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WHEAT POLICY ANALYSIS

ECONOMICS OF THE 1963 REFERENDUM

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CHAPTER I

GENERAL PROCEDURE AND FRAMEWORK OF STUDY

The purpose of this study is to describe and analyze the economics of basic policy issues concerning wheat and to approximate the amounts of North Dakota wheat production and corresponding wheat incomes that would result from a "Yes" vote and a "No" vote in the wheat referendum to be voted on during the spring of 1963. The income and production analyses in succeeding sections are for the state as a whole and for individual farm situations in three different areas of the state.

General assumptions used throughout the study are based on official announcements and published documents by USDA. These assumptions refer to the level of acreage allotments, payments and allowances for voluntary acreage diversion and price supports. More specific assumptions for North Dakota were based on historical production practices and price differentials among classes of wheat. Also, a mail survey was used to ascertain farmers' production plans regarding wheat, if a "No" vote resulted.

Answers from farmers contacted in the mail survey indicated that under a "No" vote, planted wheat acres would increase 29 per cent. Approximately 56 per cent of all farmers would not comply with their wheat allotment if a "No" vote resulted. Analysis by areas showed that farmers in the Valley area would increase their wheat acres considerably more than farmers in the Central and Western areas. The results by areas and for the state were as follows:

	Red River Valley	Central Area	Western Area	All Areas (State)
Total farmers responding	198	297	189	684
Per cent of farmers who would not comply under a "No" vote	55%	56%	57%	56%
Per cent increase in total wheat acres under a "No" vote	38%	28%	26%	29%

The boundaries and delineation of areas are shown in figure 1. The analyses used here and for individual farms in succeeding sections are based on these areas.

Principal reason for wheat acreage to increase proportionately more from west to east relates to the proportion of cropland now in wheat allotment. As shown in a later section, the proportion of cropland in wheat allotment is considerably higher in the western areas than in the eastern part of the state. Accordingly, one would expect less wheat acreage increase where a relatively high proportion of the cropland is already in wheat.

Other replies from the mail survey indicated that a majority of farmers do not understand, or have been misinformed, on the basic economic forces underlying the supply, demand, substitution and other price determinants of all wheat and classes of wheat. For this reason and because this study is intended as a guide for general educational use by agencies such as the North Dakota Extension Service, some space in this report has been devoted to the basic framework of agricultural policy, price determinants for wheat and future demand for wheat.

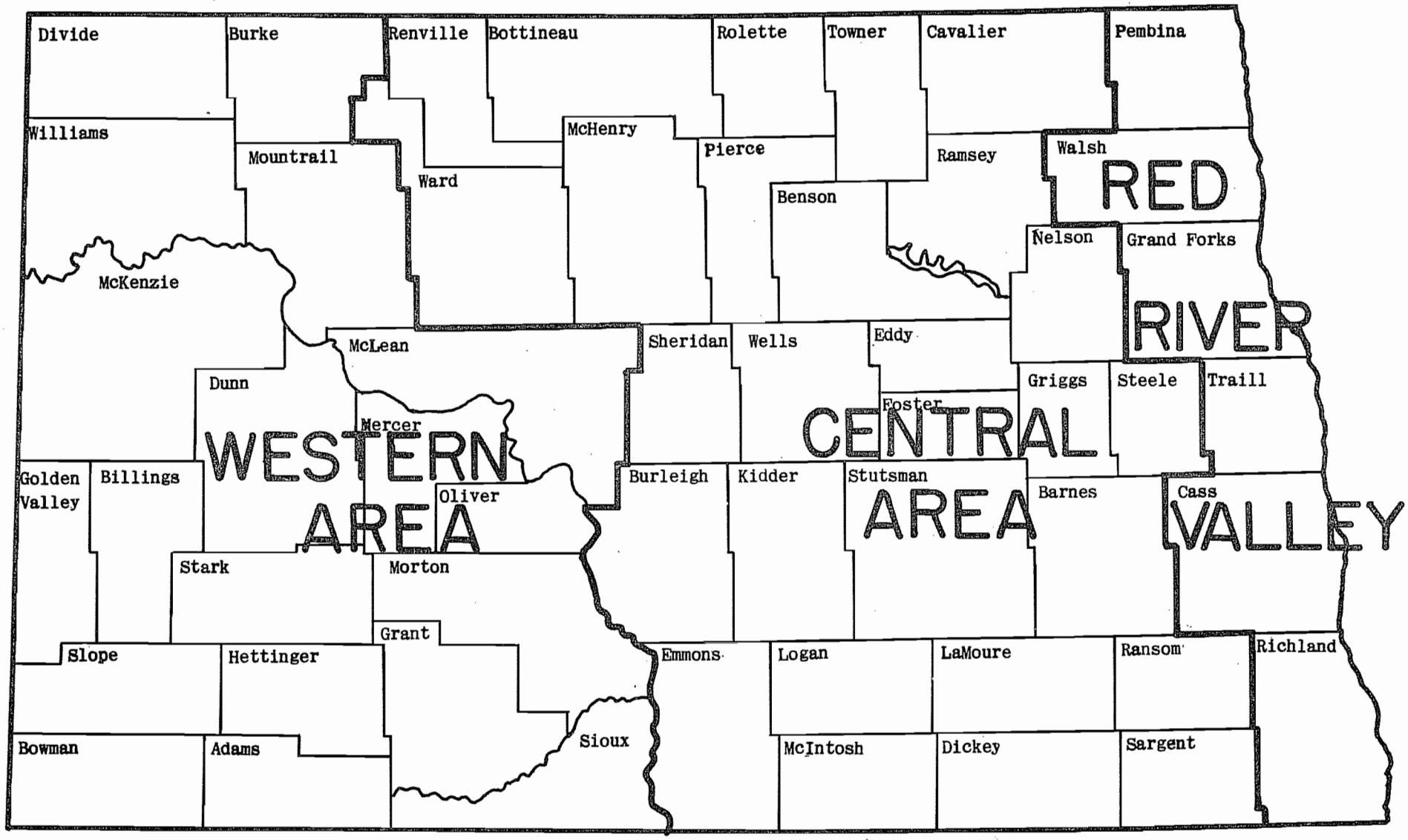

Figure 1. Boundaries used for Area analyses in this study.

CHAPTER II

BASIC FRAMEWORK, PHILOSOPHICAL CONSIDERATIONS AND COMPLEXITIES IN AGRICULTURAL POLICY

Our conditions of food surpluses, low farm incomes, decreasing farm numbers and government farm programs are not a result so much of productive soils, favorable weather and managerial ability. Instead, they are a result of economic growth which yields the levels of per capita income and resource productivity experienced in the United States. Other countries such as Russia and India have not reached this same level of economic growth and per capita income, and so it may be some time before they experience the luxury of farm problems such as we know them today in this country.

The significance of national economic growth in terms of a wheat referendum vote relates to an understanding of the economic forces and previous policy decisions that have brought us to this point in time such that referendums are even used as a farm policy device. In other words, one may ask why such measures as acreage controls, price supports, soil bank and now, certificates, are used in farm policy.

There are times when we're quite prone to look beyond the borders of our own states to see what part we play in this complicated aggregate called the economy, and in particular, the agricultural sector. The North Dakota citizen may have little anxiety over the future of the cotton farmer in Tennessee, the tobacco farmer in Kentucky or the corn grower in Illinois. And these farmers may not be particularly worried about the wheat producer in North Dakota. Yet, their basic agricultural problem is identical--namely, the capacity to produce more than the market will absorb at acceptable prices. It's an aggregate problem with roots as deep in North Dakota and Minnesota as in Kansas or Maine. And aggregate problems tend to get treated with aggregate means.

Since the beginning of the last 100 years, there has been a general willingness of Society to invest in the development and interests of agriculture relatively more than in most other industries. The decision that the public should provide policy for agriculture dates back to the Hamilton-Jefferson debate. Rather than allow sales of public lands to individuals and speculators for the greatest financial advantage, it was decided at that time to establish the pattern of family farming with public distribution of land to farmers for prices that ranged anywhere from zero on up to a very nominal price. Since land was essentially a gift and since the demand for food was high, maximum production was rewarded by an increasing income to the farmer. This period of high economic growth began to make land valuable to a point where a substantial capital gain in land was realized. In a sense, this capital gain was the farmer's reward from economic growth of the country. The consumer also benefited through an increasing food supply at relatively low prices. As output in agriculture kept increasing at this time, it meant greater income for farmers not only because of rapid increases in population, but also a favorable international market. In fact, if food output hadn't been increasing as it did during these early days, economic growth of the country would certainly have been less than it was.

In general, everything went quite well for agriculture until after the turn of the century. But World War I and its impacts in the 1920's changed the picture. Exports declined and farm costs were high; farm surpluses began to appear and farm troubles grew. Next was the depression of the 1930's with prices falling faster than costs.

Up to this time, public policy used in agriculture was well accepted because it was consistent both with an increasing income to agriculture and economic growth of the nation. However, the conditions just mentioned for the late twenties and early thirties were stemming from a new economic environment for agriculture. The economy was becoming somewhat saturated with food because the supply of food was now increasing more rapidly than its demand. People, in general, were well fed and per capita income was quite satisfactory. Land values were relatively high and so were farm mortgage debts. New farm policies were needed.

After a short period of trials with such devices as national cooperatives and other self-administered programs it was realized that farmers couldn't satisfactorily organize to benefit from controlled marketings, product promotion and resulting price increases. The major reasons for these failures were because of the large number of farmers scattered over the entire country and because farm products substituted for each other than in much the same manner as they do now--increased pork sales meant decreased beef sales, etc.

The result of all this led to the quest for a public mechanism that would alleviate the price and income conditions that prevailed. Then as now, all farmers didn't want direct government help in agriculture, but the majority evidently favored it and the outcome was a basic policy action for agriculture which was based largely on compensation to the farmer. An important facet of this compensation policy was the creation of a third market which was required to buy excess farm output but not allowed to sell its products in competition with American commercial sellers anywhere in the world. This was the government financed Commodity Credit Corporation coupled with various shades of compensatory payments, artifically high product prices and some elements of supply control.

At the outset, this policy action was, no doubt, designed as a short run solution for a seemingly short run income and adjustment problem. Its fallacies for the long run were not realized by the time of the outbreak of World War II which, of course, created a new demand situation for agricultural products. During the post-war period up to the present, farm policy measures used have been closely related to farm legislation of 30 years ago and have focused primarily on some sort of compensation to agriculture rather than development of the agricultural industry as such. Few attempts have been made to cope with the basic farm problem--the capacity to produce more than the market will absorb. Instead, the emphasis has been to treat the symptoms of low income and underemployment with support prices and unsuccessful measures of supply control. The present outcome is surpluses and federal treasury costs of a magnitude that command new or revamped policy measures.

Poverty and Affluence

Through these latter decades of farm problems, the U.S. economy in total has grown and prospered to a level never conceived a hundred years ago or when

land settlement was the order of the day. But the question arises as to why, then, hasn't agriculture prospered accordingly? The answer involves three major parts.

One of these parts concerns simply the number and size of farms involved in agricultural production and the extent to which managers of these farms can control their level of output in relation to market demand. In most non-farm industries, certain firms are the leaders that set the pace for the entire industry. But farming does not have these leaders because of both numbers of firms and size of firms. There are nearly 4 million farms, or firms, in the agricultural industry and none of them, by themselves, is sufficiently large to be a leader in terms of output and price setting.

A second and very important part of the explanation, for the relative economic position of agriculture is the nature of demand for food in a dynamic economy such as ours, or where per capita income is increasing. For most food products, their demand is such that an increase in output results in a more than proportionate decline in price. Or, if output is increased 10 per cent, price may decline 20 per cent. This concept is called price elasticity and when price changes relatively more than output, the relationship is said to be inelastic. The importance of price elasticity is in how it affects total income. If price changes relatively more than output, as output is increased, total income is reduced. Since this is the situation with most farm products, the effect of steadily increasing output beyond corresponding increases in demand has been a decline in farm income. The exact level of this elasticity is somewhat different among the different commodities. In wheat, for example, it is believed that price will go down from 4 to 5 per cent for each 1 per cent increase in production. For beef, the relationship is more like a 2 per cent drop in price for each 1 per cent increase in output, indicating not as severe an income decline from increased beef output as from increased wheat output.

There are several reasons why this relationship between output and prices exists for farm products. Perhaps the most important one is that with the level of per capita income as it is, the consumer varies his consumption very little in response to the price change of a particular food product. This isn't so with cars and television sets, but it is for food. In other words, if the price of all food drops 10 per cent, the consumer won't buy much more, if any, food because he's already full. If the price of only <u>one</u> commodity drops 10 per cent, he may increase his consumption of that commodity by 4 per cent and, in so doing, will likely decrease his consumption of a substitute product. Other reasons for this inelasticity of food prices includes attitudes of the consumers for changing their eating habits. But the basic reason is the inelasticity of the human stomach to consume only so much food and that average per capita income has been beyond the subsistence level for quite some time.

The third part of the answer to the question on the prosperity of agriculture concerns the supply side or the rate at which output has increased.

The conditions that foster economic growth are a combination of technology and a plentiful supply of resources. Both farm and non-farm industries in this country have had this combination but the corresponding benefits have been quite different. For the individual farm operation, technology has demonstrated itself through new seed varieties, commercial fertilizer, insect and disease control, advances in animal nutrition, improved tillage practices and

various labor saving devices. As the individual farmer has taken advantage of these technological advances, his output has increased and total output from the farming industry has increased accordingly. And with increased output exceeding any increases in demand, total farm income decreases because of the price elasticity conditions explained above. Depressed income to the individual producer gives him the incentive to search out new techniques of production that will either lower his per unit costs or increase production with the same costs. In either case, profits will increase. But the seeming paradox is that as each individual farmer improves his efficiency, total output from farming is increased and when it is, the corresponding price changes are such that total income is reduced both to the industry and to the individual farmer. This, again, is the problem of excess capacity to produce.

It may seem that technology or economic efficiency of production is the cause of the problem. However, one cannot settle for this explanation. The situation of surplus output simply means that agriculture has not been able to utilize new technology at its optimum rate or for highest income purposes to itself. Yet, in the process of national economic growth and adoption of technology, agriculture has made a continuing contribution. The substitution of capital for labor has meant that labor could be freed from agriculture to go into other industries and help produce the goods and services that we never quite get enough of. Also, the efficiency of farm production results in relatively low costs for food, meaning that the consumer has had to spend less money for food and a greater proportion of his income is left over for other things.

Resolving Previous Policy Decisions

As one looks back at previous farm policy actions and decisions, it's fairly easy to point out various shortcomings that have existed not only in attaining a basic long run policy consistent with national economic growth but also in achieving equitable benefits among farmers.

Most policies and programs, however, are not born by accident. They represent a compromise of conflicting interests, goals and values within the voice of agriculture itself. (These conflicts have been confined pretty much to the groups around and within agriculture rather than the general society, even though public treasury funds have been used.) In addition to these conflicts, there have been some misconceptions, or beliefs that did not materialize. Examples here include the scare phenomena of the "fifth plate" and the notion that "we will eat our way out."

Coupled with these conflicts and wrong "guesses" is a thread of philosophical considerations that have and, likely, always will acompany policy decisions. Foremost among these are the indispensable role of the family farm, and the right to be rewarded for efficiency of production. On this latter point, policies to offset depressed farm income are more palatable to Society if they are designed to compensate farmers by methods of price supports and payments under the disguise of conservation than if direct payments are made for doing nothing, killing hogs or dumping potatoes. It is only within the last few years that attempts have been made to curb production by idling resources through such means as soil banking and diverting land into non use. And worthy of note here is that these payments for non production are under

the umbrella of payments to land when, in reality, they are payments not only for idling land but also for idling the capital, labor and management that was used on that land. However, the urban dweller is probably less concerned when he reads about public funds being used to take land out of production than if they are used for paying someone to quit working. Parallel attitudes of the nonfarm society plus the dwindling political strength of agriculture are dominant factors in the construction of future agricultural policy. This doesn't mean that an agricultural committee of urbanites won't be concerned with low farm incomes and equitable returns to resources used in agriculture. But they may be much more skeptical in how funds are being spent and to what degree these expenditures are accomplishing their basic purpose.

Another philosophical consideration inherent in farm policy is the manner in which the goals of income, freedom and equity can be maintained. For example, a stipulation in the present farm legislation is that income to farmers cannot be decreased. In itself, this is certainly a meritorious stipulation that is both politically expedient and favorable to farmer acceptance. But it is a bit difficult to see how this stipulation provides additional incentive for resource use adjustments such as major changes in land use patterns on marginal lands, or decreasing the rate of underemployment. Instead, it tends to freeze the types of maladjustments that already exist.

Accompanying this need for maintaining or increasing income is an appeal for less government regimentation and more freedom to produce and make these production decisions on the farm. Simultaneous solution to these goals of income and freedom is a major challenge to the policy maker.

The equity goal is another source of disagreement and compromise in policy formulation. It is not only a case of making someone better off without making anyone else worse off, but also a case of an action program being mutually beneficial to everyone. The situation of 15-acre exemptions, and production history as a base for wheat allotments are examples here. The proportion of cropland entitled to a wheat allotment not only varies among areas of the state, but also among townships and neighboring farms. Averages by economic areas in North Dakota range anywhere from about 14 to 33 per cent of cropland in wheat allotment. Some of this variation, no doubt, is indicative of the true economic position of wheat in relation to other crops on specific farms. But part of the inequities in benefits also relates to which specific years are used for the wheat history base and, more recently, some of the methods used for determining normal yields. At any rate and from an economic standpoint, Mr. "30 percenter" is apt to be more sympathetic to mandatory acreage cuts than Mr. "15 percenter" who already is getting a pretty small piece of the pie.

These equity and welfare concepts are also applicable to townspeople in rural areas and owners of storage facilities. The benefits accruing to each of these factions under past and proposed programs are quite different, to say the least.

Resource Use Adjustments and Policy

Within this framework of economic growth, philosophical considerations and the complexities involved, one cannot overlook the effects of policy actions on resource use. The trend to larger farms, a declining farm labor force or

the substitution of capital for labor, and increases in productivity are necessary resource use adjustments for continuing economic growth of the nation. The desired or optimum rate of these adjustments is another question in goals and values. But of importance here is the nature in which the benefits from compensation policies become capitalized into the value of land. Many farmers will now say that they can't afford to raise wheat for $1.00 or $1.30 a bushel. Actually, this is quite understandable because the current price for land is dependent not only on $2.00 wheat but also on a support price for feed grains, and livestock income that is largely dependent on programs in both wheat and feed grains. But the important factor has been the price of wheat because it has carried a support price substantially higher than it would be if competitively priced in the market. The result is that it has given an artificially high return to land and this excess return gets capitalized into land values. What happends then, of course, is that if the price of wheat goes down, land becomes over-priced and a capital loss in land investment occurs.

A major reason for low labor returns on average and below average size farms is not because they don't do enough work, but rather because of the price of land. In other words, price support and public storage programs that have increased the price for land have likewise affected the return to capital invested in land. Low labor returns result because after one takes out the interest costs for capital invested in land, there isn't much left over for labor. Or if one takes out market wage rates for labor, then the return to capital is relatively low because so much capital is represented in land. But if the price of land were reduced, the returns to both capital and labor in agriculture could be as high as they are in the nonfarm industry.

One must remember, though, that while a decline in land prices would solve the problem of "return rates" it would necessarily mean a capital loss for landowners. Accordingly a policy designed to <u>now</u> lower land prices would not be wholly palatable to farmers unless, perhaps, public compensation would offset this loss. And, of course, the condition here like in many other cases is that it is much harder to back out of these situations than it is to get into them.

Summary

Some of the basic points are summarized as follows:

1. The problem of excess production is certainly not new. But its effects on surplus build-ups and public costs have reached proportions of general concern to many farmers and the public in general.

2. No one commodity or type of farming area is divorced from this problem. The substitutions involved not only from the consumers' standpoint but also from the standpoint of production and land use, pertain to essentially all farm commodities.

3. Policies designed primarily to maintain income through price supports <u>only</u> are not a solution to the underlying basic problem. History alone provides enough evidence for this point.

4. Differences in values and goals among farmers, farm organizations, politicians and the public in general are as important as economics in formulating policy.

5. Farm policy cannot achieve all of the more important goals or objectives simultaneously. In other words, because of the excess capacity to produce, some compromise is essential among the objectives of good incomes for farmers, low public treasury costs and complete freedom of farmers to make all their production decisions.

CHAPTER III

THE WHEAT PROGRAM FOR 1964

The Agricultural Act of 1962 provides for a wheat program for 1964 and subsequent years. Under this legislation, a national marketing quota will be proclaimed and farmers will vote in a referendum in the spring of 1963 for 1964. A "Yes" vote by two-thirds or more of the growers voting in the referendum would bring a program into effect with a marketing quota, a two-level price support plan, and payments for diverted acres. If more than one-third of the voters in the referendum vote "No," an alternative program comes into effect with no mandatory acreage limitations but with a 50 per cent of price support for compliers.

Under the legislation the Secretary of Agriculture is permitted to proclaim a marketing quota for one, two, or three year periods and present it for referendum. The referendum in 1963 is for one year, 1964.

Brief descriptions of the alternative programs are given in the following paragraphs.

With a "Yes" Vote

The wheat program for 1964 and subsequent years establishes a two-level price support system and a limit on the number of bushels a wheat grower may market at the higher level; it provides payments to farmers for retiring part of their wheat land; and it eliminates the present 55 million acre minimum national allotment.

General Implications of the Act

As written into the legislation, it is the intent of the Act to "minimize recurring surpluses and shortages of wheat in interstate and foreign commerce, to provide for maintenance of adequate reserve supplies thereof, to provide for an adequate and orderly flow of wheat and its products in interstate and foreign commerce at prices which are fair and reasonable to farmers and consumers, and to prevent acreage diverted from the production of wheat from adversely affecting other commodities in interstate and foreign commerce."[1]

Under these guidelines, the Secretary of Agriculture has the authority to proclaim the national marketing quota and submit it for referendum for one, two, or three years. If the marketing quota is in effect, the Secretary has the authority to determine the level of support price for certificate wheat between 65 and 90 per cent of parity, the per cent of the marketing quota to be filled from CCC stocks, and the per cent of the farmers' normal production eligible for marketing certificates. He will establish the acreage allotment and provide for acreage diversion. The Act provides for diversion payments in 1964 and 1965 with the exact means of handling left to the discretion of the Secretary.

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[1]Public Law 87-703, "Food and Agriculture Act of 1962." Subtitle B - Wheat Program for 1964 and Subsequent Crops.

Determination of Acres and Bushels

With the elimination of the 55 million acre minimum national allotment, the Secretary of Agriculture is authorized to determine a national marketing quota. It is to be based on estimated total requirements of wheat for domestic use and export, and take into account imports and an acceptable rate of reduction in CCC stocks. Under the legislation it may not be less than one billion bushels.

From the marketing quota, the Secretary will calculate the national acreage allotment, taking into account expected yields, normal abandonment, and underplantings. Also a portion of the national marketing quota will be filled from CCC supplies. Estimated total production may take into account mandatory acreage reduction plus voluntary acreage reduction which are permissable under the legislation.

Estimated quantities for supply and utilization for 1964-65 will clarify the basis of the proposed program. Prior to the referendum the Secretary of Agriculture will announce specific figures for 1964.

The following table includes an estimate of the requirements, imports, national marketing quota and needed production.[2]

TABLE 1. ESTIMATED WHEAT REQUIREMENTS, MARKETING QUOTA AND NEEDED PRODUCTION

	Mil. bu.	
Requirements		
Domestic human food	500	
Seed and feed	95	
Total domestic use	595	
Exports (cash and other)	630	
Total requirements		1,225
Less expected imports		5
National Marketing Quota		1,220
Less CCC supply withdrawal		150
Needed production		1,070

It is estimated that the 1,070 million bushels needed output can be produced on 41.2 million acres harvested with an average of 26 bushels per acre. It is expected that the reduction to 41.2 million harvested acres will be accomplished by mandatory plus voluntary diversion with adjustment for underplantings, soil bank and crop losses.

[2]Wheat, The Program for 1964, U.S.D.A., January 1963, page 11.

Acreage Diversion

Based on preliminary announcements from the Secretary, it is estimated that the mandatory acreage diversion will be a 10 per cent reduction from the previous 55 million national acreage allotment. Thus each farmer's wheat acreage allotment for 1964 will be 10 per cent less than his 1963 allotment. He will receive diversion payments for retiring this land. In addition he may voluntarily divert another 20 per cent (or less) of his 1964 acreage allotment and receive diversion payments.

Payments for diversion in 1964 are expected to include two rates. For mandatory diversion, the payment is expected to be based on normal production at 30 per cent of the support price. Voluntary diversion payments are expected to be based on normal production at 50 per cent of the support price. These rates are subject to the decision of the Secretary of Agriculture. The legislation requires diversion payments for 1964 and 1965 but not thereafter.

Diverted land may be put into conservation crops or fallow; or it could be used for crops in short supply if so designated by the Secretary.

Price Support System

A two-price system for wheat will be facilitated by issuance of marketing certificates for a major part of the normal production. For 1964 it is expected that farmers will receive certificates for 925 million bushels, which represents about 80 per cent of the normal production on the acreage allotment.

For the approximate 80 per cent of normal production covered by certificates, farmers will probably receive a price support at $2.00 national average for 1964. Under the law the possible range is 65 to 90 per cent of parity. Currently, 100 per cent of parity as a national average would be about $2.45 per bushel.

Wheat grown on the allotted acreage but not covered by marketing certificates will be supported at a price related to world wheat prices, about $1.30 in 1964.

If a farmer has a below average yield so that he has certificates for more bushels than he has produced, he may redeem the extra certificates for cash at the local ASC office.

Penalty for overplanting the acreage allotment is similar to those in previous programs.

The acreage allotment, certificates, and diversion payments may be illustrated for a farm which has an established wheat allotment of 100 acres. Support price is $1.30 plus 70¢ per bushel for wheat with certificates.

Present acreage allotment	100
Mandatory diversion	10
New 1964 acreage allotment	90
Established normal yield	25
Established normal production	2,250 bushels
Basis for certificates	80% of normal
Bushels eligible for certificates	1,800 bushels

Returns - 1800 bu. @ $2.00	=	$3,600
450 bu. @ $1.30	=	585
Returns from wheat		$4,185
Diversion payments		
25 bu. @ 2.00 x 30%	=	$15/A.
10 A. @ $15	=	150
Gross returns		$4,335

Voluntary diversion would be limited to 20 per cent of the 1964 allotment, or 18 acres. Diversion payments per acre would be 25 bu. @ $2.00 x 50% = $25 per acre. In this case the number of certificates would still remain for 1,800 bushels.

The Program for "Small" Farms

The small farm exemption under which any farmer could grow up to 15 acres of wheat is terminated. Under the program, these farms will receive an acreage allotment equal to their three year average for 1959, 1960 and 1961. In case his original farm allotment is larger than the three year average, this is his base.

If the small wheat farmer wishes to participate, he must declare himself before the 1963 referendum. He then is subject to the acreage allotment and marketing quota and is eligible for price support and diversion payments. He may elect to divert his total wheat base.

The farmer who does not elect to participate may not exceed his three year average established base. He is not eligible for diversion payments or price support.

The Alternative Program - "No" Vote

If more than one-third of wheat growers voting in the referendum vote "No," the wheat program under the legislation for 1964 is simply less restrictions and much lower price supports.

Price support is established by law at 50 per cent of parity for growers who comply with their acreage allotments. The national average support price would be about $1.20 per bushel. The acreage allotment would be the same as under the "Yes" vote, 10 per cent less than the previous allotment.

There are no penalties for overplanting the acreage allotment; however, the non-complier is not eligible for price support loans.

CHAPTER IV

WHEAT PRICE DETERMINATION

Alternative programs for wheat imply the possibility of different price levels for wheat; thus, a clarification of the determinants of wheat prices can contribute to the understanding of current issues. Price levels will be different under the program resulting from a "Yes" vote than under the "No" vote program. Assuming that other program alternatives are also possible, there may be a wide range of possible prices, depending upon the public policies that are activated.

Economics of Wheat Prices

Prices of wheat and other farm commodities in the market are determined by the supply of and demand for these commodities. Supply for some farm commodities, such as wheat, is manipulated by governmental programs to maintain price.

The demand for a product in a particular market may be defined as the amount of that product that all consumers stand ready to take at varying prices. As the price decreases, the quantity taken by consumers increases; also, as the supply on the market increases, the price received declines. For practically all farm commodities, the domestic demand is inelastic; that is, as the supply on the market increases, the price declines proportionately more than quantity increases; therefore, the gross return to the farmers declines.

The effect of public policy on wheat prices and income can be more clearly explained by first discussing the economic forces determining prices in a free market. Wheat price determination in the market is complicated because the commodity has three possible outlets, each with a different demand relationship. The primary demand is for domestic food use; second, the export market, for dollars and for aid, comprises an outlet for about 50 per cent of annual U.S. production; thirdly, wheat can be used for livestock feed if the prices are competitive with feed grains.

These three possible outlets are shown in figure 2. The quantity of wheat for supply and utilization is given on the horizontal axis with the price per bushel on the vertical axis. The segmented demand line, DD, indicates the market demand for the three outlets. This demand relationship represents the estimated price that wheat could command in the market at the different levels of supply. The price of a commodity in the market is at that level at which supply and demand are in equilibrium.

Referring again to figure 2, the domestic food demand is shown in the first section and it is highly inelastic; that is, a big change in price has little effect on quantity taken by consumers. To illustrate, wheat at $2.00 per bushel, used in bread accounts for only 2.5 cents of the cost of a loaf of bread; therefore, a change in the price of wheat has no significant effect on the quantity consumed.

The demand line, Dd, indicates that with wheat supply limited to about 500 million bushels and with imports kept out, farmers could probably sell this limited quantity for around $4.00 per bushel. If wheat had no other outlet or use, a supply of 700 million bushels on the market could depress prices to near zero.

In a free market, a 700 million bushel supply of wheat would not hit bottom because the export market provides an outlet as prices approach the world price level. The dollar export market, 90 per cent under the International Wheat agreement, is shown as section de of the demand line in figure 2. The current average on the farm price in the U.S. for export wheat would be about $1.30 per bushel. The quantity exported is about 200 million bushels annually.

Under Public Law 480, or the Food for Peace program, exports have expanded an additional 400 to 450 million bushels annually over the dollar exports, thus for 1964-65 total exports are estimated at 630 million bushels. If it is assumed that P.L. 480 exports are firm commitments at the world price level, the equilibrium price for a wheat supply between 800 million and 1,230 million bushels would remain approximately at this world price level of about $1.30 per bushel as a national average on the farm price.

A market supply exceeding the estimated domestic and export needs of 1,230 million bushels would depress prices to a new equilibrium price, its feed value price, shown as section fD on the demand line in figure 2. The level of this line is dependent on the price of feed grains. A support level of $1.07 per bushel for corn may mean $1.10 to $1.15 for wheat. Lower prices for feed grains mean lower prices for wheat.

A summary of free market price estimates assuming demand conditions discussed above and with various levels of supply are:

Annual Supply Limits	Estimated National Average Price
550 to 600 million bushels	Around $2.00 per bushel
800 to 1,230 " "	Around $1.30 " " (world price)
Over 1,230 " "	$1.15 or lower " " (feed price)

Factors determining price differentials for classes, protein levels, and quality differences are discussed in a later section.

Price Supports and Wheat Prices

How has the support price for wheat been effective if supply and demand set the price? Referring to figure 2, the Commodity Credit Corporation has a standing bid for $2.00 per bushel (assumed national average support price) for all wheat that millers and exporters will not purchase for $2.00 or more. These buyers are bidding against the CCC price in order to get their supplies. Excess supplies not purchased end up in CCC surplus stock.

Wheat processors pass the supported price on to the consumer. The exporter receives a government subsidy of 60 to 70 cents per bushel in order to purchase $2.00 wheat plus transportation and handling charges and sell wheat for around $1.70 at the port for export. Exports under P.L. 480 are facilitated by a total subsidy. Trade credits for soft currency, barter, etc., are handled through the government.

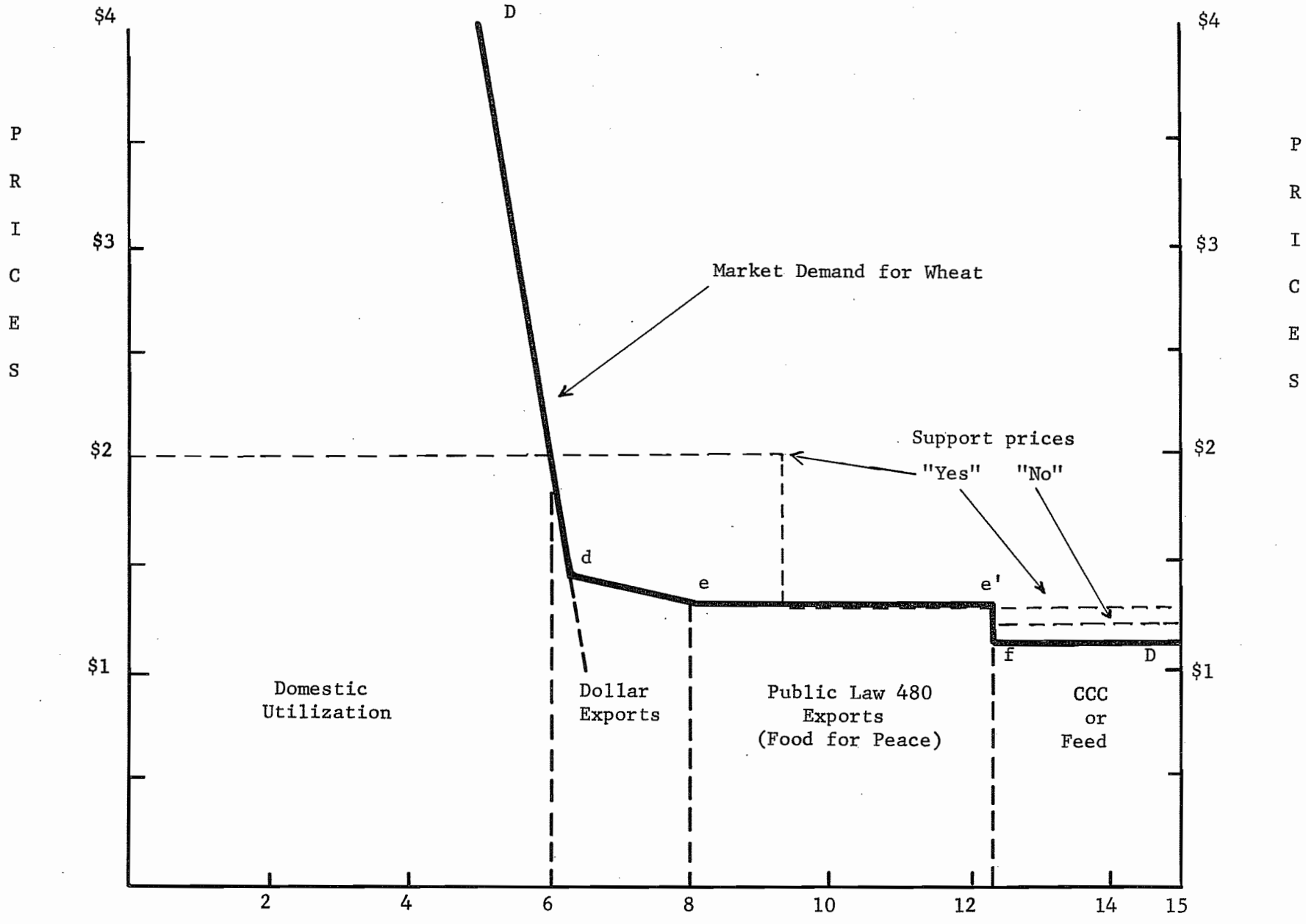

FIGURE 2. WHEAT -- DEMAND, SUPPLY, and PRICE

Public policy including P.L. 480 thus accounts for the difference between the national average support price and the feed price at the current level of wheat output. For the domestic food share, the consumer pays the difference through the market. For exports, government subsidy makes up the difference.

Price Determinants and the Referendum

Price determinants are important for evaluating the alternatives under the referendum. They were undoubtedly taken into account when the legislation was drawn up. They have implications for the "Yes" vote, and particularly for the "No" vote.

"Yes" Vote, Expected Prices

The program is aimed to provide an annual supply of about 1,220 million bushels, 1,070 million from current farm production and 150 million drawn from CCC stocks. With this quantity, the world price level would tend to establish the market price at about $1.30; therefore, this price is predicted as the national average support price for all wheat. For an estimated 80 per cent of normal production, or 925 million bushels, wheat producers will receive an additional 70 cents per bushel through the issuance of marketing certificates. Thus the effective support price for 80 per cent of normal production is expected to be $2.00 per bushel in 1964. Refer to figure 2, page 15, for a graphic analysis.

These price levels are subject to decision of the Secretary of Agriculture; the possible range of the effective support price under the law is 65 to 90 per cent of parity.

"No" Vote - Possibilities and Estimated Prices

With a "No" vote in the referendum, the only price support is a 50 per cent of parity support, about $1.20 per bushel national average, for those who comply with their acreage allotments. The effectiveness of this support price for establishing the base for the market price depends on a number of conditions relative to supply, demand, farmer response and public policy.

The conditions which may affect the market price of wheat are:

1. The quantity of wheat produced.

2. Demand dependent on public policy decisions.
   a. Limiting dollar exports within the International Wheat Agreement.
   b. Continuation of the P.L. 480 wheat exports.
   c. Administrative policy for handling CCC stocks.

3. Farmer compliance with acreage allotment.

4. The price level of feed grains.

These conditions are discussed and the assumptions used for this study are given in the following paragraphs.

Wheat production. With no mandatory compliance with acreage allotments, the U.S.D.A. has estimated an approximate 20 per cent increase in wheat output. North Dakota farmers responding to the suvey indicated a possible 29 per cent increase in the state. For this study it is assumed that total wheat production would range between 1,400 and 1,500 million bushels.

It is assumed that domestic utilization for food would remain nearly constant; however, public policy decisions can affect export demand relative to current production.

Dollar Exports are dependent on policy regarding the International Wheat Agreement. For this study it is assumed that legislative or administrative action will be taken to prevent a breakdown of the agreement with low priced wheat. Exports for dollars will thus remain fairly constant.

Public Law 480 Exports - Food for Peace. If this program is continued at its present level, total disposal of wheat for domestic use and exports will remain at present level. This assumption is made for this study.

Administrative Policy for CCC Stocks. If the present stocks are held off the market, the price will be determined by the level of disposal relative to the annual production. If administrative decisions are made to utilize CCC stocks for P.L. 480 or other use, the total supply relative to total demand will increase. For this study it is assumed that CCC stocks will not interfere with current supply and disposal levels.

Farmer Compliance with Acreage Allotment, and the resulting quantity of wheat eligible for loan and support prices can determine whether the support price or the feed price will set the base price for wheat. If enough farmers comply so that the total free market supply is less than about 1,200 million bushels (domestic plus export use), then the support price of $1.20 will determine the base price in the market. If only 10 per cent of a 1,500 million bushel supply is eligible for supports, the free market supply of 1,350 million would exceed the domestic use plus export disposal, thus, the average market price for wheat would be its feed value price. (Refer to figure 2, page 15.)

The survey of farmers indicated that, according to present intentions, 44 per cent of farmers in the state may comply. For this study it is assumed that enough farmers nationally will comply so that the support price will hold up the market price to a national average of $1.20 per bushel.

Price Level of Feed Grains is dependent on Congressional legislation. If no new action is taken, it may be assumed that corn price will range between 80 and 90 cents per bushel. If new legislation is enacted, it is expected to continue near the 1963 level.

Summary of Assumptions for a "No" vote - 1964:

1. Wheat Production - 1,400 to 1,500 million bushels.

2. Demand or utilization - continuation of the present level, 600 million bushels for domestic use and 630 million bushels for exports.

3. Public policy and farmer compliance will enable the support price, $1.20 per bushel average, to establish the market price for wheat.

Hard Red Spring Wheat Prices

Hard red spring wheat from the northern plains is in demand domestically as a bread wheat. Its principal competitor for this use is hard red winter wheat from the southern plains. A comparison of utilization of these two wheats will aid in the discussion of price differentials.

Estimated Annual Hard Wheat Utilization

	Spring Wheat mil. bu.	Winter Wheat mil. bu.
Domestic Use	140	260
Dollar Exports	30	90
P.L. 480 exports	10	335

The economic factors affecting price differences between classes of wheat may be illustrated by comparing these two classes of wheat. With a higher average protein content and a quality difference, the price support for hard red spring wheat has averaged 10 to 15 cents per bushel above the hard red winter wheat. Millers and exporters are willing to pay this difference for the proportional quantities used as shown in the above table.

That price differences between classes of wheat are determined by supply and demand was indicated by the increase in spring wheat price in 1961. With the current production reduced by drought, the price spread of hard spring over hard winter increased to about 30¢ per bushel. There was an adequate supply in CCC storage; however, the added price for bidding it out of storage and the added handling costs meant a higher price for the 1961 crop. However, at this higher price, domestic utilization decreased by 15 million bushels from the previous year.

The above illustration indicates that the price differential for high protein, high quality wheat will increase if the supply is limited and will decrease as the supply increases relative to the demand for the particular wheat. As the price spread increases, processors substitute lower priced wheat. The present proportional utilization of hard spring and hard winter with more than an adequate supply of both, would indicate that the present price support differential is about all the market will bear.

Durum Wheat

The major portion of the U.S. supply of Durum wheat is produced in North Dakota, and more particularly in the so-called "Durum Triangle" in the north central - northeast area of the state. The average number of acres planted in the state from 1957-60 was about 1,250,000 acres with 1,421,000 acres in 1961. Production for the 4-year period averaged about 22 million bushels annually.

Economic factors affecting its price are supply and demand; the substitutability of other wheats influences the demand. In 1961, the supply diminished under drought conditions and the price of Durum increased considerably relative to other wheats; however, with the price differential there was considerable substitution of other wheats in product mixes. The degree of price difference in this case indicates that there is less substitutability for Durum than between other wheats.

Supply is determined by farmers' response to price. Farmers in the Durum producing area can produce either Durum or Hard Red Spring wheat. Following the drought year in 1961, the supply was reduced and prices rose. In response to price increase and special permission under government policy to increase Durum acres, North Dakoka farmers increased from 1,421,000 acres in 1961 to 1,963,000 acres in 1962. With excellent weather in 1962, the average yield was 31 bushels per acre. The total output in the state was 59,582,000 bushels, or over 2.5 times normal output.

Total U.S. output of Durum in 1962 was about 72 million bushels, or over twice normal domestic and export utilization. With this supply under free market conditions the price would have been depressed below that of Hard Spring wheat.

With farmers able to produce either Durum or Hard Spring wheat, they tend to shift to the crop bringing the expected higher returns. Crop yield statistics indicate that Hard Spring wheat usually outyields Durum slightly, except in limited areas; therefore, the present price support structure includes a higher price support for Durum than for Hard Spring wheat in order to assure the desired level of output.

With economic forces determining wheat prices, the price level of Durum would tend to be slightly higher than for Hard Spring wheat. However, with slightly lower yields for Durum the average return to farmers' resources would be about equal over time for the two classes of wheat.

Under a price support program, the price support differential between Durum and Hard Spring wheat tends to determine the price levels. If the two classes of wheat were supported at the same level, Durum would tend to command a slightly higher market price as an average over several years. At the same price, the supply may be limited, thereby commanding a higher price in years of lower than average yields.

Price Estimates for North Dakota

For this study it is estimated that the prices for Hard Red Spring wheat would be 10 cents per bushel above the national average support price for either a "Yes" vote or a "No" vote because of its protein content and quality. As discussed in the previous paragraphs, the returns to Durum production will tend to be about the same as to Hard Red Spring wheat; therefore, the prices used for the state include all wheat.

The prices estimated for North Dakota are:

"Yes" vote --	Certificate wheat	$2.10 per bushel
	Non-certificate wheat	$1.40 per bushel
"No" vote --	Average for state	$1.30 per bushel

CHAPTER V

HISTORICAL ACREAGE DISTRIBUTION AND RETURNS FROM WHEAT IN NORTH DAKOTA

Since 1957, total wheat acreage seeded in North Dakota has averaged about 6.5 million acres. Durum acres have accounted for about 1.25 million acres of this total. During the same time period, cash farm income from wheat has ranged from about 35 to 40 per cent of total cash farm income in North Dakota. Specific figures for these items are shown in table 2.

TABLE 2. WHEAT ACRES AND INCOME, 1957-60

Year	Total wheat acres planted	Cash farm income from wheat	Wheat income in per cent of total cash farm income
1957	6,545,000	$214,429,000	36.3%
1958	6,512,000	$243,108,000	37.8%
1959	6,706,000	$206,176,000	34.6%
1960	6,614,000	$215,200,000	38.7%
4-yr. Average	6,594,000	$219,728,000	36.7%

Wheat allotments account for approximately 26 per cent of the total cropland. However, slightly over 60 per cent of all wheat is grown on fallow which results in about 38 per cent of total cropland use each year for the production of wheat. These figures coupled with the information in table 2 indicate the importance of wheat both to North Dakota farmers and to the North Dakota economy as a whole.

Distribution of Wheat Allotments

The proportion of total cropland in wheat allotments varies widely among farms and economic areas within the state, as shown in figure 3 and table 3. The western part of the state has over 30 per cent of its cropland in wheat allotments as compared with about 15 per cent for the southeastern area. Also, there is a slight tendency for the per cent of cropland in wheat allotment to increase as farm size increases.

Part of this variation among areas is explained by the competitive position of wheat in relation to other crops. That is, corn in the southeastern area and specialty crops such as potatoes and sugar beets in the Red River Valley may have historically caused farmers in these areas to place less emphasis on wheat as compared with farmers in the western area. Another way of explaining the variations in table 3 is that some areas have relatively few profitable alternatives for land use. This is especially true for the western areas.

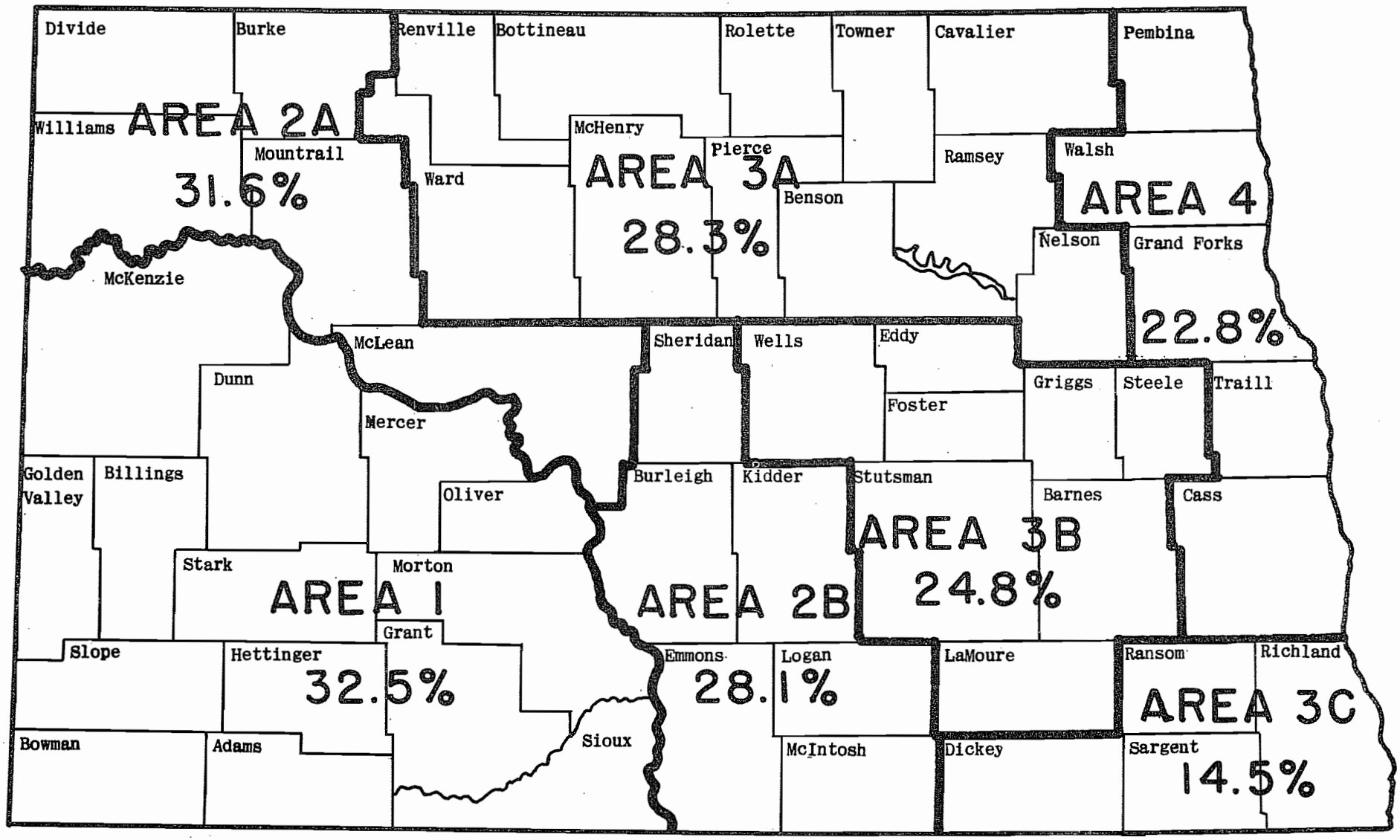

Figure 3. Proportion of Total Cropland in Wheat Allotment by Economic Areas

TABLE 3. SAMPLE FARMS: WHEAT ALLOTMENTS AS PERCENTAGE OF CROPLAND, BY TOTAL CROPLAND ACREAGE AND ECONOMIC AREA

Cropland Acreage	Area 1	Area 2A	Area 2B	Area 3A	Area 3B	Area 3C	Area 4	State
Acres	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Under 80	19.6	11.2	18.7	16.5	36.0	12.2	19.8	17.3
81 to 120	28.8	24.8	24.0	19.3	22.9	16.3	24.9	22.7
121 to 180	30.1	30.9	28.1	26.4	22.3	13.4	22.9	23.5
181 to 300	32.3	30.6	27.2	26.3	23.6	15.0	23.2	25.6
301 to 420	29.4	31.1	30.6	28.4	23.7	13.4	23.2	25.2
421 to 540	32.6	30.9	27.3	27.0	23.2	15.2	22.0	25.4
541 to 700	33.0	31.8	26.4	28.1	25.3	16.9	22.5	26.5
701 to 860	31.1	31.9	29.9	29.9	25.3	14.1	20.9	26.7
861 to 1,060	32.6	31.7	25.3	27.5	26.0	12.6	21.0	26.2
1,061 and over	33.0	31.2	21.0	27.6	24.8	12.7	22.2	26.5
All farms	32.5	31.6	28.1	28.3	24.8	14.5	22.8	26.3

The importance of competitive crops and land use alternatives as a determinant of size of wheat allotments, relates to the historical time periods used in determining and revising wheat allotments on individual farms. Individual wheat allotments are supposedly based on the individual farm's wheat production history. Consequently, if the individual had substituted, as an example, flax acres for some wheat acres during one of the production history periods, he would lose part of his original wheat base when wheat acreage allotments became mandatory. At the present time, however, wheat production in general is the most profitable land use in North Dakota.

Comparative Returns for Wheat and Other Crops

Under present product prices, the net dollar returns from wheat production are substantially higher than for any other "closely grown" crop. Per acre returns from wheat, as compared with other grain crops, are more than twice as high in the western area of the state and from 30 to 50 per cent higher in other areas. A comparison of per acre returns for wheat and other crops is shown in table 4.

TABLE 4. PER ACRE RETURNS FOR WHEAT AND OTHER CROPS BY STATE AREAS

Item	Wheat after fallow	Wheat after small grains	Barley	Flax
		Western Area		
Historic Yield (bu.)	17	13	18	5
Total Returns[1]	$34.00	$26.00	$14.40	$13.75
Total Variable Costs[4]	9.15	9.80	7.70	6.35
Return above variable costs	$24.85	$16.20	$ 6.70	$ 7.40
		Central Area		
Historic Yield (bu.)	24	16	23	8
Total Returns[2]	$46.80	$31.20	$23.00	$22.40
Total Variable Costs[4]	10.25	9.70	8.15	7.40
Return above variable costs	$36.55	$21.50	$14.85	$15.00
		Red River Valley		
Historic Yield (bu.)	29	24	28	9
Total Returns[3]	$58.00	$48.00	$30.80	$25.65
Total Variable Costs[4]	12.00	11.75	10.55	8.50
Return above variable costs	$46.00	$36.25	$20.25	$17.15

[1]Prices used are: Wheat @ $2.00; Barley @ $.80; Flax @ $2.75.

[2]Prices used are: Wheat @ $1.95; Barley @ $1.00; Flax @ $2.80.

[3]Prices used are: Wheat @ $2.00; Barley @ $1.10; Flax @ $2.85.

[4]Includes seed, fertilizer, spray, insurance, repair, fuel, oil and hired labor.

The comparative return figures in table 4 indicate the necessity for limitations on wheat production for output to be controlled under present price relationships. These data also show why a relatively high percentage of wheat is seeded on fallow. The total returns from two acres of land, with one acre in fallow and one acre in wheat, are slightly higher than the total returns from two acres where one acre is seeded to wheat on nonfallow and one acre used for barley or flax.

With decreased wheat price, the advantage of seeding wheat on fallow would decline and the production of other grains would be more nearly competitive with wheat. Although farm income may decline if wheat price were significantly lowered, a long run effect would be a decline in land values which, in turn, would increase the proportion of net farm income imputed to labor and management.[3] A result of artificially high support prices has been increased land values since the "excessive" earnings get capitalized into land.

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[3]Break-even prices for wheat to have the same total income under a "No" vote as a "Yes" vote are given in the next chapter.

CHAPTER VI

NORTH DAKOTA WHEAT INCOME - UNDER THE TWO ALTERNATIVES OF THE 1964 PROGRAM

The two alternatives of the 1964 program for wheat, one with a "Yes" vote or the other with a "No" vote, will result in differences in levels of wheat output, in wheat prices, in production costs, and in income for the state and for individual farms. Estimated comparisons of wheat income are presented in this section, first for the state, and then for individual farms.

Estimated Effects on State Farm Income

Difference in net farm income for the state was estimated for 1964 conditions with a "Yes" vote and a "No" vote on the referendum. The details of the program with a "Yes" vote have been quite clearly defined by the legislation and by statements from the Secretary of Agriculture regarding its administration for 1964. The "No" vote program effects on the state are more dependent on factors about which there is more uncertainty as discussed in Chapter IV on price determination.

To make an economic comparison under the two alternatives it was necessary to utilize data available to make the best possible estimates and to make specific assumptions. These are listed in the following paragraphs.

Estimates and Assumptions

Estimates on wheat acres, yield per acre, prices, and costs of production were made for the state, as were assumptions on farmer response and national administrative decisions. Some are applicable to both "Yes" and "No" situations, and others apply to one or the other.

General -- Applicable to Either Alternative

1. Normal production of wheat in North Dakota
   a. 6,620,000 acres of wheat planted under the 55 million acre national base -- 1957-61 average.
   b. Average yield per acre -- 18 bushels, based on 1957-60 average.
   c. Wheat on summer fallow
      (1) 63 per cent, about 4,170,000 acres, of normal wheat acreage has been on summer fallow, 1957-61; this compares to 47 per cent in 1952-54, years with no acreage restrictions.
      (2) Five bushel per acre average yield difference between wheat on fallow, 20 bushels per acre, and wheat after crop, 15 bushels per acre, 1957-60.

2. Costs of production estimates; only variable (direct) costs were included. Cost items in the estimates are machine repairs, fuel, oil, seed, fertilizer, spray, crop insurance and added labor hired for harvest.
   a. Wheat - $10 per acre, state average.
   b. Summer fallow - $2.25 per acre, state average.

3. Feed grains -- prices; wheat as a possible feed crop.
   a. It is assumed that the present feed grain price level will be maintained in 1964. The present legislation for 1964 in the Act of 1962 does not provide for supports at this level; however, Congressional and Administrative statements indicate the probability of a program similar to the 1962 or 1963 emergency feed grain programs.
   b. The Act of 1962 provides that the Secretary may permit farmers to grow wheat as a feed grain on feed grain acres if an acreage diversion provision is included in the program for feed grains. The possible effects of this provision were not included in this study because: its inclusion for 1964 is highly speculative, it is not clear how it could be facilitated with a price support of $1.30 for wheat and $1.07 for corn equivalent, and the returns to wheat at comparable prices are about the same as from the usual feed grain crops in North Dakota.

Applicable with a "Yes" Vote

1. Estimated acreage and production.
   a. Mandatory diversion of 10 per cent, thus reducing the possible normal planting from 6,620,000 to 5,958,000 acres.
   b. Estimated 15 per cent voluntary diversion; this is based on the farm budgets which indicated that for most situations, income would be somewhat higher with the 20 per cent voluntary diversion.
      (1) Estimated acres in wheat -- 5,064,000.
   c. Yield per acre, 19 bushels - a one bushel average increase due to a greater percentage being planted on summer fallow and due to an increasing trend in fertilizer use.

2. Estimated prices and wheat certificates, based on statements and reports from the Secretary of Agriculture.
   a. Price level - 10 cents per bushel above national average support price of $1.30.
      (1) Wheat with certificates -- $1.40 support price plus $.70 for certificate = $2.10 per bushel.
      (2) Wheat without certificates -- $1.40 per bushel.
   b. Number of bushels eligible for certificates.
      (1) 80 per cent of the 5,958,000 acres at 18 bushels per acre established average = 85,795,200 bushels.

3. Diversion payments
   a. Mandatory diversion, 18 bushels per acre x $2.10 x 30% = $11.34 per acre.
   b. Voluntary diversion, 18 bushels per acre x $2.10 x 50% = $18.90 per acre.

Applicable with a "No" Vote

1. Estimated acreage and production.
   a. 8,500,000 acres planted, based on the farmer survey which indicated a 29 per cent increase, over the 6,620,000 acre normal planting.

b. Of the 1,880,000 acre increase, 400,000 will come out of fallow acres and 1,480,000 will come from other crops, thus 45 to 50 per cent of wheat will be on fallow rather than the normal 63 per cent. With a lower price on wheat, the yield increase from wheat on fallow in some areas and on many farms will not economically justify as much wheat on fallow. On many farms this practice has been profitable because a low return crop such as oats was given up for more fallow to increase the yields of the high priced crop, wheat.

c. Yield per acre of 17.5 bushels, a slight decrease from the normal due to a lower proportion of wheat on fallow, more wheat on land of slightly lower fertility, and possibly less fertilizer use at the lower price.

2. Estimated price, $1.30 per bushel, 10 cents per bushel above the national average support price, $1.20. (Refer to page 16 for the assumptions leading to this estimate.)

3. Other crop returns reduced -- 1,480,000 acres of barley, oats, or flax are given up for increased wheat acres.

Example:

Oats, 29 bu. per acre @ $.55 =	$15.95
Direct costs per acre	7.10
Return over direct costs	$ 8.85

Barley or flax may also be decreased depending on area and farm differences.

An estimated return over direct costs of $9.00 per acre is used for the state for any crop acres that are reduced as wheat acres are increased. At the $1.30 price for wheat, the comparable returns from non-fallow wheat would be only slightly higher.

Budgeted Returns with a "Yes" Vote and "No" Vote

Based on the estimates and assumptions discussed in the preceding pages, the returns over direct costs related to wheat production were computed for the state of North Dakota - with a "Yes" vote and with a "No" vote. The comparative budgets are shown in table 5. As only direct costs of production are used, the remaining returns under either alternative do not indicate net income from wheat; however, the difference between the two is a measure of the difference in net farm income, because the remaining fixed costs are assumed to be the same under either alternative. Under a "No" vote, other crops are reduced as wheat acreage is increased; therefore, the return over direct costs for these crops is deducted from the gross income.

The comparative budgets in table 5 indicate that the "Yes" vote program would achieve a net farm income of $68,866,705 above the probable returns under a "No" vote with these particular output and price estimates. With a normal yield in 1964, this comparison is quite realistic for 1964. A comparative prediction for subsequent years is dependent on assumptions regarding Congressional appropriations for the program and on administrative decisions regarding level of price supports and diversion payments.

TABLE 5. COMPARATIVE RETURNS OVER DIRECT COST FOR NORTH DAKOTA AGRICULTURE UNDER THE TWO ALTERNATIVES

	"Yes" Vote	"No" Vote
Normal acreage-present	6,620,000	6,620,000
Mandatory diversion, A.	662,000	-
Voluntary diversion, A.	893,700	-
Harvested acreage	5,064,300	8,500,000
Yield per acre	19	17.5
Total production, bu.	96,221,700	148,750,000
Market or loan price	$1.40	$1.30
Total crop value	$134,710,380	$193,375,000
Value of certificates	60,056,640	-
Total Wheat Returns	$194,767,020	$193,375,000
Diversion Payments		
Mandatory diversion	7,507,080	
Voluntary diversion	16,890,930	
Total Diversion Payments	$ 24,398,010	
Gross Income	$219,165,030	$193,375,000
Direct Costs		
On wheat acres, $10/A.	$50,643,000	$ 85,000,000
On fallow acres, $2.25/A.	12,882,825	8,482,500
Total Direct Costs	$ 63,525,825	$ 93,482,500
Decrease return, other crops, $9.00/A.	-	13,120,000
Total Deductions	$ 63,525,825	$106,602,500
Comparable Returns over costs	$155,639,205	$ 86,772,500
Difference in net farm income	+ $ 68,866,705	
Break-even price*		$1.76

*Price needed for total production (148,750,000 bu.) to achieve same net income as for "Yes" vote.

Total wheat returns under the two alternatives are nearly equal at about $194 million; however, the production under a "No" vote is 55 per cent above the estimated production under a "Yes" vote. The diversion payments of $24.4 million and a savings in costs of $30 million with a "Yes" vote plus the "other" crop loss of $13 million with a "No" vote account for almost all the difference in net farm income between the two alternatives.

The $1.76 break-even price listed at the bottom of table 5 indicates the calculated price needed for 148,750,000 bushels of wheat produced under a "No" vote program to earn the same net farm income as determined for the "Yes" vote program. If farmers increase wheat acres more than the 29 per cent estimated here, the break-even price would be somewhat lower. If the output increases less than estimated, the break-even price would be higher. The economic implications of these relationships are discussed in a later section.

Effects of Below or Above Normal Yields

If North Dakota wheat yields in 1964 are below normal, the comparative returns for the "Yes" vote will increase in comparison to the "No" vote. The total crop may thus be marketed with certificates at the high price, $2.10 per bushel, with the "Yes" vote program. With an increase in acres under a "No" vote, the price will tend to remain at the support price level even with a lower yield per acre.

With above normal yields in 1964, the comparative returns under the two alternatives will be relatively less because any increase in output under a "Yes" vote will be valued at $1.40 per bushel with no certificates. Under a "No" vote the average price will be upheld by the price support.

Estimated Effects on Income of Representative Farms

Differences in net farm income for representative farm situations were determined on the basis of estimates for output, prices and costs with a "Yes" vote and a "No" vote program. Returns are compared on farms in three areas of the state -- the Valley, central, and western North Dakota. Situations with a "Yes" vote were varied for yield levels and amount of acreage diversion. With a "No" vote, yield levels and percentages of wheat acreage increase were varied.

Estimates and Assumptions

For each area of the state, a representative wheat base was determined for a farm. Necessary data for computing comparable returns over direct costs under various situations were estimated for each area.

The Representative Farms

In selecting representative farm situations, only the wheat base was estimated at a specific level. Other crop acres were not definite; it was assumed that a representative farm would have an adequate acreage of feed grains or flax to permit an increase in wheat acres under a "No" vote if desired. Also, it was assumed that wheat adjustment need have no significant impact on livestock output with most areas of the state producing more feed grains than are fed.

A wheat base, acres of summer fallow for wheat, yield levels, and direct costs of production were estimated for each of the three areas; namely, the Red River Valley, central North Dakota, and western North Dakota. Two yield levels were estimated for each area--the area average and an above average yield. It was assumed that the high yield is possible with improved management and added inputs for fertilizer, chemicals and improved seed; thus the direct costs are higher for the high yields. These data for the three areas are summarized in Table 6.

In budgeting returns under various situations it was necessary to take into account the change in percentage of wheat on fallow so wheat acres were increased or decreased under the alternative programs. Wheat yields are significantly higher when planted on fallow than when fallowing another crop, thus as the fallow acres increase average yield per acre will increase. The estimated yield levels used in determining average yields for a farm are listed in table 7.

TABLE 6. WHEAT BASE, FALLOW, YIELDS AND DIRECT COSTS FOR REPRESENTATIVE FARMS IN THREE AREAS[a]

	Area of State		
	Valley	Central	West
Wheat Base	100	140	200
Summer fallow, % of Wheat A.[b]	50%	60%	80%
Acres	50	84	160
Average yield situation			
Yield per acre	26	19	16
Direct costs per acre[c]	$12.00	$10.00	$ 9.25
High yield situation			
Yield per acre	34	25	20
Direct costs per acre[c]	$17.00	$14.50	$12.50
Fallow, direct costs per acre	$ 2.50	$ 2.25	$ 1.50

[a]Yields and cost estimates from "Usual Costs and Returns for North Dakota Field Crops," Agricultural Extension Service, NDSU.

[b]North Dakota Crop and Livestock Statistics, 1959-61.

[c]Direct costs include machine repairs, fuel, oil, seed, fertilizer, spray, crop insurance and added labor hired for harvest.

TABLE 7. ESTIMATED YIELDS OF WHEAT ON FALLOW AND AFTER CROP FOR THE THREE AREAS[a]

	Area of State		
	Valley	Central	West
	bushels per acre		
Average yield situation			
On fallow	28	21	17
After crop	24	16	13
High yield situation			
On fallow	36	27	21
After crop	32	22	16

[a]North Dakota Crop and Livestock Statistics, 1956-60.

Applicable to "Yes" vote

1. Prices - it was assumed that the same price for wheat could be used for the whole state without significant error. The added transportation costs in central and western North Dakota are in part made up by higher protein wheat with a higher support or market price.
   a. Average market or loan price -- $1.40, 10 cents per bushel above the national average support price.
   b. Value of certificates, 70 cents per bushel, applicable to 80 per cent of normal production on the adjusted base acreage.

2. Acreage diversion payments
   a. Mandatory diversion payment = normal yield x acres diverted x $2.10 x 30%.
   b. Voluntary diversion payment = normal yield x acres diverted x $2.10 x 50%.
   c. The diversion rates per acre used for the different yield levels are shown in table 8.

TABLE 8. ESTIMATED DIVERSION PAYMENTS PER ACRE FOR VARIOUS YIELD LEVELS -- MANDATORY AND VOLUNTARY

Area	Yield/A.	Mandatory diversion	Voluntary diversion
	bu.	dollars/A.	dollars/A.
Valley	26	16.38	27.30
Valley	34	21.42	35.70
Central	19	11.97	19.95
Central	25	15.75	26.25
West	16	10.08	16.80
West	20	12.60	21.00

3. Acreage diversion levels - for comparative purposes, the returns and costs were determined for each farm situation, first, with only mandatory diversion and secondly, with mandatory plus 20 per cent voluntary diversion.

4. Farm yield level situations - it is recognized that considerable differences in yield per acre exist between farms in the same area. It is also recognized that many farmers are adopting fertilizer use and cultural practices to increase yield per acre; thus, a farmer may expect a higher average yield per acre in subsequent years than was determined as his normal yield on record in the ASC county office. With these considerations, three farm situations were used for comparison as listed.
   a. Average expected yield is equal to normal ASC yield and both are equal to average area yield.
   b. Average expected yield is above normal ASC yield which equals average area yield.
   c. Average expected yield equals normal ASC yield, which are both above average area yield.

Applicable to a "No" vote

1. Prices - As for "Yes" vote, no price difference is used between areas of the state.
   a. Average market or loan price - $1.30 per bushel, 10 cents above the national average support price of about $1.20 per bushel.

2. Acreage diversion - 10 per cent of wheat base for those who comply with the allotment, with no diversion payments.

3. Farm yield level and acreage situations -- as for the "Yes" vote, two yield level situations are used; one at the area average yield per acre, and another with a high yield achieved with improved management and added variable inputs. With no mandatory compliance, it was assumed that wheat acres would increase. Four levels of acreage were used as listed:
   a. Compliance with allotment - 10 per cent reduction from the base.
   b. Increase base acreage by 30 per cent.
   c. Increase base acreage by 50 per cent.
   d. Increase base acreage by 70 per cent (not used for western area because of comparatively high proportion of wheat acres to cropland and need for summer fallow.)

As the acreage of wheat increased, the average yield per acre is decreased, because it is assumed that proportion of wheat on fallow decreases.

4. Acres used for wheat expansion - it is assumed that, with a lower price for wheat relative to other crops, the wheat expansion will decrease the acres in summer fallow to some degree, and the remainder of added wheat will substitute for other crops. By areas the adjustments are as follows:
   a. Valley - 30 per cent decrease in summer fallow; the remainder of wheat increase to come from other crop acres.
   b. Central - 28 per cent decrease in summer fallow; the remainder of wheat increase to come from other crop acres.
   c. West - present level of summer fallow per farm to remain constant. Increase in wheat acres will first utilize fallow normally used for barley; the remainder of increase to come from other crops.

5. Other crops given up for wheat increase -- it was assumed that oats, barley or flax acres might be given up for increase in wheat acres. For each area one crop was selected; however, another crop or crops may be adjusted on individual farms. It is assumed that the return above costs that is used is representative of the adjustment that may be made. The estimated yields, direct costs, and returns above costs that are used in budgeting are listed in table 9.

The returns per acre given up or lost for the crops listed in table 9 are applicable to varying acreages for the different farm situations as wheat acres are increased. The acres reduced for each representative farm at the three levels of wheat acre increase are listed in table 10.

TABLE 9. ESTIMATED RETURNS ABOVE DIRECT COSTS FOR CROPS GIVEN UP FOR WHEAT ACREAGE INCREASE

	Area of State		
	Valley	Central	West
Crop given up[a]	Flax	Oats	Barley (Non-fallow)
Average yield situation			
Yield per acre	9	31	17
Price per bushel	$ 2.85	$ .55	$ .80
Gross value per acre	$25.65	$17.05	$13.60
Direct costs per acre	8.50	7.00	7.50
Returns above direct costs per A.	$17.15	$10.05	$ 6.10
High yield situation[b]			
Yield per acre	13	41	24
Price per bushel	$ 2.85	$ .55	$ .80
Gross value per acre	$37.05	$22.55	$19.20
Direct costs per acre	14.25	10.55	11.50
Returns above direct costs per A.	$22.80	$12.00	$ 7.70

[a]This crop, or other crops, or crop combination with comparable return are given up for wheat increase.

[b]It is assumed that a farmer with above average wheat yields will also have above average yields for other crops.

TABLE 10. ACRES OF GRAIN CROP GIVEN UP ON REPRESENTATIVE FARMS WITH VARIOUS LEVELS OF WHEAT ACREAGE INCREASE

	Area of State		
	Valley	Central	West
Percentage increase in wheat acres	Acres of grain crop given up		
30	15	18	60
50	35	46	100
70	55	74	-

Budgeted Comparisons for Representative Farms

The purpose here is to show estimates of net wheat returns for representative, or modal, farms in each of the three state areas. These estimates are for the different levels of wheat yields, production costs, prices and acres seeded to wheat as described above in the assumptions. Throughout this analysis, the budgeted results for each farm situation includes wheat only, except under a "No" vote where the net change in returns from other crops is necessarily included. Under a "Yes" vote no significant changes in income from livestock and crops other than wheat were anticipated for varying levels of voluntary diversion. Consequently, changes in short-run net farm income are those resulting from changes in wheat income only.

Only direct or variable costs of production are subtracted from gross returns to determine the net returns for each farm situation. Since fixed costs of machinery ownership, land charges, taxes, etc. vary little, if any, as output is changed in the short run, these costs will be essentially identical regardless of the "vote" outcome. Therefore, it is not necessary to include them when comparing changes in net income.

The estimated returns for a representative farm in each of the three areas under a "Yes" vote and a "No" vote are shown in tables 11 to 16. Comparable returns for the Valley are given in tables 11 and 12, for the central area in tables 13 and 14, and for the western area in tables 15 and 16.

Income Estimates Under a "Yes" Vote

Tables 11, 13 and 15 show income estimates under a "Yes" vote for individual farm situations within the three state areas described previously. Six situations are shown for each area; the differences among these situations are based on (1) level of wheat yields, (2) relationship of expected farm yield to its ASC normal yield, and (3) a mandatory acreage diversion only versus mandatory plus voluntary acreage diversion.

The income estimates for nearly all farm situations show that the expected net income above direct costs is highest for each area when maximum voluntary acreage diversion is combined with the mandatory diversion. The only exception to this condition is for the Valley area where mandatory diversion only gives $4 more net farm income when the expected yield is greater than the ASC normal yield. In general, the differences in net farm income estimates for the Valley are not significant for the two acreage diversion conditions but tend to be slightly higher for maximum voluntary diversion if the farmer's expected yield and his ASC normal yield are the same, regardless of yield level. Of overall importance in any one area is that maximum voluntary diversion results in a higher net income than mandatory diversion only because voluntary diversion payments have been set sufficiently high to more than offset the return above direct costs on acres planted to wheat. In fact, in the central and western areas, the voluntary diversion payments (which are based on ASC normal yield) are higher than the wheat return above direct costs even if the farmer's expected yield is higher than his ASC normal yield.

The differences in estimated net farm incomes from wheat among areas are due to the relative differences among gross returns from wheat and corresponding direct costs of production.

TABLE 11. "YES" VOTE -- RED RIVER VALLEY FARM WHEAT RETURNS ABOVE DIRECT COSTS, UNDER THREE YIELD LEVEL SITUATIONS AND WITH TWO DIVERSION LEVELS - 1964

	Farm Yield Level Situations					
	Average yield and equal to ASC normal		High yield and above ASC normal		High yield and equal to ASC normal	
ASC normal yield, bu./A.	26		26		34	
Expected yield, bu./A.	26		34		34	
	Mandatory diversion	Mandatory plus voluntary diversion	Mandatory diversion	Mandatory plus voluntary diversion	Mandatory diversion	Mandatory plus voluntary diversion
Base acreage	100	100	100	100	100	100
Mandatory diversion	10	10	10	10	10	10
Voluntary diversion		18		18		18
Harvested acres	90	72	90	72	90	72
Yield per acre	26	27.5	34	35	34	35
Total production, bu.	2,340	1,980	3,060	2,520	3,060	2,520
Total wheat value @ $1.40	$3,276	$2,772	$4,284	$3,528	$4,284	$3,528
Number of certificates	1,872	1,872	1,872	1,872	2,448	2,448
Total value of certificates @ $.70	$1,310	$1,310	$1,310	$1,310	$1,714	$1,714
Gross wheat return	$4,586	$4,082	$5,594	$4,838	$5,998	$4,242
Mandatory diversion payments	$ 164	$ 164	$ 164	$ 164	$ 214	$ 214
Voluntary diversion payments		$ 491		$ 491		$ 643
Total diversion payments	$ 164	$ 655	$ 164	$ 655	$ 214	$ 857
Gross income	$4,750	$4,737	$5,758	$5,493	$6,212	$6,099
Direct costs						
On harvested acres	$1,080	$ 864	$1,530	$1,224	$1,530	$1,224
On fallow acres	$ 150	$ 195	$ 150	$ 195	$ 150	$ 195
Total direct costs	$1,230	$1,059	$1,680	$1,419	$1,680	$1,419
Net wheat return above direct costs	$3,520	$3,678	$4,078	$4,074	$4,532	$4,680

TABLE 12 "NO" VOTE -- RED RIVER VALLEY FARM WHEAT RETURNS ABOVE DIRECT COSTS AND OTHER CROP REDUCTIONS UNDER TWO YIELD LEVELS AND FOUR ACREAGE LEVELS - 1964

	With Average Yields				With High Yields			
	Allotment Compliance	Increase in Wheat Acres 30%	50%	70%	Allotment Compliance	Increase in Wheat Acres 30%	50%	70%
Base acreage	100	100	100	100	100	100	100	100
Mandatory diversion	10				10			
Harvested acres	90	130	150	170	90	130	150	170
Yield per acre	26	25.3	25.1	25	34	33.1	33.0	32.9
Total production, bu.	2340	3289	3765	4250	3060	4303	4950	5593
Gross wheat income @ $1.30/bu.	$3042	$4276	$4895	$5525	$3978	$5594	$6435	$7271
Direct costs								
On harvested acres	$1080	$1560	$1800	$2040	$1530	$2210	$2550	$2890
On summer fallow	150	88	88	88	150	88	88	88
Total direct costs	$1230	$1648	$1888	$2128	$1680	$2298	$2638	$2978
Reduction in other crop returns	----	257	600	943	----	342	798	1254
Total deduction	$1230	$1905	$2488	$3071	$1680	$2640	$3436	$4232
Comparable net return above direct costs	$1812	$2371	$2407	$2454	$2298	$2954	$2999	$3039
Break-even prices[a]								
Expected yield = ASC yield	$2.10	$1.70	$1.64	$1.59	$2.07	$1.70	$1.64	$1.59
Expected yield above ASC yield					$1.88	$1.56	$1.52	$1.49
Risk price[b]		$1.13	$1.14	$1.15		$1.15	$1.16	$1.17

[a]Price needed on output to achieve equal return above costs as with "Yes" vote at same yield level. Compare with Table 11

[b]Market price level at which it would pay to comply to receive price supports of $1.30.

TABLE 13. "YES" VOTE -- CENTRAL AREA FARM WHEAT RETURNS ABOVE DIRECT COSTS, UNDER THREE YIELD LEVEL SITUATIONS AND WITH TWO DIVERSION LEVELS - 1964

	Farm Yield Level Situations					
	Average yield and equal to ASC normal		High yield and above ASC normal		High yield and equal to ASC normal	
ASC normal yield, bu./A.	19		19		25	
Expected yield, bu./A.	19		25		25	
	Mandatory diversion	Mandatory plus voluntary diversion	Mandatory diversion	Mandatory plus voluntary diversion	Mandatory diversion	Mandatory plus voluntary diversion
Base acreage	140	140	140	140	140	140
Mandatory diversion	14	14	14	14	14	14
Voluntary diversion		25		25		25
Harvested acres	126	101	126	101	126	101
Yield per acre	19	21.5	25	27	25	27
Total production, bu.	2,394	2,172	3,150	2,727	3,150	2,727
Total wheat value @ $1.40	$3,352	$3,041	$4,410	$3,818	$4,410	$3,818
Number of certificates	1,915	1,915	1,915	1,915	2,720	2,720
Total value of certificates @ $.70	$1,341	$1,341	$1,341	$1,341	$1,904	$1,904
Gross wheat return	$4,693	$4,382	$5,751	$5,159	$6,314	$5,722
Mandatory diversion payments	$ 168	$ 168	$ 168	$ 168	$ 221	$ 221
Voluntary diversion payments		$ 499		$ 499		$ 656
Total diversion payments	$ 168	$ 667	$ 168	$ 667	$ 221	$ 877
Gross income	$4,861	$5,049	$5,919	$5,826	$6,535	$6,599
Direct costs						
On harvested acres	$1,260	$1,010	$1,827	$1,465	$1,827	$1,465
On fallow acres	$ 221	$ 277	$ 221	$ 277	$ 221	$ 277
Total direct costs	$1,481	$1,287	$2,048	$1,742	$2,048	$1,742
Net wheat return above direct costs	$3,380	$3,762	$3,871	$4,084	$4,487	$4,857

TABLE 14 "NO" VOTE -- CENTRAL NORTH DAKOTA FARM WHEAT RETURNS ABOVE DIRECT COSTS AND OTHER CROP REDUCTIONS UNDER TWO YIELD LEVELS AND FOUR ACREAGE LEVELS - 1964

	With Average Yields				With High Yields			
	Allotment Compliance	Increase in Wheat Acres 30%	50%	70%	Allotment Compliance	Increase in Wheat Acres 30%	50%	70%
Base acreage	140	140	140	140	140	140	140	140
Mandatory diversion	14				14			
Harvested acres	126	182	210	238	126	182	210	238
Yield per acre	19.0	18.0	17.7	17.5	25.0	24.0	23.7	23.5
Total production, bu.	2394	3276	3717	4165	3150	4368	4977	5593
Gross wheat income @ $1.30/bu.	$3112	$4259	$4832	$5415	$4095	$5678	$6470	$7271
Direct costs								
On harvested acres	$1260	$1820	$2100	$2380	$1827	$2639	$3045	$3451
On summer fallow	221	135	135	135	221	135	135	135
Total direct costs	$1481	$1955	$2235	$2515	$2048	$2774	$3180	$3586
Reduction in other crop returns	----	181	462	744	----	216	552	888
Total deductions	$1481	$2136	$2697	$3259	$2048	$2990	$3732	$4474
Comparable net return above direct costs	$1631	$2123	$2135	$2156	$2047	$2688	$2738	$2797
Break-even prices[a]								
Expected yield = ASC yield	$2.19	$1.80	$1.74	$1.69	$2.19	$1.80	$1.73	$1.67
Expected yield above ASC yield					$1.94	$1.62	$1.57	$1.53
Risk price[b]		$1.15	$1.16	$1.17		$1.15	$1.16	$1.17

[a]Price needed on output to achieve equal return above costs as with "Yes" vote at same yield level. Compare with Table 13

[b]Market price level at which it would pay to comply to receive price supports of $1.30.

TABLE 15. "YES" VOTE -- WESTERN AREA FARM WHEAT RETURNS ABOVE DIRECT COSTS, UNDER THREE YIELD LEVEL SITUATIONS AND WITH TWO DIVERSION LEVELS - 1964

	Farm Yield Level Situations					
	Average yield and equal to ASC normal		High yield and above ASC normal		High yield and equal to ASC normal	
ASC normal yield, bu./A.	16		16		20	
Expected yield, bu./A.	16		20		20	
	Mandatory diversion	Mandatory plus voluntary diversion	Mandatory diversion	Mandatory plus voluntary diversion	Mandatory diversion	Mandatory plus voluntary diversion
Base acreage	200	200	200	200	200	200
Mandatory diversion	20	20	20	20	20	20
Voluntary diversion		36		36		36
Harvested acres	180	144	180	144	180	144
Yield per acre	16	17	20	22	20	22
Total production, bu.	2,880	2,448	3,600	3,168	3,600	3,168
Total wheat value @ $1.40	$4,032	$3,427	$5,040	$4,435	$5,040	$4,435
Number of certificates	2,304	2,304	2,304	2,304	2,880	2,880
Total value of certificates @ $.70	$1,613	$1,613	$1,613	$1,613	$2,016	$2,016
Gross wheat return	$5,645	$5,040	$6,653	$6,048	$7,056	$6,451
Mandatory diversion payments	$ 202	$ 202	$ 202	$ 202	$ 252	$ 252
Voluntary diversion payments		$ 605		$ 605		$ 756
Total diversion payments	$ 202	$ 807	$ 202	$ 807	$ 252	$1,008
Gross income	$5,847	$5,847	$6,855	$6,855	$7,308	$7,459
Direct costs						
On harvested acres	$1,665	$1,332	$2,250	$1,800	$2,250	$1,800
On fallow acres	$ 270	$ 324	$ 270	$ 324	$ 270	$ 324
Total direct costs	$1,935	$1,656	$2,520	$2,124	$2,520	$2,124
Net wheat return above direct costs	$3,912	$4,191	$4,335	$4,731	$4,788	$5,335

TABLE 16 "NO" VOTE -- WESTERN NORTH DAKOTA FARM WHEAT RETURNS ABOVE DIRECT COSTS AND OTHER CROP REDUCTIONS UNDER TWO YIELD LEVELS AND FOUR ACREAGE LEVELS - 1964

	With Average Yields			With High Yields		
	Allotment Compliance	Increase in Wheat Acres 30%	Increase in Wheat Acres 50%	Allotment Compliance	Increase in Wheat Acres 30%	Increase in Wheat Acres 50%
Base acreage	200	200	200	200	200	200
Mandatory diversion	20			20		
Harvested acres	180	260	300	180	260	300
Yield per acre	16.0	16.0	15.7	20	20	19.5
Total production, bu.	2880	4160	4710	3600	5200	5850
Gross wheat income @ $1.30/bu.	$3744	$5408	$6123	$4680	$6760	$7605
Direct costs						
On harvested acres	$1665	$2405	$2775	$2250	$3250	$3750
On summer fallow	270	240	240	240	240	240
Total direct costs	$1935	$2645	$3015	$2490	$3490	$3990
Reduction in other crop returns	----	366	610	----	462	770
Total deductions	$1935	$3011	$3625	$2490	$3952	$4760
Comparable net return above direct costs	$1809	$2397	$2498	$2190	$2810	$2845
Break-even prices[a]						
Expected yield = ASC yield	$2.13	$1.73	$1.66	$2.17	$1.79	$1.73
Expected yield above ASC yield				$2.01	$1.67	$1.62
Risk price[b]		$1.16	$1.16		$1.18	$1.19

[a]Price needed on output to achieve equal return above costs as with "yes" vote at same yield level. Compare with Table 15

[b]Market price level at which it would pay to comply to receive price supports of $1.30.

As one goes from east to west in the state, the benefits from maximum voluntary acreage diversion tend to increase. This is especially true for those farm situations with higher than average yields and where the expected farm yield is higher than the ASC normal yield. The major reason for increasing benefits from increased acreage diversion on less productive soils is that the differences in wheat yields among areas are relatively greater than the differences in production costs. Also, the differences between average and high yields are less on the less productive soils. Thus, the direct production costs per bushel tend to increase from east to west. Since the diversion payment per acre is based on normal yield times a constant price for all areas, farms with relatively low productivity soils and, accordingly, higher production costs tend to benefit relatively more from maximum diversion.

Income Estimates Under a "No" Vote

Income estimates for individual farm situations under a "No" vote are shown in tables 12, 14 and 16. These estimates are for four levels of output: (1) compliance with the acreage allotment, (2) a 30% acreage increase over allotment, (3) a 50% acreage increase over allotment, (4) a 70% acreage increase over allotment in the Valley and central areas only. A 70 per cent acreage increase was not used for the western area because of the relatively high percentage of cropland presently in wheat allotment. The same wheat price is used for all four levels of output because, as explained in a previous section, it is assumed that a sufficient number of all wheat farmers will comply with their wheat allotments, thereby restricting total wheat output to a level commensurate with a wheat price base of 50 per cent of parity. With a slight premium for quality, this results in a North Dakota wheat price of $1.30 per bushel.

The various acreage output situations are matched with average and high yield levels in each area. In all areas, income above direct costs is significantly increased as one goes from the allotment compliance situations to non-compliance of seeding a 30 per cent increase in wheat acres. However, increasing the number of wheat acres to 50 and 70 per cent over the original allotment results in only minor increases in income. The reason for income not increasing in the same proportion as wheat acres are increased relates to a comparison of wheat returns and returns from other crops, all on non-fallow land. In other words, as wheat acreage is increased on the individual farm, either some fallow acreage or some other crop acreage must be decreased. In either case, the yield of wheat declines because a smaller proportion of the total wheat acres is seeded on fallow. Thus, as the individual farmer increases his wheat acreage over 30 per cent, the income estimates in tables 12, 14 and 16 show that the gains in wheat income are nearly offset by the reductions in other crop returns, thus total returns above direct costs change only slightly. This analysis assumes that present prices for feed grains and flax will be maintained. Consequently, with wheat priced at about $1.30 per bushel and feed grain prices at the present level, the per acre returns from wheat on non-fallow are about the same or only slightly higher than the per acre returns from feed grains and flax. With lower feed grain prices, wheat would have a greater income advantage.

The bottom line within tables 12, 14 and 16 shows the risk price at which it would pay to comply with the acreage allotment and be assured of the support price of $1.30 per bushel. That is, if price dropped to the risk price shown for each non-compliance situation, the net returns would be the same as

those shown for the corresponding allotment compliance situation. The computed results show that allotment compliance with wheat at $1.30 per bushel would give about the same total farm income as overseeding the allotment with wheat price ranging from about $1.15 to $1.20 per bushel.

Comparison of Income Estimates Under "Yes" and "No" Votes

The "net return above direct costs" figures under a "Yes" vote and "No" vote can be compared within each area for average and high yields. The exact differences in income estimates for comparable area and yield situations can be computed from the tables. In general, however, net wheat income above direct costs on Valley farms is estimated to be about 30 per cent lower under a "No" vote as compared with a "Yes" vote. For the central and western area farms, the "No" vote would result in approximately 40 per cent less net wheat income above direct costs. After adjusting for estimated fixed costs of machinery depreciation and land taxes, a comparison of net wheat income with a "Yes" and "No" vote indicates a drop of 50 per cent in the Valley and about 60 per cent in the central and western areas. The "No" vote would be less favorable for the areas with relatively less productive soils because their crop yields decline relatively more than their production costs and acreage diversion payments are based on a constant price per bushel for all areas.

Further income comparisons show that gross wheat returns (including certificates) can be substantially higher under the "No" vote. Even though price is less under the "No" vote, wheat acreage can be increased to give a higher gross wheat return than under the "Yes" vote. However, the relevant comparisons are net returns over direct costs for each situation. And these comparisons show that the "Yes" vote has a definite income advantage. Briefly, this means that one must take into account acreage diversion payments under the "Yes" vote versus added production costs and reduction in other crop returns under the "No" vote to determine net income estimates that can be legitimately compared.

In the tables showing production and income estimates under a "No" vote, break-even prices have been computed. These prices would be necessary under the respective "No" vote situations to give the same net return as the comparable yield level would give under a "Yes" vote when mandatory plus maximum voluntary acreage diversion is assumed. That is, these break-even prices are needed under the "No" vote to give the same net income as the highest potential net income under a "Yes" vote. These break-even prices tend to be slightly less for the Valley than for the central and western areas. Again, the reason for this can be attributed to the relative yield and production costs among these areas.

CHAPTER VII

ECONOMIC IMPLICATIONS - LOOKING AHEAD

The income budgets for the state and for representative farms indicate that the "Yes" vote program would result in considerably higher income than a "No" vote program for 1964. In general, the advocates of a "No" vote have recognized this and propose that neither alternative is acceptable.

Economic forces usually do not cause rapid adjustments; therefore, it may be helpful to examine the longer run implications of program alternatives.

Supply and Demand Adjustments

Without external interference in the market, it was stated earlier that price is determined by equilibrium of supply and demand. If price level is determined by other forces, this action also influences the supply and the quantity demanded. What does the future hold for supply and demand adjustment?

Supply in the Years Ahead

Supply is determined by number of wheat acres and yield per acre. Average wheat yield per acre for the U.S. has increased from 16 bushels per acre in the 1946-50 period to 24 bushels per acre in 1960-62. This trend will continue with research developing new varieties and technology and farmers adapting new practices to increase output. If output per acre expands more rapidly than the utilization of wheat, then the acreage must be reduced, either by public policy or by economic forces, namely, lower prices.

As discussed in an earlier section, returns to wheat acres at current prices are considerably higher than to competitive crops in North Dakota. This is also true for other wheat producing areas. With the present level of wheat returns determined by public policy, it has been politically feasible to share this "pie" on a historical basis of wheat acres, rather than by operation of economics. If it is necessary to restrict output, the reduction is prorated.

Supply adjustment by economic forces is discussed in a later section. In this case, each farmer in each area examines his alternatives for maximum profit. Some may increase wheat production and others may decrease.

Demand Expansion

Domestic use of wheat in the U.S. primarily for food and seed, with minor amounts for feed, has stabilized at 600 million bushels annually. Consumption per capita decreases at about the same rate that the population increases. As discussed in the 'prices' section, the demand for wheat is highly inelastic so that price level does not significantly affect its use. As a prediction, we cannot expect the expansion of domestic demand to contribute to the solution of the problem.

Export demand for wheat includes the dollar exports and the P.L. 480 (Food for Peace) exports. U.S. annual exports under P.L. 480 have been about twice the quantity exported for dollars; that is, 200 million bushels for dollars and something over 400 million bushels under the Food for Peace program.

About 90 per cent of U.S. dollar exports move under the International Wheat Agreement which includes 46 nations, of which 10 are classed as exporters and 36 as importers. This agreement acts as a price stabilizer in the world wheat market. It has provided a mechanism by which the U.S. could maintain a price support level considerably above the world market price and make up the difference by export subsidies.

Countries with developed economies, particularly western Europe and Japan, comprise the major dollar export market for the major exporting countries, the United States, Canada, Australia, and Argentina. Russia is also competing for dollar exports of wheat. As the income level is rising in these importing countries, the per capita wheat consumption declines with a shift of consumer diets to more livestock products. In Europe, France has recently become a wheat exporting country. If the European Common Market establishes more protection for its own wheat producers, wheat output is expected to expand more rapidly and demand for imports will decline. In total, we can look for little expansion of dollar exports in the near future.

Low income countries are increasing their consumption of wheat as their level of industrial activity gradually improves; however, they are dependent on long term credit or other arrangements under P.L. 480 to purchase U.S. wheat. World wheat consumption is increasing at about two per cent annually, so that by 1965-66 it will reach to between 9.2 and 9.5 billion bushels as predicted by the Economic Research Service of the U.S.D.A. Many of these underdeveloped countries are increasing their own food grain output in order to become more self-sufficient.

In summary, future expansion of wheat exports from the U.S. will probably be limited to our share of the gradual increase in total world consumption. As low income countries become dollar importing countries over time, the other traditional exporting countries will be competing for their share. In other words, U.S. wheat farmers cannot look to exports as a solution to their problem in the near future.

Current Supply and Demand Picture

Under past and present public programs for wheat, production and disposal patterns have developed for both domestic and export markets. With major wheat producing areas each producing a different class of wheat, the proportion of each class of wheat used domestically for dollar exports and for P.L. 480 exports is different.

The estimated supply and disposal of all wheat and by classes for the current year is summarized in table 17. Of significance in total wheat adjustment is that disposal exceeds production by 85 million bushels so that stocks are estimated to decline from 1,305 million bushels July 1, 1962, to 1,225 million by June 30, 1963. This indicates that the emergency wheat program for 1962 was effective in controlling output and in maintaining wheat income; however, critics would say that the public cost was excessive.

TABLE 17. ESTIMATED SUPPLY AND DISPOSAL OF WHEAT, BY CLASSES[a] -- 1962-63

	All Wheat	Hard Spring	Hard Winter	Durum	Soft Red Winter	Soft White
			million bushels			
Stocks, July 1, 1962	1,305	187	1,068	5	24	21
Production	1,092	176	536	72	154	154
Imports	5	5	---	---	---	---
Supply	2,402	368	1,604	77	178	175
Exports	572	35	379	5	35	118
Domestic Disappearance	605	138	265	27	133	42
Stocks, June 30, 1963	1,225	195	960	45	10	15
% Exports for dollars (5-year average)	32	76	21	100	52	34

[a]Wheat Situation, Economic Research Service, U.S.D.A., February 1963, p. 9.

With an above average production in the Northern Plains states, the estimated carryover for Hard Red Spring wheat increased slightly; for Durum the production was more than twice the normal utilization, thus carryover increased greatly.

With the level of utilization predicted to remain fairly constant or increase slowly, some type of supply adjustment is necessary. The 1962 emergency program achieved production reduction; the 1964 program is designed to achieve the objective at a somewhat lower public cost. There are, of course, many other possible courses of action, each with a different impact on the individual farmer, the area, the rural communities, and the public cost. Economic forces in operation affect the adjustments that occur under public policy alternatives.

Adjustments by Economic Forces

It has been emphasized in this report that a major reason for the necessity of strict production limitations on wheat is that, with the high level of price supports, wheat is a highly profitable crop in comparison to alternative crops throughout much of U.S. agriculture. Pertinent questions for wheat growers in traditional production areas might be: With a somewhat lower price for wheat, could we expect a significant adjustment of wheat production between areas due to economic forces? And, would the so-called "marginal" wheat acres that were shifted from grass to wheat under wartime and post-war prices shift back to grass under lower prices?

By the economic principle of comparative advantage, each farmer uses his resources for producing those commodities which will bring him the greatest return. If wheat returns are higher than from other enterprises, he tends to expand wheat except when limited by public policy. If the returns from wheat are lower than from competing enterprises he tends to shift out of wheat.

Inter-area Adjustment

Inter-area adjustment by economic forces implies that in some areas wheat may become less profitable than competing crops. Wheat producing areas may be classified as follows relative to class of wheat and a major competing crop:

Area	Classes of wheat	Major competing crop
Northwest (and west) States	Soft White Wheat	Barley
Northern Plains	Hard Red Spring	Barley
Southern Plains	Hard Red Winter	Grain Sorghum
Cornbelt and eastern States	Soft Red Winter	Corn

To study the possibility of economic adjustment of wheat between areas, the estimated production per acre of wheat and feed grains and direct costs of production were determined for these major areas.[4] It is assumed farmers in these areas have no other crop alternatives that could utilize a major portion of the resources of the area.

The estimated output per acre in pounds and the direct costs of production as representative for each of the four areas are shown in figure 4. For example, in the Northern Plains area, or North Dakota, one acre of land plus production inputs under like conditions will produce approximately equal pounds of wheat or feed grains. The Southern Plains can produce more pounds of grain sorghum than wheat, the Northwest states can produce slightly more wheat than feed grains, while the corn belt can produce greatly more feed grains than wheat per acre.

The important economic comparison to be made is within an area, not between areas. That is, it is not important whether the direct production costs for wheat in North Dakota are higher or lower than in another area; the important consideration is -- how great is the difference in returns between wheat and feed grains in North Dakota as compared with this same difference in another area. To illustrate, with higher yields, the production costs per bushel for wheat in the Red River Valley are lower than in western North Dakota; however, wheat production utilizes more of the cropland in western North Dakota than in the Valley. The Valley has, and particularly had, more economic alternatives to wheat than the west when the wheat bases were established. Differences in return over production costs become capitalized into land values.

The comparative returns for wheat and feed grains were computed for each area at varying price relationships, and were based on the output and direct costs in figure 4. These return comparisons are summarized in table 18. Farmers in any area will tend to stay in wheat if it is more profitable than feed grains and will tend to shift away from wheat if feed grains are more profitable.

The first price relationship in table 18 is $1.80 wheat and $1.00 for corn or its equivalent. These prices are comparable to expected 1963 market prices. At these prices wheat remains as the most profitable alternative in each area but is near the break-even point in the eastern corn belt at $31 over direct costs for wheat and $29.40 for feed grains.

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[4]Wheat, The Program for 1964, U.S.D.A., January 1963, pages 12 and 21.

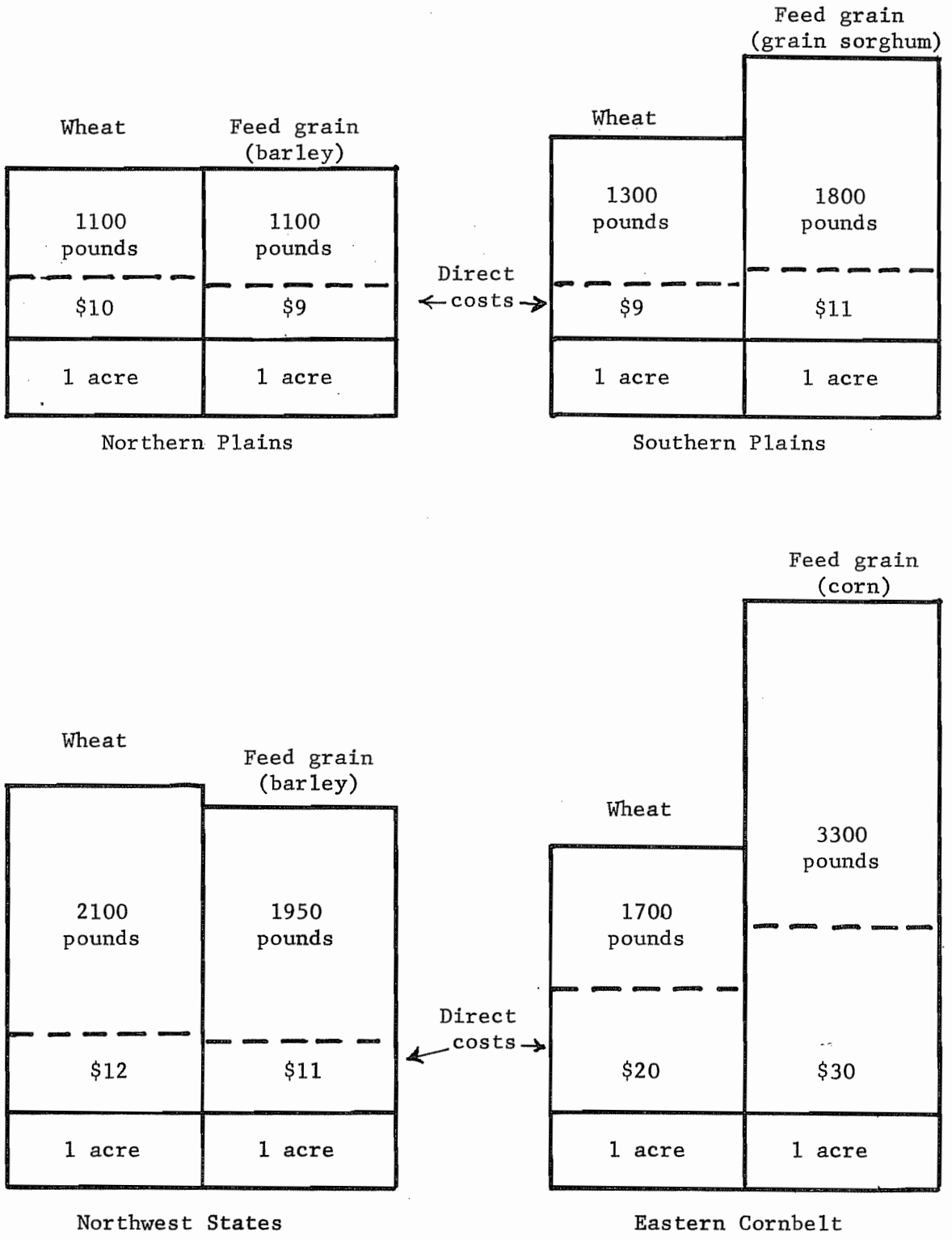

FIGURE 4. COMPARISON OF WHEAT AND FEED GRAIN OUTPUT PER ACRE FOR FOUR MAJOR WHEAT AREAS -- AND DIRECT COSTS OF PRODUCTION

TABLE 18. COMPARISON OF RETURNS OVER DIRECT COSTS OF PRODUCTION FOR WHEAT AND FEED GRAINS IN FOUR MAJOR WHEAT AREAS, UNDER VARIOUS PRICE LEVEL COMBINATIONS

	Prices of wheat and feed grains per bu.					
Wheat	$ 1.80	$ 1.50	$ 1.40	$ 1.20	$ 1.40	$ 1.20
Corn equivalent	1.00	1.00	1.00	1.00	.80	.80
	Returns over direct costs per acre					
Northern Plains (hard red spring wheat)						
Wheat returns	$23.00	$17.50	$15.63	$12.00	$15.63	$12.00
Feed grain returns	10.80	10.80	10.80	10.80	6.73	6.73
Southern Plains (hard red winter wheat)						
Wheat returns	30.00	23.50	21.29	15.00	21.29	15.00
Feed grain returns	21.40	21.40	21.40	21.40	14.74	14.74
Northwestern States (soft white winter wheat)						
Wheat returns	51.00	40.50	36.93	30.00	36.93	30.00
Feed grain returns	24.10	24.10	24.10	24.10	16.89	16.89
Eastern Corn Belt (soft red winter wheat)						
Wheat returns	31.00	22.50	19.61	14.00	19.61	14.00
Feed grain returns	29.40	29.40	29.40	29.40	17.19	17.19

With wheat at $1.50 and corn at $1.00, feed grain production becomes more profitable in the corn belt but wheat remains most profitable in the other areas. Thus at these prices, we would expect less wheat acres in the corn belt unless feed grain expansion is also limited by public policy. We would expect only a portion of the wheat acres to be shifted to corn, because small grains are used in the crop rotation with corn. For example, Iowa farmers raise some oats even though they can produce 70 bushel corn and only 50 or 60 bushels of oats per acre.

At $1.40 for wheat and the equivalent of $1.00 corn for grain sorghum, the return from the two crops in the Southern Plains are nearly equal at $21.29 for wheat and $21.40 for grain sorghum. With a somewhat lower return to wheat, it would remain as a major crop because it serves as a winter cover and winter grazing crop. Also, it is more adaptable to large scale operations than grain sorghum.

As the price of wheat drops to $1.20, wheat is still more profitable than feed grains in the Northern Plains and in the Northwest states. As shown in figure 2, the Northwest produces more wheat per acre than feed grains, thus it would produce wheat rather than feed grains even with wheat at the feed grain price.

If the price level of feed grains would drop to an 80¢ corn equivalent and wheat was supported at $1.40 per bushel, wheat again would be the most

profitable in all areas. With wheat at $1.20 and corn at 80¢, the corn belt would be the only area to shift out of wheat.

Adjustment implications of these comparisons are important. They emphasize that if economic forces through lower prices are to bring about an adjustment in wheat production between areas, the price level for wheat will need to be much lower relative to feed grains than at present. With wheat at $1.50 per bushel and corn at $1.00, the corn belt or soft red winter wheat area is the only major wheat area that would voluntarily give up wheat acres. This area produces about 15 per cent of total U.S. wheat output. Thus if this area reduced by 50 per cent, the proportionate share going to the three other principal wheat areas would allow for only a small percentage increase in each area.

With wheat at $1.20 per bushel, the Southern Plains may not expand wheat but they may not decrease significantly because of the role wheat has for winter cover and winter grazing.

In summary, dependence on the pricing mechanism to bring about major adjustments in wheat production between the principal producing areas would require a big drop in wheat prices. Returns from resources in wheat production must be lower than returns from these same resources used to produce feed grains. The preceding discussion indicated the probable price relationships needed to cause adjustments in the corn belt and the Southern Plains.

"Marginal" Land Adjustment

Adjustment of "marginal" wheat land to non-crop use is sometimes referred to as a possible aid toward solution of the wheat problem. Reference is made to the several million acres of grazing land in semi-arid areas of the Great Plains that were plowed up for cropland during the following World War II. It is generally conceded that total public welfare would be aided if this land could be shifted back to grass; however, this is not as simple for the wheat producers involved.

Shifting cropland to grazing land is an economically painful process. High investments have been made in equipment; wheat returns have been capitalized into land values; and debts have been incurred. Three to five years are required to re-grass cropland in the semi-arid regions. Even at low prices for wheat, this land would tend to stay in wheat production unless public funds were used to compensate for the adjustment. Another consideration is that the more extensive type of grassland agriculture would not support present community services and institutions developed under a wheat producing agriculture.

Economics of the "Yes" Vote Program

The "Yes" vote program can be examined for its national implications and its effect on the individual farmer. The price support level, the acreage diversion program, and the level of the national marketing quota as used in this study were based on statements made by the Secretary of Agriculture; these factors are subject to his decision but the marketing quota must be announced prior to any referendum. The legislation states that certificate wheat must be supported at 65 to 90 per cent of parity and that the national marketing quota cannot be less

than 1.0 billion bushels. The legislation at present does not allow for appropriations to finance diversion payments after 1965.

Results of this study infer that some type of public policy is needed to limit wheat production if wheat farmers' income is to be maintained anywhere near its present level. The program for 1964 was developed to achieve certain objectives from the viewpoint of national administration, public cost, reduction, and maintenance of farm income; it also includes some provisions that may not be appreciated by individual growers.

A national administrator's possible viewpoint might include the following considerations:

1. A principal difference between this program and previous supply control programs is the two-price plan. Its implications are:
   a. The high price support applies only to a major portion of normal annual production; therefore, in years of abnormally high average yields, the CCC is obligated for loans and storage of the excess at the low price rather than the high price.
   b. Less public funds will be needed for export subsidies as not all export wheat will be included under the high price supports.
   c. With surplus production as the problem, the lower price for output exceeding the normal on farms will tend to discourage adding more fertilizer or other inputs to increase yield per acre.
   d. Diversion payments for voluntary diversion of wheat acres can be set at a reasonable rate and be effective because these payments are bidding for acres at the low price of wheat rather than the high price.
   e. It permits the possibility of farmers planting wheat as a feed grain if a feed grain program is adaptable to this provision.

2. The program allows for flexibility.
   a. If the demand for a certain class of wheat expands beyond the output level, the Secretary has authority to increase the marketing quota for that class of wheat.
   b. The voluntary diversion provision will allow for differences in adjustment between areas, such as drawing marginal land out of production.

3. If Congressional appropriations for agriculture programs are cut, the program can be effectively administered but with some decrease in returns to farmers.

4. A principal disadvantage appears to be the adaptation of the two-price system with the wheat certificates to the wheat marketing system in the grain trade. The transition adjustments are particularly perplexing.

5. Another disadvantage may be the administration of the program at the farm level; inequities in the distribution of the certificates will be a problem.

A farmer's viewpoint might include the following considerations:

1. For 1964, the income from wheat will be maintained near the average of past years.

2. The voluntary diversion provision allows for flexibility in land use and risk taking for the individual according to his particular situation.

3. The marketing certificates have some value as insurance against a complete crop failure.

4. A farmer with a relatively high proportion of cropland in wheat may readily accept a 10 per cent reduction, but a farmer with a small wheat base may object to further reduction.

5. A farmer with a low yield history but higher expected yields will have a disproportionately low number of certificates for the high price support.

6. A farmer may claim that the program makes him less efficient because he cannot afford to add more fertilizer and other inputs when the added bushels bring only the low price.

7. Due to administrative limitations, farmers will discover inequities in distribution of marketing certificates between themselves and neighbors.

Implications for Hard Red Spring and Durum Wheats

The 1964 program has economic implications for the particular classes of wheat. North Dakotans are interested in Hard Red Spring and Durum wheat production and their markets. Normal annual production of Hard Red Spring wheat in the Northern Plains states is estimated at 170 to 175 million bushels. Durum production has averaged 25 to 30 million bushels, resulting in about 200 million bushels of the two classes of wheat. A comparison of this output with the present level of utilization domestically and for exports as shown in table 17, page 43, indicates that present output and utilization are about equal.

The surplus problem arises from the carry-over stocks which, for these two wheats, will be about 250 million bushels on June 30, 1963; this is equivalent to the needed supply for 1.25 years. Policy administrators aim to reduce the national carry-over stocks to a six months' supply. Thus, it is estimated that 150 million bushels of Hard Spring and Durum wheats would be considered as surplus stocks.

Under the 1964 program with a "Yes" vote, there would be a 10 per cent mandatory diversion of wheat acres plus an estimated 10 to 15 per cent diversion under the provision for voluntary retirement. Voluntary diversion would tend to be used more heavily in this area than in some of the major wheat areas because of lower average yields and more risk from drought. Wheat acres in the Hard Spring wheat and Durum area may be reduced 25 per cent. With average yields the output would be reduced from the normal 200 million to 150 or 160 million bushels.

With output of Hard Spring wheat and Durum at 40 to 50 million bushels below the level of utilization, the desired minimum carry-over would be reached in three years. With a short crop due to weather it could be reached earlier; with a repetition of 1962 yields, the adjustment would be postponed.

The question arises - what will happen in 1966 or 1967 when the return to a higher level of production may be needed to meet the present or prospective level of utilization? Under the provisions of the Act, the Secretary of Agriculture has the authority to increase the marketing quota for classes of wheat in short supply. North Dakotans will be partially dependent on administrative decisions to reclaim wheat acres at that time for producing wheat to meet the market demand. Political feasibility of program administration may tend to limit adjustments between areas.

A short supply of a class of wheat will be indicated by the level of stocks and by the increase in market price relative to other wheats. With administered marketing quotas and price levels, the producers of a particular class of wheat in strong demand may not receive the same share of production and returns that they would experience under economic adjustment. Because of the substitutability between classes of wheat, the loss of potential market may not be offset by the price increase resulting from the short supply.

As indicated in the preceding section, adjustment by economic forces would require a relatively large drop in wheat prices to affect a significant adjustment of wheat acres between major producing areas. Thus the lack of desired adjustment under an administered program may be considered as the price for maintaining the present level of wheat returns.

Economics of a "No" Vote Program

The long run implications of a "No" vote program are difficult to assess because of the unknown factors that are involved. With no mandatory restrictions on output and the low support price, wheat returns will be comparable to present returns from feed grains in much of the major wheat production area and will be lower than feed grain returns in the corn belt and in parts of the grain sorghum area.

The maintenance of a feed grain price support program at its present level would possibly permit the continuation of the "No" vote program with price supports on wheat at 50 per cent of parity and no mandatory acreage restrictions. At this price relationship between wheat and feed grains, wheat output will decrease in some areas and increase in others; however, total output would be expected to adjust so that production would not exceed utilization. Or, if production did exceed normal domestic and export needs, the amount eligible for support may be limited so that the open market price of wheat would be at the feed price level and utilized as feed. Excess CCC supplies could be used for P.L. 480 exports. Farmers could probably expect wheat prices to stabilize at the support price, somewhat above the feed grain price.

Present feed grain legislation for 1964 calls for a support price between 50 and 90 per cent of parity that would allow supplies to clear the market. A probable price level has been estimated at a corn equivalent of $.80 to $.90 per bushel. With these feed grain prices, the "No" vote program may not be tenable

over time. With $1.20 price support for wheat, wheat producers in all areas except the corn belt will tend to maintain or increase output of wheat. The percentage of farmer compliance with acreage allotment will determine the market price. Results will not be satisfactory under either of two possible directions:

1. If farmer compliance is high enough so that the support price sets the market price, CCC will again be accumulating excess stocks.

2. If farmer compliance is low, the feed price of wheat relative to $.80 or $.90 corn will be its market price which would mean very low income for wheat farmers.

Alternative Wheat Programs?

This study has centered on the two alternative wheat programs under the Agricultural Act of 1962. As mentioned previously, many of those opposing a "Yes" vote in the referendum also indicate that the "No" vote program is not acceptable. The estimated drop in farm income as shown by this study gives reason for this belief.

Are there other alternatives? There are a number of possible policies and combinations thereof for dealing with the wheat problem. Whether or not there are other alternative programs that could be enacted for 1964 would be entirely dependent on the disposition of the Congress presently in session.

Each of the possible alternative programs may have somewhat different consequences relative to farm income, public cost, necessary supply controls, adaptation to the domestic wheat trade and to export markets, and to the effect on rural non-farm communities.

Acreage allotments plus voluntary acreage diversion with payments were used in an emergency program in 1962. The 1963 emergency program is similar in objective but somewhat different in price support administration. The 1962 program was effective in maintaining wheat income and in controlling supply and reducing surplus stocks. The 1963 program will probably have similar results.

Any program using acreage allotments would basically be built around a historic acreage base. Reduction of production to facilitate reduction of CCC stocks and stabilizing supply and demand is accomplished through voluntary diversion with incentive payments.

The level of wheat prices and income with this program is basically a decision of Congress and administrators of farm programs. The price support level determines wheat income, level of diversion payments, level of export subsidies and public cost. The lower the price support level, the lower the diversion payment needed, the lower the export subsidy needed, the lower is the cost to the government, and the lower is farm income.

If wheat prices are maintained near the present levels, this program would tend to continue the present production allocations by regions. Voluntary acreage diversion permits individual farmers to make adjustments beneficial to themselves and to the aggregate problem. For example, a beef ranch with a relatively small wheat base might economically divert his total base and begin regrassing. Farmers in areas of lower productivity may find it more economical

to reduce output under voluntary diversion than those in areas of higher productivity. Older farmers may decide to reduce output and still maintain the farm business.

While this approach to the wheat problem does not attach directly the problem of excess resources maintained in wheat production, it does have the possibility of maintaining wheat income and limiting output to manageable supplies. It allows some freedom of decision making to the individual. It does, however, incur public costs relative to price support levels.

Resource adjustment proposals have been made to solve the farm problem including wheat. Under this plan, government aid is used for retiring farm land and relocating human resources, but the free market is allowed to operate in determining what crops shall be grown with no government interference. Land retirement would be voluntary and could take the form of diversion for a term of years, or sale of the right to produce wheat or other specific effects.

With no special program separating wheat from feed grains in resource use and markets, the price of wheat would tend to beat that level which would be competitive with feed grains in returns to land and capital resources. At this level there would be adjustments between areas and in proportionate production of the classes of wheat.

Income effects would be most adverse in the specialized wheat areas in which wheat is the prime source of income. Except for land retirement under government subsidy, this land will stay in wheat production. Even at the lower price, wheat will be the best alternative for resource use. Such an adjustment will force a more rapid consolidation of farm units and reduce the capital value of land. Land retirement would tend to be concentrated in areas of low productivity; therefore, rural non-farm communities in these areas would receive adverse economic impacts.

This plan could have political repercussions with its lower wheat and farm income, forced rapid adjustments in community institutions and human resources, and its radical change from the historic pattern of government aid to agriculture.

Negotiable marketing permits has been suggested as an approach to the problem of adjustments between areas and between farms. Farmers and areas with comparative production or market advantages for particular classes of wheat can purchase the right to increase production from other farmers and areas. This approach would be part of a more comprehensive public program for agriculture and for wheat.

A discussion of the above possibilities in public policies for wheat has emphasized the complexity of the problem. There are other possible approaches to the problem of excess resources in wheat production and in total agriculture.

In considering the possibility of alternative programs for wheat it is important to remember that: If it is considered desirable or necessary to maintain the present level of returns to wheat, this goal is politically and administratively possible only with some type of supply control. Public policy which provides for returns to a particular crop which are much higher than for competing crops necessarily implies that these "administered" earnings must be politically shared. Total economic efficiency becomes of secondary importance.

General Considerations

Income support and stability as a concept for evaluation of farm programs needs to be weighed against relinquishing certain freedoms in the operation of the farm business. If these goals are both held by farmers, the goals may be in conflict. As a group, farmers may need to compromise some of one to achieve more of the other. Public policy is achieved by compromise. It is usually acceptable public policy if it expresses the wish of the majority.

Equal returns to resources in competitive farm enterprises is another principle which may be evaluated in establishing public policy. With economic forces in operation, we would expect to find fairly equal returns between wheat and other crops in an area; for example, returns per acre from barley, oats, flax or rye are not greatly different on a farm in North Dakota. Public policy for wheat has separated this crop from competing crops so that returns to resources used for wheat are much higher than if these same resources are used for feed grains or flax. A farmer who happened to have a high historical acreage receives benefits from public policy that do not accrue to his neighbor with a low wheat base. In developing public policy we might ask -- Do we want or expect this difference in returns to resources to continue indefinitely?

Interrelationships with the non-farm sectors of the national economy and the local community need to be given consideration. There may be conflicts of interest between the national economy and the state or local communities.

Continuation of a wheat program which tends to maintain the status quo in resource use may limit economic adjustments in land, capital, and labor resources that would be beneficial for total economic growth. Public expenditures needed for the program may contribute more to total welfare if used in other ways.

On the other hand, discontinuance of a public policy to maintain income from wheat can have a detrimental effect on an agricultural wheat state and on the local communities. Community marketing and supply institutions that have developed under a wheat economy would suffer from major agricultural price and output adjustments. Community institutions for education, welfare, roads, and other public services are dependent on real estate values and tax structures that have been developed under past and present agricultural production and prices.

Public policies for agriculture which tend to slow down adjustment within agriculture also allow time for less painful adjustments in the non-farm communities serving agriculture. Public policies which allow more freedom for adjustment within agriculture, as voluntary versus mandatory resource retirement of resources, may be most beneficial to farmers, but may cause greater adjustment problems for the related communities.

Observations

Farmers facing the wheat referendum this spring are confronted with a major decision. The program for 1964 is somewhat different in its approach from previous programs for maintaining wheat income.

The discussion and budget comparisons in this report are designed to aid farmers in making their decisions based on knowledge available. The particular differences in farm situations between farmers and their individual differences in values and goals implies that these farmers can use this information, weigh the alternatives, and arrive at different decisions at the time of the referendum.

APPENDIX

Tables 1 and 2 are reproductions from tables presented in the appendix of the United States Department of Agriculture publication, "Wheat, The Program for 1964," January 1963.

The data in the tables indicate the relative decrease in wheat acres from the period 1949-53 in which there were no acreage restrictions to the present. Data are included for the U.S., for regions, and for states.

Table 1 .- Wheat: Planted acreage and acreage allotments and as a percentage of United States total, by States, selected years

State and region by major class of wheat	Planted acreage 1949-53 average		Allotments 1955		Allotments 1963	
	Actual	Percentage of total	Actual	Percentage of total	Actual	Percentage of total
	1,000 acres.	Pct.	1,000 acres	Pct.	1,000 acres	Pct.
Western States (White)						
Arizona	24	1/	19	1/	41	.1
California	688	.9	481	.9	423	.8
Idaho	1,677	2.1	1,172	2.1	1,193	2.2
Nevada	19	1/	13	1/	12	1/
Oregon	1,171	1.5	833	1.5	852	1.5
Washington	3,036	3.9	2,046	3.7	2,042	3.7
Total	6,615	8.4	4,564	8.2	4,563	8.3
Northern States (Hard Spring and Durum)						
Minnesota	1,125	1.4	815	1.5	721	1.3
Montana	6,003	7.7	4,230	7.6	4,026	7.3
North Dakota	10,385	13.3	7,790	13.9	7,500	13.7
South Dakota	3,994	5.1	2,822	5.1	2,755	5.0
Total	21,507	27.5	15,657	28.1	15,002	27.3
Southern Plains States (Hard Winter)						
Colorado	3,745	4.8	2,688	4.8	2,639	4.8
Kansas	14,841	19.0	10,504	18.8	10,762	19.6
Nebraska	4,615	5.9	3,212	5.8	3,158	5.7
New Mexico	641	.8	448	.8	469	.9
Oklahoma	6,614	8.4	4,792	8.6	4,922	9.0
Texas	5,912	7.6	4,208	7.5	4,020	7.3
Utah	452	.6	321	.6	300	.5
Wyoming	421	.5	301	.5	288	.5
Total	37,241	47.6	26,474	47.4	26,558	48.3
Corn Belt States (Red Winter)						
Arkansas	53	.1	51	.1	72	.1
Illinois	1,868	2.4	1,376	2.5	1,423	2.6
Indiana	1,640	2.1	1,154	2.1	1,086	2.0
Iowa	252	.3	138	.2	118	.2
Kentucky	366	.5	206	.4	203	.4
Michigan	1,336	1.7	1,005	1.8	938	1.7
Missouri	1,687	2.2	1,141	2.0	1,321	2.4
Ohio	2,263	2.8	1,599	2.8	1,479	2.7
Tennessee	276	.4	201	.4	178	.3
Wisconsin	89	.1	55	.1	37	.1
Total	9,830	12.6	6,926	12.4	6,855	12.5
Eastern and Southern States (Red Winter)						
Alabama	16	1/	13	1/	50	.1
Delaware	60	.1	43	.1	29	.1
Georgia	140	.2	106	.2	108	.2
Louisiana	---	---	2	1/	25	1/
Maryland	294	.4	204	.4	167	.3
Mississippi	28	1/	19	1/	51	.1
New Jersey	107	.1	57	.1	49	.1
New York	445	.6	322	.6	312	.5
North Carolina	433	.6	287	.5	279	.5
Pennsylvania	886	1.1	640	1.2	523	.9
South Carolina	168	.2	137	.2	140	.3
Virginia	412	.5	278	.5	236	.4
West Virginia	72	.1	43	.1	32	.1
Total	3,061	3.9	2,151	3.9	2,001	3.6
Other 2/	---	---	5	1/	9	1/
Unapportioned national reserve	---	---	25	1/	12	1/
United States total	3/78,258	100.0	4/55,802	100.0	55,000	100.0

1/ Less than 0.05 percent. 2/ Alaska, Connecticut, Florida, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont. 3/ Total based on unrounded figures. 4/ National allotment exceeds 55 million acres because the minimum was increased to provide additional acreage for the production of durum in Minnesota, North Dakota, South Dakota and Montana.

Table 2.- Wheat: Harvested acreage, by States, selected years

State and region by major class of wheat	5-year 1949-53 average	1955	1959	1961	1962
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Western States (White)					
Arizona	21	42	94	26	24
California	619	423	356	337	307
Idaho	1,569	1,198	1,182	1,083	957
Nevada	18	8	21	12	17
Oregon	1,092	824	800	796	680
Washington	2,796	1,998	2,000	1,974	1,697
Total	6,115	4,493	4,453	4,228	3,682
Northern States (Hard Spring and Durum)					
Minnesota	1,088	634	970	1,022	731
Montana	5,584	4,628	3,966	3,679	3,465
North Dakota	9,935	7,212	6,495	5,730	5,519
South Dakota	3,758	2,400	1,932	2,260	1,721
Total	20,365	14,874	13,363	12,691	11,436
Southern Plains States (Hard Winter)					
Colorado	2,786	1,299	2,475	2,468	1,899
Kansas	12,496	8,559	10,329	10,329	8,986
Nebraska	4,093	3,141	3,104	3,220	2,760
New Mexico	223	215	227	276	210
Oklahoma	5,434	3,020	4,529	4,618	3,787
Texas	3,301	1,508	3,228	3,690	2,731
Utah	427	348	235	215	189
Wyoming	382	277	261	229	213
Total	29,142	18,367	24,388	25,045	20,775
Corn Belt States (Red Winter)					
Arkansas	38	77	136	162	112
Illinois	1,809	1,576	1,660	1,672	1,522
Indiana	1,574	1,186	1,217	1,290	1,096
Iowa	214	115	165	124	88
Kentucky	259	201	168	175	131
Michigan	1,323	948	1,112	1,111	922
Missouri	1,437	1,551	1,518	1,374	976
Ohio	2,202	1,496	1,264	1,457	1,209
Tennessee	246	201	167	148	107
Wisconsin	87	53	62	58	48
Total	9,189	7,404	7,469	7,571	6,211
Eastern and Southern States (Red Winter)					
Alabama	12	53	55	56	35
Delaware	57	33	27	23	19
Georgia	129	100	101	94	47
Louisiana	---	17	35	35	40
Maryland	275	179	155	142	129
Mississippi	16	13	33	42	30
New Jersey	81	51	46	42	35
New York	431	316	254	244	198
North Carolina	392	329	404	392	204
Pennsylvania	863	614	530	524	451
South Carolina	161	152	173	140	56
Virginia	379	255	270	259	179
West Virginia	61	40	25	23	18
Total	2,857	2,152	2,108	2,016	1,441
United States total	1/67,672	47,290	51,781	51,551	43,545

1/ U. S. average; State totals unadjusted.