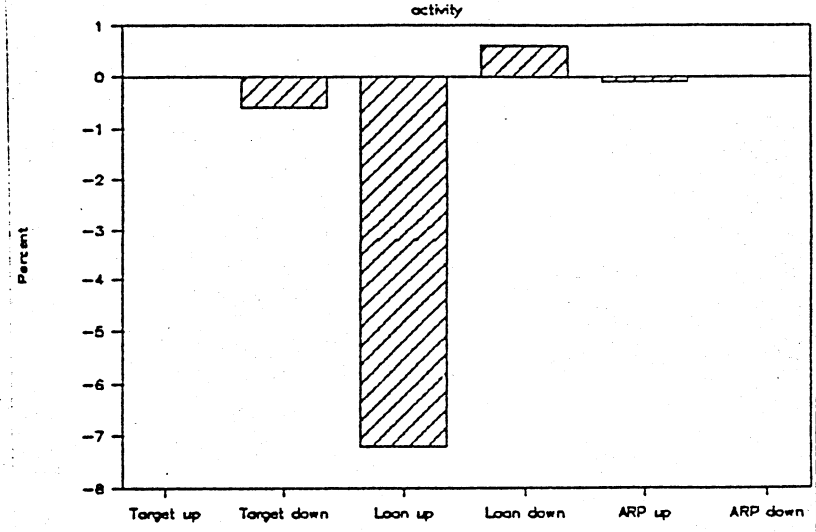


Figure 4. Change in CCC net lending activity



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