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THE DISTRIBUTIONAL IMPLICATIONS OF
AGRICULTURAL COMMODITY PROGRAMS

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ABSTRACT

This paper examines agricultural commodity programs primarily from the perspective of their distributional implications among producers. Farm programs have a minor effect on the distribution of income among these units. At the very most about $500 million or about 10 percent of the total long-run annual benefits of farm programs accrues to approximately 29 percent of the total farm operator population who are poor. Furthermore, farm-program benefits supplement the total income of the agricultural poor by a relatively small amount. Benefits are only 4 percent of total income for operators of the smallest sized units. The comparable figure for operators of the largest units is 25 percent.

Because of the way they are structured, the benefits of farm programs by-pass the landless in agriculture--for example, hired hands, migrant workers, tenants and sharecroppers. In addition, the structure of farm programs virtually dictates that the benefits become capitalized into land values. This means that even current landowners may receive a small share of the intended benefits. Previous landowners in many cases have received some part of the discounted value of future farm-program benefits by selling the land at elevated prices to the current generation of operators.

Though farm programs have other goals aside from income maintenance, they remain as one of the foremost mechanisms addressed to the rural poverty problem. They are out of date and inadequate for the task. Even recent reforms, such as payment limitations, offer little scope for improvement since they do not affect the basic mechanisms of the programs--and it is these mechanisms which must be substantially altered.

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INTRODUCTION

This paper examines agricultural commodity programs primarily from the point of view of the implications of these programs on income distribution among producers. From a brief historical introduction to agricultural policy it is shown that U.S. policies have considerable precedent. The examination of U.S. practices outlines the evolution of policy from the New Deal, when direct intervention was initiated.

Considerable attention is devoted to analyzing the mechanisms of supply-control programs. The wheat program is used as an illustration. Current mechanisms of supply-control were developed in part by an empirical approach—trial and error. For example, government purchases and consequently the large publicly owned surplus of the late 1950s demonstrated the pitfalls of a high loan rate and inadequate incentive to divert acreage from production. Consequently policies after the mid-1960s emphasized low loan rates, substantial direct payments for participating, and the opportunity to voluntarily divert additional acreage for payment.

An analysis of the potential effects of commodity programs on farmers' income demonstrates some of the shortcomings of the present technique. The benefits of U.S. farm programs tend to be capitalized into land values; farm programs are in part responsible for the dramatic increases in land prices over the last 40 years. Since these benefits of farm programs represent returns to land ownership, this mechanism offers insignificant income assistance to the landless, for example hired farmworkers and tenants.

Also, the programs offer the greatest income supplement to those who are allotment holders when the programs are introduced. This generation of holders may capture a considerable share of future benefits when they sell their land to a later generation. The benefits of farm programs are reduced for later generations when account is taken of the interest charges, real or imputed, they must pay on the higher cost land.

This paper reports on a study of the distribution of farm-program benefits for 1969. The benefits of farm programs in effect represent the annual income accruing in the long run to each value-of-sales class in excess of that which would prevail were there considerably less government involvement in agriculture. Crops on which the analysis is based include corn, oats, grain sorghum, barley, wheat, soybeans and cotton. The benefits of these programs are composed of two elements. The greater part of the benefits are direct payments; a smaller part are somewhat indirect and are termed price-support benefits. This latter type results from the effect of supply restriction in raising the market price of supported crops above their free-market levels. A published U.S.D.A. source is used to distribute direct payments by income classes. Output from the Iowa State University spatial linear programming model, along with various published sources, is used to estimate the distribution of price-support benefits.

The long-run annual benefits of farm programs in 1969 totaled $5.3 billion. Of this, $3.8 billion are direct payments and $1.5 billion are attributable to the effects of price-supports and acreage allotments. At the most, about $500 million or one-tenth of the total accrues to those farmers who are officially classed as poor, the poor farm population is 29 percent of the total. Over all, farm programs have a minor effect on the distribution of income among producing units.

This paper represents an examination of farm programs only from the perspective of their impact on income distribution. There are other goals of farm programs which are not considered in this paper, for example, price stabilization and planning for future domestic and world demand. Consequently, no specific measures for reform are proposed within this paper. Rather, is hoped that the present demonstration of the inadequacy and ineffectiveness of present farm policy in dealing with the farm and rural poor will stimulate agricultural policy makers to take explicit note of the distributional implications of future agricultural programs.

AN HISTORICAL INTRODUCTION TO AGRICULTURAL POLICY

Governments have intervened in their agricultural sectors for thousands of years. Frequently the motivation has been to assure an adequate and stable flow of food to some group or region.[1] In other cases the interaction between the state and agriculture has been directed toward securing the primacy of a particular group or class of growers.[2] Only relatively recently has one of the arguments for intervention been the perceived need to undo certain consequences of abundance. Regardless of the intent underlying policy and control, history seems to indicate that no nation-state has chosen to rely on providence and a free market for assuring the output and composition of its agricultural sector.

Commodity programs similar to those presently in effect were first introduced in this country about forty years ago. Policies similar to these were practiced throughout the world at various times. An economist has written of the 18th century Dahomean Kingdom of Africa,

> The permanent administration of agricultural affairs was in
> the hands of the 'Minister of Agriculture,' the Tokpo; under
> him were the Xeni, the chief of the great farmers or <u>gletanu</u>,
> and his assistant . . . . It was the duty of the agricultural
> officials to insure a balanced production of crops and adjust
> resources to requirements . . . . If there was over production
> or under production of any crop, the farmers were ordered to
> shift from one crop to another.
>
> Annual inspection of the crops took place, permitting changes
> in production of various crops to be commanded. Changes in
> 'supply' did not as a rule result from local price changes but
> rather from administrative decisions.[3]

The agricultural "problem" has been a concern of governments for millenia. U.S. experience with this matter is relatively brief. A cynic might remark that the results of U.S. agricultural policy demonstrates this.

The current type of farm program dates from the Depression. Following World War I, agriculture, and in particular the wheat sector, was in serious decline. Throughout the 1920s farm income was well below that of the war years and this presaged the decline beginning in 1929. Cash income in agriculture fell from $12 billion in 1929 to $4.7 billion in 1932. During this period the farm income from the sale of wheat fell from $850 million to $289 million.

The results of this dramatic decline in income were severe. Farmers couldn't meet their mortgage payments or tax bills and foreclosures and tax sales of farms became regular. It is against this backdrop that President Roosevelt and his Secretary of Agriculture, Henry Wallace, attempted to formulate a program which would aid the agricultural community. A major purpose of the program was to bring emergency relief to growers through cash-benefit payments in order to keep farm property intact.[4] Over the long run the program was aimed at restricting output and stabilizing farm income so that an agricultural depression could be avoided in the future.

Roosevelt and Wallace, using as a mechanism the Agricultural Adjustment Act, attempted to tackle the farm problem in a way which would meet with the approval of the major farm organizations.[5] In essence, this act produced a melange of programs, most of which had surfaced for consideration during the 1920s but were not adopted by the Republican administrations. The various commodity programs were similar in most respects; the program which was formulated for wheat for 1933-1935 is outlined below.

Farmers who chose to participate in the wheat program were guaranteed a bit less than $0.30 per bushel for 54 percent of their average 1928-32 output from their base acreage; the base was calculated as the average acreage of the period 1930-32. In order to participate a grower was required to limit his planting to 85 percent of his base in 1934 and 90 percent in 1935. No limitation on acreage was applied in 1933 because the program went into effect after the planting time.

Two features of the program are particularly interesting. The per-bushel payment to growers was designed to augment the price of wheat used for domestic purposes (about 50 percent of the crop was used domestically). In essence this payment was intended to untie the domestic price of wheat from the low world level. Throughout the 1920s, one contention of growers' organizations was that the lack of protection from the low world price was injurious to domestic growers. The payment to producers was supported by a tax on food processors for each unit of the supported crops they purchased for sale ultimately in domestic markets. In all likelihood, most of the burden of this tax was passed on to consumers.

A second feature of interest is that the planners of the program anticipated that a disproportionate share of the benefit payments might devolve to the landowners. Thus the contracts were drawn in such a way

that renters and cash tenants received all the benefit payments (and
price increases) directly. Share tenants received that proportion of
the benefit payment corresponding to their share of the crop. Thus if
there were no rise in rents or no shift to more stringent contracts, the
actual growers of the crop would have been beneficiaries of the program.
However, no rent controls accompanied the program and numerous writers
have speculated that rents were raised--causing benefits to flow to the
landowners.

Numerous alternatives to benefit payments and processing taxes were
discussed during the period of the initial program's operation. The
agricultural policy-makers realized that controlling output via incentives
to restrict production was costly and somewhat unpredictable. Wallace
advanced the idea in 1934 that the government might find it more desirable
to purchase submarginal land outright. He felt that over the long run it
would be cheaper and more effective in stabilizing fluctuating farm income.[6]
Mordecai Ezekiel, Wallace's economic adviser, reiterated this point the
following year,[7] but added that removing only submarginal land would not be
sufficient. He indicated that only a very small proportion of commercial
crops are produced on submarginal land. He noted, too, that land purchase
deals with only a fraction of the problem of rural America and some provision
would have to be made for the displaced agriculturalists. Ezekiel anti-
cipated more difficulty in rehabilitating that population, particularly in
a labor-abundant economy, than in purchasing the land.

In addition to the desirability of scrapping entirely the benefit-payment
processing-tax program, Ezekiel and Wallace emphasized the need for reforming
the existing system of supporting the program. Wallace noted in 1935 that

processing taxes tended to be passed on to consumers and thus had relatively greater impact on the poor.[8] Wallace advanced for consideration, among other possible measures, an increase in the income tax or a general sales tax.[9] Both he and Ezekiel conceded the difficulty of implementing such alternatives, but stressed the need for their development.

Before any such alternatives were implemented the processing tax was declared unconstitutional. This occurred in early 1936. Policy-makers did not avail themselves of this opportunity to develop a more equitable system of financing the program. When the agricultural program was reinstituted with the AAA of 1938, essentially the same processing tax was employed though the stated intent of the tax was changed.[10]

Thus Wallace and Ezekiel's discussion of alternatives to the processing tax was little more than academic. They recognized many of the shortcomings of the tax and sought alternatives which were more equitable. In their discussions, they emphasized the nationwide importance and impact of the farm problem and sought revenue sources which were compatible with this. They suggested that the tying of taxes to farm products was dictated by the ease of collection and political expedience and not by a more equitable criterion which reflected the scope of the problem--that is, that the welfare of the rural sector is important to all Americans.

JUSTIFICATION OF CONTINUED CONTROLS

Commodity programs have been in continuous operation since 1938. Their survival has been challenged by often stinging criticism and yet the programs have persevered.

Continued controls over substantial part of American agriculture have
been justified largely on the basis of safeguarding the family farm.[11]
More precisely, economists and others have recognized that U.S. agriculture
has been characterized by rapidly rising productivity confronting a relatively
inelastic and slowly growing demand. This process would have resulted in
a continuous decline in income to agriculture had there been no government
intervention. There are often arguments on behalf of farm programs. Some
feel that such programs are required in order to stabilize farm prices;
stable prices assist in making investment decisions. A final justification
is that agricultural policy is required to avoid the possibility of future
shortages of food and fiber by reducing current output and, through diversion
and other conservation practices, storing productivity in the soil.

MECHANISMS OF SUPPLY CONTROL

Currently commodity programs operate in such a way as to supplement
farm incomes without resulting in enormous government purchases. It is
important to understand the mechanisms governing the operation of these
programs if one is to understand how their benefits are distributed. Since
this paper is directed toward an analysis of the distribution of commodity
program benefits in 1969, the following discussion will focus on the
mechanism of farm programs in that year and the years immediately preceding
it. In addition, this discussion will focus on the wheat program. Shifts
in policy have been nearly parallel among the various commodity programs and
the implications of the distribution of benefits are nearly identical for
the each of them.

The announced intent of the wheat program has been to secure an equitable and moderately stable income for growers who can and do participate.[12] In the past and, still to some extent currently, definitions of equity have been intimately related to the concept of parity price.[13]

Parity price is itself a vague concept. Thomson and Foote contend it is nothing more than " . . . an arithmetical rationalization of prices that farmers, farm leaders, and political leaders consider high enough to be satisfactory."[14] It has been calculated in a variety of ways since 1933. In principle it is intended to make a unit of a crop have equal purchasing power in a given year to the purchasing power of that unit in 1910-14. Considerable criticism of this concept has developed, of course. The typical criticism is that parity price does not take into account the dramatic yield increases in the decades since 1910-14, years which were among the best for agriculture.[15]

In the Agricultural Adjustment Act of 1938 the Secretary of Agriculture was directed to support wheat prices for growers who were eligible to and did in fact participate in the wheat program at between 52 and 75 percent of parity. In 1941 this was raised to not less than 85 percent, in 1942 to 90 percent, and in 1944 to 92-1/2 percent. For 1949 it was lowered to 90 percent. Throughout the 1950s the level of support varied between 75 and 90 percent. For 1960, 1961, and 1962 the actual level of support was 76, 76, and 83 percent of parity respectively; and for 1967, 1968, and 1969 it was 66, 68, and 69 percent respectively.

The wheat program has provided for growers as an aggregate who can and do participate a price for their crop. It also provides an average income from the sale of their crop above that which a competitive market would

provide, but generally below parity levels. Until the Kennedy programs of the 1960s, the government's relative success in raising farmers' income in the post-war period was confounded by the problem of sizeable government-owned stocks. By the late 1950s, government stocks of over 1 billion bushels equalled annual output.

Government purchases during this period were a consequence of the high loan levels which had been established. The loan level represented a guarantee to participating growers of a price per bushel at which the government would take possession of all or part of their output. The grower had the options of selling his crop outright to the Commodity Credit Corporation (CCC) or using it as collateral for a nonrecourse loan. Since throughout much of the 1950s, the loan level exceeded market price, many growers sold their output directly to the government's agent, the CCC. The enormous government-owned stocks which resulted from this policy demonstrated the need for the further refinements in agricultural policy. In the decade of the 1960s increased reliance was placed in mechanisms which provided incentives to growers to lower their production.

Allotments: Each year, generally before planting time for spring wheat, the Secretary of Agriculture announces the national allotment for wheat. In many United States Department of Agriculture (USDA) publications the national allotment is said to have been determined on the basis of what is required to equate consumption and export demand with productive capacity. "The goal of the 1969 Wheat Program is to strengthen prices from year-earlier levels through policies designed to balance production with anticipated domestic use and export."[16] This of course means that the USDA has opted to bypass the market mechanism. The implicit assumption behind the quote is that domestic and export demand are nearly perfectly inelastic; supply

would in a free market at any "reasonable" price exceed the aggregate

demand and the resulting market prices would be ruinous to growers.

The announced national allotment is allocated on a historical basis

first to the states, then ultimately through county committees to the

farmer. The individual farmer's allotment is based on the county committee's

calculation of his average recent history of acreage devoted to wheat. To

participate in the program a grower must limit his plantings to his allotment

and divert to conservation uses some acreage equal to an annually determined

percentage of his allotment (see Table 1). A grower, during most years from

1933 (except 1953-64), did not have to participate or even be eligible to

participate in order to plant wheat acreage outside of the commodity program.

He could grow any amount of wheat, but would have to depend on market prices.

In 1969 the announced national allotment was 51.6 million acres and the

required conservation acreage was 15 percent or 7.7 million acres above the

allotment (see Table 1).

Price-support mechanisms: In return for agreeing to plant within his

allotment and meet certain other requirements, a farmer is guaranteed a loan

rate for his commodity. In addition to this, since 1964 the participating

grower has been guaranteed income for marketing certificates; this payment

is in addition to the loan price to which he can avail himself. Domestic

marketing-certificates are per-bushel direct payments to the grower on a

fraction of his expected output. The fraction to which the domestic

marketing-certificate applies is approximately equal to that fraction of

the national wheat production used as a food grain for domestic consumption.

The farmer's expected output is calculated as his allotment times his

expected yield, as determined by his county committee. Since the expected

TABLE 1

WHEAT PROGRAM PROVISIONS

	1963	1964	1965	1966	1967	1968	1969	1970
1. a) Loan rate ($/bushel)	1.82	1.30	1.25	1.25	1.25	1.25	1.25	1.25
b) Support price including certificate ($/bushel)	2.00	1.73	1.69	1.84	1.73	1.80	1.90	----
2. Market price ($/bushel)	1.85	1.37	1.35	1.63	1.39	1.22	1.24	----
3. Certificates payments	None							
a) Domestic 1. Percent of output covered		.45	.45	.45	.35	.40	.43	.48
2. Payment ($/bushel)		.70	.75	1.32	1.36	1.38	1.52	----
b) Export 1. Percent of output covered		.45	.35	Yes*	None	None	None	None
2. Payment ($/bushel)		.25	.30					

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TABLE 1 (Continued)

	1963	1964	1965	1966	1967	1968	1969	1970
4. Required conservation acreage as percent of allotment	None	11.11	11.11	15	0	0	15	30.3
5. Additional voluntary conservation acreage	None				None	None		
a) Limits		1964 to larger of 15 acres or 20% of allotment	1965 to 15 acres or between 10 and 20% of allotment	1966 to larger of 15 acres or 21.7% of allotment			1969 50% of allotment	1970 to 19.2 acres or 50% of allotment
b) Payment (percent of line 2)		20	50	40	0	0	50	50
6. National allotment (million acres)								
a) Announced	55	49.5	49.5	47.8	68.2	59.3	51.6	45.5
b) Effective	55	53.2**	53**	51.7**	68.2	59.3	51.6	45.5

TABLE 1 (Continued)

	1963	1964	1965	1966	1967	1968	1969	1970
7. National wheat acreage (million acres)								
a) Planted	53.4	55.67	57.36	54.38	67.79	62.59	54.3	49.0
b) Harvested	45.5	49.76	49.56	49.86	58.77	55.31	47.57	43.6
8. Participation								
a) Percent of wheat farms	24	34	48	48	45	47	57	56
b) Enrolled farmers' acreage as a percent of effective national wheat allotment	46	74	82	82	84	84	82	89

Sources: Lines (1)-(7) USDA,ASCS, "Commodity Program Fact Sheets," (1963-1970). Annual general
explanations prepared for ASCS committeemen.
Lines 8a and 8b. Letter from K. Hoover, Director of Wisconsin's ASCS office.

*No payment rate was established. Growers got a share of exporters' contributions and the pool based on the size of their allotment.

**The effective allotment exceeded the nationally announced allotments because the allotments to small-sacle growers were raised during these years.

output need not equal actual, these certificates represent a form of insurance against crop failure. In 1964 the domestic marketing-certificates covered 45 percent of "expected" production and paid $0.70 per bushel. This payment is received by the grower regardless of the buyer of his output. By 1969, this payment had risen to $1.52 per bushel for 43 percent of the expected output.

When first introduced for 1964 the domestic marketing-certificate was accompanied by an export marketing-certificate. This certificate in 1964 paid $0.25 per bushel for 45 percent of the calculated "expected" output of wheat. This payment was paid almost directly to farmers by commercial exporters and in essence represented the amount by which U.S. wheat prices would have been below world levels. After 1966 this device was abandoned because U.S. export prices including transport have since approached and, at times, exceeded world levels.

The domestic marketing-certificate when first introduced was virtually a direct payment to farmers from processors of food for domestic use. Food processors were thereafter required to purchase a certificate for about $0.70 per bushel for all wheat used for domestic food purposes. The fund into which these payments were made was distributed among participating growers. Since 1966 the payment rate has been increased to the difference between parity and $1.25 (this difference is currently about $1.30 to $1.60) of which $0.75 has been paid by processors and the remainder by the government out of CCC appropriations.

During all of the period 1964-69 the market-price per bushel was above or within $0.03 of the loan rate. This contrasts with earlier periods when the loan rate was above the market price; during the 1950s the market price rose above the loan rate but once and then by $0.01 per bushel. Because the

market price was above the loan level during much of the period 1964-69 the

government purchased little wheat and was able to reduce its stocks, in

part through PL 480. The relatively high market-price can be attributed

to the effect of the wheat commodity program and in part the high expert

level.

In particular, two measures originated after 1963 probably contributed

to the success of the Freeman programs. (1) The high value of marketing

certificates drew farmers into the program and worked in the direction of

keeping actual planting near the national allotment. (2) Payments were

offered to program participants to divert voluntarily some part of their

acreage from wheat to conservation use. This second measure is elaborated

below.

In 1964 a grower could divert the greater of 15 acres or 20 percent of

his allotment and receive 20 percent of his expected (determined as described

above) gross income from wheat from the diverted acres. For 1970 the grower

could receive 50 percent of his expected gross from diverted land up to the

larger of 50 percent of his alloted acreage or 19.2 acres. This option

provided the opportunity to not plant wheat on the relatively less profitable

acreage.

Thus the general effort behind the wheat program of recent years has

been directed toward raising prices through reduced production. Plantings

have been discouraged by providing economic incentives to eligible producers

to participate in the programs. Production by participating growers has

been further reduced through voluntary diversion provisions. Also, production

by nonparticipants would seem to have been curtailed. Since certificates,

as opposed to price, came to be the mechanism of assuring equitable incomes

to participants, the loan levels have come to be relatively low (the average level between 1964-70 was about 60 percent of the level of the 1950s). Consequently, government purchases didn't act as a magnet in raising the market price to the high support level, and lower prices should have discouraged nonparticipants' production. The program since 1964 seems to have been effective in reducing output and government stocks.

Participation in the program has been raised from 34 percent of wheat growers in 1964 to 56 percent in 1970. Of acreage eligible to participate in the program 74 percent participated in 1964 and 89 percent participated in 1970. In some ways the programs have been tailored to increase participation by small-scale growers. Circumstantial evidence can be brought to bear on this. Between 1964 and 1970 the farms participating increased 65 percent while acreage of participants rose by only 20 percent. This would seem to indicate that the program has been successful in attracting small-scale growers.

There are other relatively minor provisions in the program and these can be found in the annual Agricultural Stabilization and Commodity Service (ASCS) brochures.

EFFECTS OF SUPPLY CONTROL

Supply control as currently practiced does produce the desired effect of increasing the gross incomes to participating growers both through higher prices and direct payments. The higher market-price for output of supported crops results from the impact of supply control. It has been noted that the demands for major foodstuffs are inelastic. This means that the smaller the total number of units reaching the market, the higher the price per unit.

Consequently, the total amount paid for all such units increases. Since commodity programs have tended to restrict aggregate output below that level which the growers under a free market would produce, they have resulted in a higher gross-income from the sale of output. This increase in gross income is supplemented with direct payments.

The objective is, of course, not only to raise gross incomes; the success of farm programs must be judged from their impact on the profitability of the farm operation. Such a criterion raises indirectly one of the critical questions of farm programs. It might appear obvious that higher farm prices and direct payments should lead to higher annual net farm-incomes to participating farms. However, many contend, following the reasoning of orthodox economic theory, that the nature of supply control-programs leads to farm profits being supplemented to a considerably smaller degree than gross incomes.

This result can be demonstrated for both the effects of direct payments and higher-than-free-market prices. Since it is easier to demonstrate how direct payments need not necessarily result in higher net incomes to participating farmers, it is that case which is explored here.

For commodity programs to lead to higher net farm-profits requires that production costs rise less than gross income. Let

$$GY - C = NP.$$
where GY = annual gross income
C = annual costs
NP = annual farm profit

If both gross income and costs were to rise by the same amount there would be no change in profit. (Profit is presently used in an economic opposed to a legal sense. Profit, specifically, is net income, conventionally defined, less the opportunity-cost of owned resources.) If gross income increases, say through direct payments, then this would be translated fully into a

rise in profits only if costs remained constant. Included in costs are
both the actual and opportunity-costs of production. Actual costs include
expenditures on seed, fertilizer, nondurable equipment and other similar
inputs. Opportunity-costs include the income foregone, for example, by
the owner's spending his labor on the farm instead of in off-farm employ-
ment. Another opportunity-cost is the return on his capital which a farmer
foregoes by investing it in his operation instead of in stocks, bonds, or
other interest bearing assets. This latter opportunity-cost is of particular
importance in the subsequent argument. So long as NP is greater than or
equal to zero, the grower is doing at least as well by investing his time and
capital in his operation as he could do by allocating his resources elsewhere.

The theory which underlies the above observations on the potentially
small impact of direct payments on farm profit is illustrated by the following
example. Consider a landowner-farmer who operates one acre of land valued
at $400. Assume that ordinarily this grower grosses $100 and earns (net of
all imputations to his labor as well as other input costs) $20 from this
acre. Further assume that in advance of crop year 1969, the grower is told
by his USDA county committee that in crop year 1969 and forever thereafter
he will receive $10 (current dollars) per year in direct payments on this
acre. (Actually it could be assumed for added realism that he would earn
$15 in direct payments in return for performing certain tasks which would
cost, perhaps in the value of his expenditure of time, $5.)

This grower receives the benefits on the acre because he possesses title
to the land at the time the program is implemented. The benefits he receives
are not diminished if he rents the land to another farmer of if he sells it
outright.

The program represents a perpetuity. The annual direct payments of $10 when capitalized over all time at a constant interest rate of, say, 5 percent represent a present value of $200. That is, the value of the land increases by $200 after the program is announced. The fact that the payment takes the form of $10 this year and $10 next year and so on is not important. The $10 in 1969 is worth $10 to the grower. Likewise, the $10 payment in 1970 is worth $10 divided by 1.05, about $9.50, to the grower in 1969. ($9.50 represents the amount which if invested today at 5 percent would become $10 in a year.) The $10 payment in 1971 is worth $10 divided by 1.05^2 in 1969, and so on. The landowner is benefited in the same way either if the program involves an outright one-time-only gift of $200 or if he can receive $10 annually forever. In the latter case he can capitalize on the $200 gift by selling his land at any time for $200 more than he otherwise could have.

In this example, then, the effect of the program can be seen as raising the price of land by $200, from $400 to $600. The benefits for all time are realized by the person who is titleholder to the land at the time of the program's inception. What then of a grower who purchases the land from this original landholder? He will receive no benefits from the program if it is continued at an unchanged level. Although he will receive $10 annually in direct payments, thus raising his gross by $10, his costs rise by a like amount and consequently on net he would be unaffected by the program. The $10 rise in annual operating costs consists of the opportunity-cost of capital. To purchase the land he must pay $200 more than he otherwise would have; the opportunity-cost of this, i.e., the income foregone by not investing this elsewhere at the interest rate of 5 percent, is just $10.

Likewise a nonlandowning renter receives no benefits from the program. Assuming a perfect rental market in land, renters' bids for the allotment land would exceed by $10 the amount they would pay for similar land not covered by the farm program. Any year the farmer in the above example chose to rent out the acre he would still receive the benefit payment; the form would be higher rents as opposed to a check from the Treasury.

Theory, then, predicts that farm-program benefits will be capitalized into higher land values and realized by the landholders of record at the time the program begun. Reality may appear to contradict this theory for a number of reasons.

(1) Buyers or sellers of land may feel insecure about the duration and payment levels of the farm programs. Thus, land prices may not rise by the full capitalized value.

(2) Markets may not be perfect; rents or the sale price of land might be constrained by tradition and consequently might not rise by the full amount anticipated.

Clearly, the implementation of commodity programs has been accompanied by considerable uncertainty. These programs have involved experimentation with a variety of methods of operation: for example, large purchases of output by the CCC in the 1950s and high direct payments in the 1960s. Additionally, legislation governing these programs has to be enacted regularly, and in some cases farmers' referenda are required for the program's operation. To this uncertainty is added lack of foreknowledge of payment levels in future years.

All of this prevents the complete capitalization of program benefits into land values. Thus, later generations of farm owners have received and will continue to receive some farm-program benefits. Nonetheless, any rise in land values will diminish the benefits of farm programs reaching

those purchasing land after the capitalization process has occured. Noted

below is a study which has examined the relation between the benefits of

farm programs and the value of agricultural acreage.

Drawing from work by Bruce Johnson,[17] Charles Schultze has noted that

the benefits of farm programs have indeed been capitalized into land values.[18]

He argues that the benefits of farm programs have been added as a residual

to returns to land and the increase in this figure since the inception of

this program has paralleled the increase in land values (see Table 2). He

notes that the high program benefits of the 1960s coupled with increasing

optimism about the continuation of these programs somewhat accelerated the

capitalization process. Schultze said of this result, "The first-generation

owners capture the benefits when they sell. Second-generation owners lose

many of the benefits to higher carrying charges." Note that this result is

verified in line three of Table 2: the large increase in net returns to land,

444 percent, just about equals the 420 percent rise in land values from 1935

to 1967.

TABLE 2

CHANGE IN LAND VALUE OVER TIME

Period	(Percentage increases per acre)		
	Increase in net farm income	Increase in net return to land	Increase in land values
1938-39 to 1952-54	160	124	160
1952-54 to 1965-67	18	143	100
1935-39 to 1965-67	206	444	420

Source: Schultze, The Distribution of Farm Subsidies, (1971), p. 35.

Later in this paper it will be shown that approximately three-fourths of the benefits of farm programs in 1969 are attributable to direct payments. The remaining fraction results from the higher farm prices produced by commodity programs compared to those resulting from an otherwise free market. These benefits, too, are capitalized in part into land values since they are included in the residual returns to land upon which the capitalization, reported above, takes place.

DISTRIBUTION OF FARM-PROGRAM BENEFITS

The present paper reports on a study of the distribution of farm-program benefits for 1969. The benefits of farm programs are defined as the excess of actual gross farm income over hypothetical long-run free-market gross farm income. The benefits of farm programs are composed of both elements: the higher market prices prevailing because of the effects of supply control and direct payments for participation.

The seven crops upon which the analysis is based are feedgrains (corn, oats, grain sorghum and barley), wheat, soybeans and cotton. These crops constitute a substantial portion of the cash-crop sector of the economy. Of the nearly 300 million acres harvested in 1969 these crops accounted for about 205 million acres. Of the gross cash receipts from crops (not including direct payments) for 1969 of $22 billion, these seven crops accounted for about $12.5 billion. Additionally, in 1969 these crops accounted for over $3.3 billion (88 percent) of the total $3.75 billion in direct government payments to farmers.

The benefits of farm programs in effect represent the annual income accruing in the long run to each value-of-sales class (see Table 3) in excess of that which would prevail if there were considerably less government involvement in agriculture. Specifically, the author compares the actual distribution of gross farm income from the seven crops studied in the 48 contiguous continental states to that distribution which would prevail if the primary involvement of government with agriculture were limited to maintaining a modest acreage conservation program. It is assumed that growers have sufficient time to adjust to the equilibrium free-market prices. Under this latter condition prices are set in the market, and cultivation of crops is free to migrate to those geographical regions where it can be carried out most efficiently. Cultivation would be restricted to those regions which in the long run could produce profitably.

TABLE 3

ASPECTS AND DEFINITION OF VALUE-OF-SALES CLASS

Class	Value of sales (1,000 dollars)	Percent of total farm sales, 1969	Percent of total number of farms, 1969
Class I	more than $40	51.3	7.1
Class II	20-39	21.3	12.0
Class III	10-19	16.0	17.0
Class IV	5-10	6.3	13.1
Class V	2.5-5	2.4	9.6
Class VI	less than 2.5	2.7	41.2

Source: Schultze, _Distribution of Farm Subsidies_, (1971), p. 25.

Note: "Class VI includes a number of categories that the Bureau of the
       Census shows separately (small commercial farms, part-time farms,
       etc.), with one very minor exception, these categories all have
       the common characteristic of selling less than $2,500 farm
       products each year." Schultze, The Distribution of Farm Subsidies,
       p. 25.

Price-support benefits: The distribution of gross farm-income from

the sale of crops among the sales classes was calculated for 1969. This

distribution was calculated assuming that the relative distribution of

acreage among sales classes reported for each state for each crop in the

1964 Census of Agriculture also prevailed in 1969. (This assumption was

required since the results of the 1969 Census were unavailable at the time

this research was performed.) The fraction of total acreage harvested for

each class for each of the crops studied in each continental state was

multiplied by the gross value of the sale of each crop in each state to

determine the share of sales attributable to each class. Summing these

quantities across all crops and all 48 continental states provided the

distribution of actual gross sales in 1969.

Obtaining the free-market distribution of gross income from the sale

of crops required the use of a model capable of generating a free-market

distribution of output. For this the Iowa State University (ISU) general

equilibrium linear programming model was used.

The spatial linear programming model in use at Iowa State's Center for

Agricultural and Economic Development is a versatile tool. It is being

used to study such matters as the impact of eliminating chemical fertilizers

and the impact of water-resource projects on American agriculture. It

has, in the past, been used to study the impact of changes in farm legislation

on output in the near and relatively distant future.[19]

In conjunction with a demand model, the programming model permits one to determine the spatial distribution of output among producing regions under the assumption that long-run equilibrium prevails. The long-run equilibrium condition requires that no region produce any of the crops (feedgrains, wheat, soybeans, and cotton) covered by the model at a loss. The model can provide both the equilibrium prices which prevail in 1969 under the free-market conditions specified as well as the most efficient distribution of output among producing regions. Alternatively, using a different formulation of the model, one can specify a set of input prices and various constraints in determining the optimal distribution of output.

This paper reports results based on the latter formulation. The input prices used, however, approximate the free-market levels calculated by other researchers using the ISU model.[20] The long-run levels of free-market prices for crops were calculated to be:

Soybeans	$1.85 per bushel
Wheat	$1.06 per bushel
Feedgrains	$0.85 per bushel (average)
Cotton	$0.22 per pound

Output from the ISU model provided information on the distribution of output among states. It is assumed by the author that for each crop, the distribution of output among sales classes prevailing within a state in 1964 continued to 1969 and that distribution of planting among classes would also have prevailed under a free market in 1969. The free-market distribution among sales classes was calculated employing the same methodology described for the distribution of actual gross income from the sale of the seven crops. The difference between the actual and hypothetical gross incomes from the

sale of the crops provides a measure of the price-support benefits of farm programs. Such distribution among sales classes have been calculated by others, the most notable work having been done by Charles Schultze. The present work reported has two primary advantages: (1) The model employed is spatial, and consequently permits an optimal allocation of cultivation among states. This affects the results of the distribution of farm income, since the economic classes produce differing shares of output of the seven crops in different states. (2) The present work calculates a distribution of price-support benefits assuming long-run equilibrium. The long-run formulation is superior if one is interested in knowing how actual 1969 farm income compares with the hypothetical distribution—assuming programs were terminated sufficiently in advance of that year to leave in production only those areas for which production of each crop is at zero or positive profits.

In Table 4 the results of the calculations on the price-support benefits of farm programs are presented. These benefits are calculated for each class as the difference between actual and free-market 1969 farm income.

TABLE 4

DISTRIBUTION OF PRICE SUPPORT BENEFITS ATTRIBUTABLE TO
FEEDGRAINS, WHEAT, SOYBEANS AND COTTON IN 1969
($ million)

| | Value-of-sales class | | | | | | |
	I	II	III	IV	V	VI	Total
1. Gross benefit	600	250	250	170	110	100	1,480
2. Actual gross from included crops	2,930	3,970	3,410	2,030	830	570	12,840
3. Benefits as a percent of gross	20	8	7	8	13	18	12

Sources: Lines (1)-(2) Output of Iowa State University Model.
 Line (3) Farm Income Situation, 1969.

The above table cannot give a complete picture of the impact of farm programs on the sale of crops since nowhere above are cost estimates included. However, the ISU model predicts that under long-run equilibrium conditions, free-market production costs would about equal current actual costs.[21] Additionally, analysis underlying the work in this report indicates that output shares of the crops studied would shift only a little among economic classes with the end of price supports. It can thus be assumed that costs to each economic class will be approximately unchanged. This enables the assumption that the calculated changes in gross income can be fully translated into equal changes in net income.

This report looks only at the price-support benefits of the seven major crops. For further analysis, it is assumed that the price-support benefits attributable to other crops are negligible. This assumption is necessitated because of the limited coverage of the ISU model. However, it is justified because of the minimal controls over, and/or the relative unimportance of, other crops. Price-support benefits are not calculated for the following: sugar, wool and mohair, tobacco, rice, and other relatively minor crops.

Note that the price-support benefits represent the lower bound of the costs of farm programs to the public in their roles as consumer. The $1.48 billion represents the higher price middlemen must pay farmers for commodities because of supply control. The cost borne by consumers will exceed this amount if the intermediaries pursue a mark-up policy in setting their prices.

Direct payment benefits: Direct payments of slightly under $3.8 billion were distributed to all farms in 1969. The USDA has broken down total benefit payments among value-of-sales classes.[22] Of those seven crops presently considered, only soybeans and oats did not have direct payments associated

with them. The other feedgrains along with wheat and cotton accounted for $3.32 billion of the direct payments. Other programs such as the wool, mohair, sugar, and acreage conservation account for the difference.

The total of direct government payments are distributed as follows:

TABLE 5

DISTRIBUTION OF DIRECT PAYMENTS, 1969

	Value-of-sales class						
	I	II	III	IV	V	VI	Total
Direct payments ($ million)	1,114	939	903	371	176	291	3,794
Number of farms (1,000)	211	357	505	389	286	1,223	2,971
Percent of payments	29.4	24.7	23.8	9.8	4.6	7.7	100
Percent of farms	7.1	12.0	16.8	13.1	9.8	41.0	100

Source: USDA, Economic Research Service (ERS), Farm Income Situation, FIS 216, July 1970.

The considerable inequality among farms in the distribution of direct payments is reflected in the top 7 percent of growers receiving almost four times the payments of the bottom 41 percent.

Total benefits: Assumptions made to this point permit the calculation of the total benefits of farm programs as the sum of price-support benefits, the first line of Table 4, plus direct payments benefits, the first line of Table 5. Total benefits by class are presented as line 1 of Table 6.

Long-run total benefits of farm programs add up to $5.27 billion (line 1).
Of this amount about 1/3 accrues to class I and about 3/4 to classes I-III
taken together. Class VI derives 7 percent of the total benefits (line 3).
Compared to their shares of gross farm income, classes II-VI all derive a
higher percentage share of benefits (lines 5 and 3). That the low-gross
growers derive relatively higher benefits as a percentage of gross farm-
income is also illustrated in line 8. Here it is shown that for class VI,
benefits represent about 1/7 of gross income and for class V, about 1/5,
while for classes II and I, benefits represent but 1/10 and 1/16 respectively.

There appears to be a relatively greater supplement to the incomes of the
lower-gross farms in a comparison between benefits and gross income. However,
this progressivity largely vanishes when one compares benefits to realize
net farm-income (line 9). Such a comparison shows that farm programs supplement
net income of the sales classes fairly uniformly. All but one class would
experience about a 1/3 decline in net farm-income with the termination of
commodity programs; the sole exception is class V--which would experience a
decline of about 1/2. The relative differences among classes between the
ratios of benefits to gross versus benefits to net farm-income, results from
the lower margins of the higher sales-class farms (line 10).

Total benefits per farm are another aspect of the equity of farm programs.
Table 6 shows that the benefits to class I farms average more than $8,000
while those to class VI but $320 (line 12). The benefits per farm decline
uniformly moving from class I to class VI.

A considerable portion of farm operators derive some off-farm income.
Line 19 indicates how much accrues on average to farms by value-of-sales
class. The highest average off-farm income accrues to class VI growers.
This can be attributed largely to the fact that about 3/4 of the farms in

TABLE 6

IMPACT OF AGRICULTURAL PROGRAMS, 1969

Item		I	II	III	IV	V	VI	Total
				Value-of-Sales Class				
(1)	Total benefits*	1,710	1,190	1,150	540	290	390	5,270
(2)	Direct payment benefits as a percent of total	65	79	78	68	62	74	72
(3)	Percent of benefits	32	23	22	10	6	7	100
(4)	Realized gross farm income*	26,530	11,480	8,840	3,630	1,490	2,630	54,600
(5)	Percent of realized gross income	49	21	16	7	3	5	100
(6)	Realized net income (including payments)*	5,800	3,740	3,270	1,410	610	1,320	16,150
(7)	Percent of realized net income	36	23	20	9	4	8	100
(8)	Benefits as a percent of realized gross	6.4	10	13	15	19	15	9.6
(9)	Benefits as a percent of realized net	29	32	35	38	48	29	32
(10)	Net as a percent of gross	22	32	37	39	41	50	30
(11)	Number of farms**	211	357	505	389	286	1,223	2,971

TABLE 6 (Continued)

Item	Value-of-Sales Class						
	I	II	III	IV	V	VI	Total
(12) Percent of farms	7	12	17	13	10	41	100
(13) Total benefits per farm**	8.1	3.3	2.3	1.4	1.0	.32	1.77
(14) Realized gross farm income per farm**	125.7	32.2	17.5	9.34	5.20	2.15	18.4
(15) Production expenses per farm**	98.2	21.7	11.0	5.71	3.08	1.07	12.9
(16) Realized net farm income per farm**	27.5	10.5	6.48	6.63	2.12	1.08	5.44
(17) Direct payments per farm**	5.3	2.6	1.8	0.95	0.62	0.24	1.28
(18) Price support and spatial benefits per farm**	2.8	0.70	0.50	0.45	0.38	0.08	0.49
(19) Off-farm income per farm**	5.46	3.24	3.14	4.49	4.90	7.01	5.26
(20) Total money income per farm**	33.0	13.7	9.62	8.12	7.02	8.09	10.7
(21) Benefits as a percent of total income	25	24	24	17	14	4	16

Sources: ERS, USDA, Farm Income Situation, FIS 216, July 1970. Tables 4 and 5.

*In millions of dollars.

**In thousands of dollars.

this class are not commercial, i.e., they are either part-time or part

retirement farms.[23] One would suspect that for this bottom class well

over 3/4 of the off-farm earnings accrue to noncommercial farms. The lumping

together of commercial with noncommercial farms, forced by the form of the

presentation of direct payments data in the Farm Income Situation of July

1970, obscures the reliance of low-gross commercial farms on farm income.

Combining the data on farm and off-farm income and comparing the

resulting magnitude with total benefits (line 21), demonstrates the

decreasing relative liability, moving from high to low gross farms, on

total income consequent upon the termination of farm programs. Because low-

gross farms rely to a lesser extent on farm income this liability is

correspondingly lower. This last line presents the strongest evidence

against the notion that farm programs are responsible for the continued

existence of the small and, in particular, poor farms.

One way economists examine the equality of a distribution is by means

of a Gini coefficient. A coefficient of 0 indicates a perfectly even

distribution of a quantity among a population. A coefficient of 1.00 indicates

complete inequality, i.e., one person has every unit of that which the

distribution is looking at while everyone else has nothing. For comparative

purposes, the Gini coefficients of percent distribution of family personal

income in this country in 1954 and 1956 was 0.39 and in 1962 was 0.40.[24]

Over all, farm programs have only a small effect on the distribution of

income within agriculture. The Gini coefficient of the total benefit distri-

bution indicates slightly greater equality than the actual 1969 distribution

of realized net farm-income. Subtracting for each class total annual benefits

from actual 1969 realized net farm-income results in a distribution of hypo-

thetical realized net farm-income, the Gini coefficient for which is 0.58.

Terminating farm programs would have the effect of worsening the distribution of net farm-income by two points (see Table 7). Highly concentrated farm programs improve the distribution of net farm-income only because net farm-income is itself so highly concentrated.

TABLE 7

GINI COEFFICIENTS OF VARIOUS DISTRIBUTIONS

Distribution	Coefficient
Direct payments	0.53
Price support and spatial benefits	0.51
Total benefits	0.52
Realized net farm-income	0.56
Hypothetical realized net farm-income	0.58

Benefits and land ownership: It has been argued that much of the benefits from direct payments and price supports have been capitalized into land values and rents. This would imply that farm operators who have acquired their land following the capitalization process and farm renters, would not receive the benefits attributed to them. Even if it were true that the benefits were fully capitalized into land values, the meaningfulness of the results of this section would not be negated. The benefits distribution is open to two interpretations:

(1) It tells the annual benefits to farm operators by economic class from farm programs, assuming no gains were capitalized into land values.

(2) It tells the annual loss by economic class incurred, assuming a capitalization process drove up land values in the past.

This latter interpretation looks at the benefit distribution in the sense of an opportunity cost. The benefits received by each class are measured by how much higher their income is under the actual as opposed to hypothetical situation. This calculation does not assume that current operators are actually receiving benefits from the government programs. It does assume that they will be worse off after the programs are terminated since their net farm-income, in particular the return to the land, will fall, and this will lead to a decline in land values.

In the hypothetical example illustrating the capitalization of direct payments benefits it was noted that a later purchase would be unaffected by the farm programs if they were continued at constant levels. However, the termination of farm programs would result in a loss to the later purchaser of land of $200 or $10 per year. Thus, although a current landholder may receive no actual benefit from the farm programs, he may lose considerably when and if they are terminated. It is in this sense that decline in income, which would be a consequence of the termination of farm programs, is termed a benefit. Renters in each economic class will not be similarly affected. However, the owners of the land which they operate will suffer a capital loss.

Thus the benefit distribution, if properly adjusted for the economic class of the landowner, is a good indication of the annual benefits of the programs or, looked at alternatively, the costs of terminating them.

Tenurial patterns do not appear to differ considerably among commercial economic classes. The 1964 U.S. Census of Agriculture indicates that 75 percent or more of the operators in each class had ownership status.[25] This is not to say, however, that 3/4 of the land they farmed was owned within the economic class since (1) owned farms could on the average be larger or

smaller than rented farms and (2) land rented by part owners could be owned outside their own economic class.

Significantly, the highest rates of full ownership occur among growers of the lowest economic classes.

If it can be assumed that owners' and nonowners' farms are approximately equal in acreage, then it follows that growers in the bottom economic classes realize nearly the full amount of annual benefits (or will realize nearly the entire annual losses) which have been calculated. This statement holds with a lesser degree of certainty to the high economic classes since full ownership occurs with lower frequency. On the other hand it seems plausible, though it cannot be ascertained, that ownership of land rented by part owners and tenants, is concentrated in the higher economic classes. The available evidence indicates that the opportunity-costs of ending farm programs, the calculated "benefits" of farm programs, accurately reflects the distribution among economic classes.

CONCLUSION

This paper has evaluated commodity programs in terms of their impact on the distribution of income within agriculture. It has been shown that these programs redistribute relatively little income to the lower tail of the income distribution. However, few would claim that the sole, or even central, rationale of commodity programs has been their potential usefulness as surrogate welfare programs. Rather, the primary purpose of these programs seems to have been to maintain farm income in the aggregate. This objective, the paper demonstrates, has to a degree been attained by supply-control programs.

Nonetheless, commodity programs remain as one of the foremost

mechanisms addressed to the rural poverty problem. The President's

National Advisory Commission on Rural Poverty said of them,

> . . . our public programs in rural America are woefully out of
> date. Many of them, especially your farm programs and vocational
> agriculture programs, are relics from an earlier era. They
> were developed during a period when there was a strong belief
> that people born in rural America should stay there and work on
> farms, or in farm-related occupations. The programs emerged
> from legislation which equated the welfare of farm families
> with conditions on farms and the welfare of rural communities
> with the incomes of farmers. These conditions no longer prevail.
>
> . . . instead of combatting low incomes among rural people, these
> programs have helped to increase the wealth of land owners while
> largely bypassing the rural poor.[26]

The data presented in Tables 4, 5, and 6 demonstrate the concentration

of benefits among the farm population. The bottom 41 percent (1,223,000

farms) of the producing units, class VI, receive only 7 percent ($390 billion)

of the benefits. The bottom 63 percent (1,898,000 farms), classes IV-VI,

receive only 23 percent ($1,220 million) of the benefits. Included among these

farms are many nonpoor operators, since the mean total money income to

operators of class IV, V, and VI, is $8,120, $7,020, and $8,090 respectively.

The 29 percent of the farm population which is poor[27] receives only a small

share of the benefits of farm programs.

A rough calculation will illustrate this. Assume the poor 29 percent

constitute a like percentage of the operators and receive a proportionate

share of benefits accruing to the bottom 63 percent of operators. The benefits

of farm programs reaching this population then totals about $560 million.

This extremely liberal estimate of the benefits reaching the rural poor,

even assuming further that these benefits were not largely capitalized into

land values before the land came into the hands of the poor, is indicative

of the inadequacy of farm programs in dealing with the rural poverty. The

President's Commission has estimated that, "To close the income gap for the rural poor alone would cost nearly $5 billion."[28] It should be stressed that closing the income gap means bringing the rural poverty population up to the equivalent of 85 percent of the urban poverty line.

Farm programs, at the very most, contribute to closing this gap by ten percent. The cost of doing this alone, $5.25 billion annually, exceeds the size of the gap by a quarter billion dollars.

Charles Schultze has pointed out another fault in the present approach. He has correctly commented that the concept of parity income is an unattainable goal of farm policy.[29] Briefly, he argues that farmers are willing to stay in that occupation at below parity-incomes. Any attempt to raise their incomes above this level will result in a rise in land rents and ultimately a rise in land values. A later calculation of parity income will show that it has risen, because of a higher input cost, and the farmer will appear to be little, if at all, better off in comparison between actual and parity incomes.

The implication of his argument is that only those subsidies granted to individuals instead of to saleable assets will not be capitalized into land values.

This insight is both an important criticism of past programs and a beacon to light the way to further reforms. Future farm policy must recognize the important limitations of supply control in influencing incomes of the farm population. Of course, increasing the benefits of the current type of farm programs would increase the dollar benefits reaching poor landowning farmers. However, this approach to income maintenance is undesirable for four reasons. First, it would still not channel income to

all those in need, since the mechanism is selective and bypasses tenants, hired farm workers, and the other landless agriculturalists. Second, it is an inefficient way of redistributing income since the bulk of the increased benefits would accrue to the higher-income growers. Third, the capitalization of benefits into land values remains a problem. Lastly, supply controls tend to result in farm prices above free-market levels. Since this is translated into higher food prices, a relatively great burden from this rise is borne by low-income consumers, the group whose food budget tends to be a large share of their income.

An attempt has been made to reduce the amount of farm program direct-payment benefits accruing to the biggest growers. Currently, a grower is limited to $50,000 in direct payments per crop. In theory, such a limitation would offer a means to defend the current type of program from the charge that it is "woefully out of date" and unable to deal with the problems posed by the poor within agriculture. A limitation on individual payments would permit increased benefit levels without the amount going to the biggest farm growing way out of publicly acceptable bounds. Furthermore, a payments limitation works in the direction of evening the distribution of benefits. However, the limit of $50,000 per farmer per crop is so high that it will have minimal impact on the over all distributional consequences of the present type of farm program.

In the 1968 wheat program, only 41 growers received more than $50,000 indirect payments, only 8 of these more than $100,000 and only one of those received between $500,000 and $1,000,000.[30] In 1968, for all major programs combined, only 1,274 producing units received more than $50,000; the total payments they received were slightly more than $100 million.[31] The vast

bulk of the benefits, about 86 percent was received by those whose benefits were in the range of $1,000 to $49,999. (See Table 8.) Consequently, a uniform increase in benefits, even with a limitation would still be accompanied by the overwhelming majority of the payments flowing to the large-scale growers. An additional defect of payment limitations is that most growers can effectively short circuit the limitation by splitting their holdings among such units as family trusts.[32]

Future farm policy must take a considerably different course if it is to have a meaningful impact on the poor within agriculture. It is well beyond the scope of the present work to specify the details required of such a policy. However, this paper has pointed out the limitations of present policies and this should serve as a guide to what has been ineffective.

TABLE 8

FREQUENCY DISTRIBUTION OF PRODUCER PAYMENTS, EXCLUDING WOOL
AND SUGAR, UNITED STATES, CALENDAR YEAR 1968

Payment Range	Producers Percent Distribution	Total Amount of Payments Percent Distribution
less than $100	11.9	.4
$100-499	33.8	6.9
$500-999	21.2	11.4
$1,000-4,999	28.7	44.3
$5,000-9,999	3.1	15.8
$10,000-24,999	1.1	12.6
$25,000-49,999	.2	4.8
$50,000-99,999	*	2.1
$100,000 and over	*	1.6
total percentage	100.0	100.0
total numbers	2,371,634	$3,187.3 million

Source: Unpublished Tables, ERS, USDA, (July 1, 1969).

*is less than 0.1 percent.

FOOTNOTES

[1] An example is the Ptolemaic Kingdom in Egypt. Their agriculture was so centralized that all transport of the major food crops was carried out by the state. "Prices for the most important provisions, like bread, were steadily balanced for more than 300 years . . . ." See Fritz M. Heichelheim, _An Ancient Economic History, Vol. III._ (Leyden, A.W. Sijthoff, 1970), p. 89.

[2] _Ibid._, p. 160. For example, Roman conquests in the 3rd and 2nd centuries B.C. resulted in the availability of thousands of slaves. Slavery made plantations possible and hence the domination of Roman agriculture by the upper class.

[3] Karl Polanyi, _Dahomey and the Slave Trade_ (Seattle: University of Washington Press, 1966), p. 90.

[4] Edwin Nourse, Joseph S. Davis, and John D. Black, _Three Years of the Agricultural Adjustment Administration_ (Washington D.C.: The Brookings Institution, 1937), p. 23.

[5] See Don F. Hadwiger, _Federal Wheat Commodity Programs_ (Ames: Iowa State University Press, 1970), for an interesting political history of the Agricultural Adjustment Act (AAA).

[6] United States Department of Agriculture (USDA), _Yearbook of Agriculture_, 1934, pp. 21, 22.

[7] United States Department of Agriculture (USDA), _Yearbook of Agriculture_, 1935, 144 ff.

[8] _Ibid._, p. 35.

[9] _Ibid._, pp. 31, 115.

[10] Hadwiger, _Federal Wheat Commodity Programs_, 137 ff.

[11] D. Gale Johnson has put this succinctly in "Efficiency and Welfare Considerations of U.S. Agricultural Policy," _Journal of Farm Economics_, 45, no. 2 (May, 1963): 332. "The rationale for extensive governmental involvement has been that the income of farm families remains below that of nonfarm families."

[12] See for example, _The 1969 Voluntary Feed Grain and Wheat Programs_, PA-906, Agricultural Stabilization and Conservation Service, United States Department of Agriculture, January 1969.

[13] See Wayne D. Rasmussen and Gladys Baker, "Programs for Agriculture 1933-1965," _Agricultural Economics Research_, (July 1966), Economic Research Service, United States Department of Agriculture, reprinted in Vernon Rutton et al., Agricultural Policy in an Affluent Society (New York: W.W. Norton, 1969) pp. 69-88. Also see in this same volume F. L. Thomson and R.J. Foote, "Parity Prices," pp. 90-95.

[14]Rutton et al., _Agricultural Policy_, p. 94.

[15]See National Advisory Commission on Food and Fiber, "Parity: New Concept Needed," reprinted in Rutton et al., _Agricultural Policy_, pp. 96-98.

[16]_The 1969 Voluntary Feed Grain and Wheat Programs_, p. 8.

[17]Bruce B. Johnson, "An Active Land Market in Perspective," _Farm Real Estate Market Developments_, CD-71 (December 1968), pp. 27-35.

[18]Charles Schultze, _The Distribution of Farm Subsidies_, (Washington, D.C.: The Brookings Institution, 1971), Chapter 4.

[19]See L. V. Mayer et al., "Farm Programs for the 1970s," _Center for Agricultural and Economic Development Report No. 32_, (Ames: Iowa State University, 1968). E. O. Heady, et al., "Analysis of Some Farm Program Alternatives for the Future," _Center for Agricultural and Economic Development Report No. 34_, (Ames: Iowa State University, 1969). Howard Madsen, et al., "Trade-offs in Farm Policy," _Center for Agricultural and Economic Development Report No. 36_, (Ames: Iowa State University, 1970).

[20]See Mayer, "Farm Programs for the 1970's," p. 33.

[21]Ibid., p. 34.

[22]United States Department of Agriculture, Economic Research Service, _Farm Income Situation_, (FIS 216), July 1970.

[23]See _1964 U.S. Census of Agriculture_, Vol. II, Chapter 6, p. 599. Based on figures for 1964.

[24]See Edward Budd, _Inequality and Poverty_ (New York: W.W. Norton, 1967), p. xii.

[25]_1964 U.S. Census of Agriculture_, Vol. II, Chapter 6, p. 638.

[26]_The People Left Behind_ (Washington, D.C.: U.S. Government Printing Office, 1967), p. 13.

[27]Ibid., Chapter 1, Table 1.

[28]Ibid., p. 7.

[29]Charles Schultze, _The Distribution of Farm Subsidies_, p. 40.

[30]United States Department of Agriculture, Economic Research Service, unpublished tables.

[31]United States Department of Agriculture, Economic Research Service, unpublished tables (dated July 1, 1969).

[32]_The People Left Behind_, p. 145. The President's Commission recognized this potential drawback to a payments limitation scheme.