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WHEAT UNDER THE AGRICULTURAL MARKETING ACT

SOME PROBLEMS OF THE FEDERAL FARM BOARD

INTRODUCTION

The Agricultural Marketing Act of 1929 represents an innovation in national policy. Apart from the creation of a new agency with broad powers, the most prominent features relate to the reorganization of the marketing of farm products, under the new Farm Board, in order "to protect, control, and stabilize the currents of interstate and foreign commerce in the marketing of agricultural commodities and their food products..." The theory of the Act is that such a reorganization, among other things, is requisite "so that the industry of agriculture will be placed on a basis of economic equality with other industries." When one considers the privileges and exemptions enjoyed by agriculture under the farm loan act, the intermediate credit act, and the Capper-Volstead act, it becomes abundantly clear, as stated by the President in his initial statement to the Federal Farm Board, that the Agricultural Marketing Act invests the Board "with responsibility, authority and resources such as have never before been conferred by our government in assistance to any industry."

The Agricultural Marketing Act is the outcome of an intensive struggle of eight years' duration. That the Act is largely permissive rather than mandatory is due in part to the circumstances out of which it has grown. More than appears in the Act, it represents one side of a fundamental cleavage of opinion. The Agricultural Marketing Act contemplates the systematic reorganization and rationalization of the distribution, i.e., the marketing, of agricultural

products. The equalization fee and the debenture plans contemplated the differential enhancement of the domestic price level of agricultural products, without reorganization and rationalization of distribution. It is true that the proponents of the equalization fee and of the export debenture did not oppose co-operative marketing and were nominally in favor of it; but, in their view, co-operative marketing was not necessary to the success of the equalization fee and the export debenture in effecting amelioration of agricultural distress through the predicated differential enhancement of the domestic price level. Since the passage of the new law, prominent proponents of the equalization fee and the export debenture still hold

the view that it does not lie in reorganization and rationalization of distribution to effect the amelioration of agricultural distress as they define it. Since comparable precedents are lacking in reorganization and rationalization of distribution of farm products, the Agricultural Marketing Act represents an experiment, to which the country is now committed, in the positive outcome of which the supporters of the measure have high confidence. Therefore, for both wings of opinion, the policy of reorganization and rationalization of distribution of agricultural products is on trial. Under such circumstances, objective appraisal of developments will be greatly facilitated by a clarification of terms and, so far as possible, agreement on assumptions, since every forecast of an economic nature must rest to some extent upon postulates.

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We venture to apply the word "rationalization" to distribution in analogy with the application of the term to manufacture. Rationalization of manufacture means mass production under scientific management. Rationalization of distribution means mass marketing under scientific management. In the first case it is related to the spread between raw materials and finished goods; in the second case it is related to the spread between producer and consumer. The investigations into the wastes in distribution now being conducted under the auspices of the Department of Commerce are designed to lead to a rationalization of distribution. We take it that a corresponding development is implied in the Agricultural Marketing Act.

The concept and present definition of rationalized marketing, the extent to which this is to be applied, the number of agricultural products to be subjected to the procedure, and the administrative methods to be employed will be determined by the Farm Board. For many farm products the questions are of international significance, and much of economic theory and trade practice is involved. Under these circumstances, and in view of the magnitude of interests involved, careful reasoning on the premises is imperatively necessary. "Our general answer to farm problems," said Secretary of Agriculture Arthur M. Hyde, "is organization—organization to control marketing, to standardize output, to eliminate the waste and duplication of a marketing and distributing system which, generally speaking, absorbs two dollars for every one dollar it returns to the farmer."¹

Broadly speaking, the means proposed to be adopted center upon the substantial encouragement of farmers' co-operative marketing associations, to the point of elevating them to a position of major importance in the marketing of farm products. Contemplated also is the formation of commodity "stabilization corporations" resting upon the co-operatives and performing, with the aid of funds advanced by the Treasury under regulations established by the Farm Board, functions which the co-

operatives find themselves unable effectively to perform. The terms "stabilization" and "price stabilization" have figured largely in the discussion; but it is clear that "stabilization" is conceived in a loose sense, without consistent reference either to acreage, price, income, rate of marketing, or anything else. Certainly price stabilization in the sense of maintaining a horizontal course of prices through a year and from year to year is not a primary objective. The fundamental objective is to increase the remunerativeness of farming, not by direct price-raising measures as proposed under the equalization fee and export debenture plans, but by a combination of measures designed to secure merchandising economies, to moderate price fluctuations, to reflect back to the growers a greater proportion of the value of their product, and to influence production with a view to minimizing growers' losses and enhancing growers' returns.

The intent of the Congress is to be taken from the wording of the Act. A careful perusal of its language indicates clearly that, within the broad powers conferred upon the Farm Board, considerations of marketing take precedence over direct price-influencing procedures. In other words, merchandising is primary; stabilization and elevation of price are secondary. This general inference from a perusal of the Act seems to us reinforced in the concluding paragraph, "This Act may be cited as the 'Agricultural Marketing Act.'"

The proposed reorganization of marketing will represent a gigantic innovation, a series of large experiments, since the problems vary with the products. The interests involved are of great magnitude. Presumably the Farm Board, to which is entrusted the inauguration and direction of the enterprise, will not undertake to apply it to many products at the outset. To a large extent the Board is empowered to determine the products to be subjected to the procedure, and the set-up and administrative procedures to be employed. But it will certainly be under heavy pressure to put in operation the new machinery and procedures as generally and as promptly as possible, though there will be much counter-pressure.

Wheat is one of the major crops to which

¹ From a radio address of the Secretary introducing the Department of Agriculture's period in National Farm and Home Hour, delivered July 8, 1929.

the proposed measures are designed to be applied. We have therefore undertaken in this study to discuss in advance some of

the important problems that will confront the Farm Board and its agencies in dealing with the commodity wheat.

I. SCOPE AND LIMITS OF "STABILIZATION"

ATTITUDE OF THE WHEAT GROWER

At the outset, it is pertinent to mention briefly certain elements in the financial situation of American wheat growers. Like other farmers, they have experienced an extensive decline in prices of farm lands from the peak in 1920. Among wheat farmers are many whose indebtedness, on mortgage security and otherwise, rose to high levels during and immediately after the war, and has shrunk but little in subsequent years. Not a few have lost their farms, and many others are struggling under a heavy burden of debt. Taxes are high and there seems slight prospect of recession. Net returns from wheat growing have varied in different years, in different sections, and even among individual farmers in the same section and in a given year; but by and large current returns have not been regarded as sufficiently remunerative to enable the growers to maintain standards of living which they insistently desire. The causes of the situation are numerous and complex, and need not be discussed here; but it is in the hope of improving the net returns from wheat growing that the proposed measures would be applied to wheat.

There are thus several different factors in the dissatisfaction of wheat growers with their returns: wheat prices, operative costs, fixed charges, purchasing power of net income, and increased wants. In particular, however, there is disaffection with wheat prices on four main grounds.

First, wheat growers complain that not only in occasional seasons but over a period of years the level of wheat prices has been too low—judged either by terminal prices, farm prices, or gross returns per acre. Various sets of data have been produced to support this complaint.

Second, wheat growers feel that the spread, or margin, between farm prices and terminal prices is too wide, and this entirely apart from the increase in freight rates. This is a part of the general complaint that the spread between producers'

prices of raw materials and consumers' prices of finished goods has become too wide. This broad view found expression in the statement of Secretary of Agriculture Jardine in his annual report for 1928, that an outstanding objective of farm relief is to secure for the farmer a larger proportion of the consumer's dollar. Within Congress, and without, exists the widespread notion that it ought to be possible substantially to increase the grower's price of wheat without raising the prices of wheaten products to ultimate consumers. In the case of wheat there are two parts of the spread between producer and consumer: the margin between farm selling price and purchasing price at mill (and port of export) and the margin between purchasing price at mill and retail price of flour and bread. With the latter we are not here concerned. Protest against the margin between farm selling price and mill buying price resolves itself into the contention that the cost of merchandising and distributing wheat is excessive.

Third, wheat growers hold that farm prices of wheat, as of the grade, do not adequately reflect the milling values of wheats, that grading at country points is to some extent often discriminatory, and that the mixing of wheats in terminals creates commercial values that do not accrue to growers. In short, the weighted grade of wheat bought by millers and exporters is believed to be higher than the weighted grade of wheat for which farmers are paid, so that the premiums paid by millers for protein and other qualities accrue only in part to growers but instead largely to distributors.

Fourth, wheat growers believe, or fear, that fluctuations and variations in wheat prices on the grain exchanges have the net effect of lowering the weighted farm price of wheat. Speculation is suspected of price-depressing tendencies. In particular, it is urged that short selling of wheat futures coincident with heavy marketing of wheat after the harvest, depresses the price at a

time when two-thirds of the crop leaves the hands of the grower.

We do not propose here to analyze these several elements in the wheat growers' bill of complaint. Clearly, however, it has contributed toward the enactment of farm relief legislation and influenced the form of the Agricultural Marketing Act; and it will have to be reckoned with by the Federal Farm Board.

So far as the reorganization of wheat marketing is concerned, it must presumably aid wheat growers chiefly in connection with what farmers receive for their wheat. The agencies operating under the Farm Board would presumably seek to narrow the margin between terminal prices and farm prices for the benefit of the farmer; to reflect back to the grower the full value of the wheat he produced; and to moderate fluctuations in wheat prices within a season and from year to year.

MEANING OF PRICE STABILIZATION

So much has been made of the term "stabilization" that it is desirable to examine with some care the significance of the term in the present connection, and in particular to consider the scope and limits of wheat price stabilization. In our view, the use of the term "stabilization" in the Act will come to be recognized as unfortunate. Stabilization of the general price level, "stable money," is a large monetary problem. As used in the Act, the term has been drawn not from the nomenclature of economics, nor from the terminology of the trade, but has been borrowed from current political discussions.

Unlike the terms "subsidy" and "dumping," which have a displeasing connotation, the term "stabilization," like "justice for the farmer," "equality for agriculture," and "orderly marketing," has a pleasing sound; but like these latter terms, it is not very specific in meaning. It implies the smoothing out of irregularities and fluctuations. But when one considers stabilizations (*a*) of wheat acreage or production, (*b*) of the flow of wheat to market or to export, (*c*) of wheat prices, or (*d*) of wheat growers' returns, one is at once confronted with questions as to the degree to which these would be feasible, and to their desirability in so

far as they are feasible. Indeed, the impracticability of stabilizing all of these at once is easily demonstrable. Even the acreage planted to wheat cannot be stabilized, much less the harvested acreage. Even if this were possible, wheat production could not be stabilized, because of unpreventable variations in abandonment of acreage and in yield per acre. "Orderly" marketing, conceived as the maintenance of a regular flow of wheat from farm to market, from month to month, might be put into effect; but one could hardly expect that this would diminish the instability of wheat prices. The instability of terminal wheat prices could be reduced, though not eliminated; but this would not stabilize returns to wheat growers, and it would not necessarily increase the average net return. In short, the virtues of "stabilization," strictly construed, are unduly extolled in common parlance.

Nevertheless, it is entirely within the bounds of truth to assert that abnormal and costly fluctuations occur in wheat acreage, production, marketing, prices, and growers' returns. While stabilization suggests an impracticable ideal, and while the costs as well as the gains from approaching this ideal require careful consideration, there is good reason to hold that some measures to reduce instability would yield a net advantage. It may be taken for granted that a Farm Board would view the matter in this light.

STABILIZATION AS AN OBJECTIVE

The Farm Board would have to determine which of several objectives it would regard as paramount. The advocates of the equalization fee and export debenture—and the more recently advocated domestic-allotment plans—have made elevation of the wheat price level (and the elevation of the domestic wheat price level above the world wheat price level) the paramount objective, on the assumption that this alone would rehabilitate farm net returns. None of these plans promises much, if anything, in the way of price stabilization; indeed, they would probably tend to increase the instability of price.¹ Price stabilization as

¹ Cf. "The Export Debenture Plan for Wheat," *WHEAT STUDIES*, July 1929, V, 342-43.

a paramount objective, whether within a year or from year to year, would not clearly enhance growers' returns to any large extent. We take it that the view behind the present Agricultural Marketing Act is that improvement of wheat growers' net returns over a period of years should be the paramount objective, and that measures of direct price elevation and planned price stabilization should be subordinated. From a practical standpoint, this would seem to be soundest policy; but it will impose a heavier responsibility upon the Farm Board, for the test of its success will not be the achievement of the initial objectives of price elevation or price stabilization, but the achievement of the ultimate goal of such proximate objectives, the improvement of the farmers' real position.

Whatever the concept and definition of stabilization to be employed, there is a short-term and a long-term view. The short-term view corresponds to stabilization within the crop year, the long-term view implies stabilization from year to year over a period of years. This distinction is not sufficiently appreciated; and it is important, since it is not to be taken for granted that measures of stabilization applicable within the crop year would, if repeated year after year, automatically result in stabilization over the period.

Regarded from the standpoint of existing practices in the grain trade, price stabilization—strictly construed and not including the definitive objective of raising the wheat price level—would concern itself with a series of limited objectives.¹

1. It would seek to facilitate the transition from one crop year to the next.

2. It would seek to moderate the post-harvest decline in price, without disturbing subsequently the recurring seasonal price advance.

3. It would seek to moderate short-term price fluctuations and eliminate the occasional sharp recessions due to extraneous influences.

4. It would seek to "feed out" the desirable milling wheats, and thus secure the best values for the available wheat.

5. Lastly, it would seek to moderate the year-to-year price variations.

¹ Cf. "Variations in Wheat Prices," *WHEAT STUDIES*, June 1929, V, 241-300.

Successfully executed, such a program of stabilization might somewhat improve the weighted farm price of wheat and thus incidentally elevate the wheat price without, however, independently raising the wheat price level, i.e., the range of wheat prices. Stabilization, in a somewhat broader sense, implies making the best use and taking the best advantage of the varying relations of supply and demand in a wheat-exporting country where wheat prices are influenced also by relations of supply and demand in the world, with the aid of a governmental revolving fund and the employment of centralized and co-ordinated tactics in wheat merchandising.

Apart from the improvement in farm price which wheat growers expect to accrue as a result of the operations in price stabilization as thus defined, wheat growers anticipate additional profits through the handling of wheat by the co-operative associations operating under the stabilization corporation. They expect to obtain profits from the handling and mixing of wheats and from the merchandising of premium wheats. They hope for a lessening of current losses on the sale of export wheats, whether by co-operative association or stabilization corporation. They expect a narrowing of the spread between farm price and mill price, to their advantage. Thus the increments expected to accrue to wheat growers would represent a combination of the advantages of co-operative marketing with the advantages of centralized merchandising by a stabilization corporation standing above the co-operative associations. "Stabilization" is frequently used loosely to cover all these things, but it is an illegitimate extension of the use of the term. They are better regarded as complementary parts of a trade program.

LIMITS OF PRICE STABILIZATION

It is important clearly to recognize certain ranges within which price stabilization can conceivably be achieved, and the limits of what it might accomplish. What the wheat grower would really like is a stabilization of his wheat returns per acre at a remunerative level. The most that a price stabilization policy proper could be expected to achieve in this direction would be

a substantial moderation of the fluctuations in terminal market prices, particularly for the grades deliverable on contract without discount or for the average of all marketed grades and qualities. Between these two objectives lies a zone of instability that can hardly be eliminated by any new tactics that may be found practicable, though it may conceivably be restricted by tactics other than those directed at price stabilization itself.

In the first place, the individual wheat grower's yield per acre sown varies from year to year. The amount of abandonment of fall-sown acreage in the United States varies on individual farms anywhere from 0 to 100 per cent, and has varied from 1.1 to 28.9 per cent of all fall-sown acreage. The yield per harvested acre varies within relatively wide limits.¹ These variations depend mainly on the characteristics of the season, but partly on other factors—the skill or fortune with which the weather conditions are met, by choice of seed types, preparation of the soil, time of sowing, prevalence of infestations, time of harvesting, and harvesting and storage operations. The same factors, together with the preparations of the soil, determine the quality as well as the quantity of the wheat which the grower obtains per acre. For an individual wheat grower the yield per acre sown, considering both quantity and quality, is a factor that varies more than the average terminal price of wheat. The stabilization of wheat prices per se can have no influence upon the stabilization of wheat yields, and therefore can have only a partial influence toward stabilization of the income of the individual wheat grower.

Stabilization of wheat yields is beyond hope of accomplishment, because weather factors are so complex and variable. A substantial reduction in the prevailing instability of yields is, however, not beyond the bounds of possibility. Several lines of improvement are possible, with a view to reducing the frequency of occurrence of crop failure or damage, or of low quality of

wheat. The choice of types of seed, methods of preparation of the soil, types of cultivation before seeding, time of sowing, and times and methods of harvesting, best adapted to the climate and commonly recurring weather conditions, can be considerably improved. Infestations are in part controllable.² The level of skill in management of wheat growing can be substantially raised. Agencies long established are active in these directions. Wheat improvement associations are at work in all regions. It is probable that the adoption of a stabilization policy might lead to strengthening these efforts, and they could properly be stressed by a Farm Board; but such endeavors would be supplementary to, rather than an integral part of, a policy of price stabilization.

Another conceivable type of effort directed toward reducing the instability of the returns of the individual wheat grower lies also outside the scope of price stabilization procedures, but might be an appropriate supplement thereto. Granted that the individual grower must expect his crop yields per acre to be variable, it is possible that a system of insurance might be devised whereby the grower might be assured of recouping his actual outlays even if his crop yield is not sufficient to cover them. Separate hazards such as winterkilling, damage from hail, late frosts, tornadoes, and certain pests, might perhaps be separately covered. Much could be gained by the development and application of this type of calamity insurance against the irreducible risks of the wheat grower. It is an object deserving assiduous study on the part of a Farm Board, and it might well prove to be a field in which government funds could wisely be employed, at least in the necessary period of accumulating actuarial data and experience in methods of application, for reinsurance of insurance written by private companies under the supervision of the Farm Board.

The returns of the individual wheat growers also vary not merely with the level of wheat prices, but with the prices of the types, varieties, grades, and qualities of the wheat he produces. Within considerable limits the grading and quality of his product must be expected to vary from year to year. Hence even if prices of particular grades and qualities were stabilized, his returns

¹ Between 1909 and 1928, the widest variation in yield per planted acre was 25 per cent of the average yield of the period. See Table 2 (p. 362).

² Infestations are in large part directly or indirectly influenced by climatic factors, though in some instances (e.g., smut) are under the grower's control.

would vary not merely with his quantitative yield, but with the classification his crop received.

Moreover, it is not to be expected that a stabilization agency could prevent the fluctuations in all grades and qualities, especially those that arise between one year and another. In one crop premium wheats may be abundant, in another crop they may be in scant supply. The discount wheats may be more or less abundant. Protein content may run high or low, of good quality or poor. We have elsewhere emphasized the fact that the wheat price structure is complex, even in individual terminal markets.¹ Wheat is not a homogeneous commodity. Each crop contains a wide range of qualities, and the valuations placed upon these different qualities are highly divergent. Modern tendencies in milling and baking practice have led to a sharp discrimination between qualities, especially in respect to quantity and quality of protein content, and to greater diversity in valuations according to quality. Millers in particular have been forced to adapt their buying and milling procedures to make the best of these conditions.

It is hardly conceivable that a policy of stabilization would be applied in ignorance or in disregard of these conditions, or that it would lead either to treating all wheats as if they were identical or to mixing them to get a general average of the crop. To preserve appropriate differentiations for qualities and thus to facilitate rather than to impede milling operations, would be a primary desideratum. Yet such a procedure would have two implications: first, that the task of stabilization would be more complicated than if the wheat price structure were simple or could readily be highly simplified; second, that certain elements of price instability would persist in spite of the best efforts. Thus even if the average price of wheat, or the prices of the grades deliverable on contracts without discount, could be absolutely stabilized, there would persist considerable price variations at least from one crop year to another, as the amounts and proportions of the different qualities varied. Since individual farmers

produce wheats whose grades and qualities vary from year to year, the stabilization of terminal prices would not stabilize the per bushel prices received by individual wheat growers.

There is here indeed a certain contradiction between stabilization and elevation of prices. In the interests of raising prices to the grower, in particular years and over a period of years, it is desirable that the prices he receives should fairly reflect the value of his particular product. If he raises high-quality wheat, he should get a substantial premium over the average or contract price; if he raises a low-quality wheat he should be paid accordingly. Only by such differentiation can the desirability of raising high-quality wheat be brought home to the grower. Such differentiation, which has already developed much further than before the war, implies a continuous variation in prices with the grade and quality produced. To minimize these differences, if it were feasible, would entail stabilization at the expense of improvement of returns to the growers as a whole in the longer run.

Substantial stabilization of returns to the individual wheat grower, or substantial stabilization of his per bushel prices, therefore lie outside the scope of practicable policy, although certain measures designed to reduce the instability of his returns per bushel and per acre might appropriately be tried out as supplementary to a price stabilization policy. To say this does not imply that there is no field for price stabilization measures; it merely indicates that those measures, even if successful, cannot effect the degree of improvement that is earnestly desired.

The field of price stabilization measures is to be regarded, then, as the moderation of terminal market fluctuations within a season and from one crop year to another, in the level of wheat prices or in some important elements in that range. These fluctuations have been large. To a considerable extent, they have caused variations in wheat growers' returns. To moderate them would tend to reduce the fluctuations in farm prices per bushel and per acre, and the corresponding financial hazards of wheat growing. Conceivably it might also help to elevate the growers' farm returns somewhat, but it cannot be relied upon to do this

¹ See "Variations in Wheat Prices," *WHEAT STUDIES*, June 1929, V, 246-54.

in any large measure, unless accompanied by other measures.

Thus under a program of strict stabilization, the wheat price level would be regarded as acceptable (except in extreme instances) because inevitable under the circumstances of partial dependence of domestic price on world price. What would be sought is conformation with the price level without untoward deviations and fluctuations, especially during the marketing season, making the best of the existing situation. Outside of mixing wheat, merchandising premium wheats, and working profits in handling diverse wheats, price elevation might still be sought, under appropriate circumstances, in opportunistic marketing, including the storing of wheat over the winter, the dumping of wheat abroad, and storing wheat from one crop year to another. What the Board would regard as appropriate circumstances would depend in part upon its view as to the predominant influence of the world wheat price level, in a particular year, upon the net returns secured by wheat growers.

It must also be kept in mind that stabilization of price, strictly construed, means restraint of rise as well as restraint of decline of price. Unless the policy of stabilization includes the policy of price elevation, a bilateral operation is implied in the term. But the physical possibilities are not identical in the two directions. In the event of large crop and declining price, wheat can be withdrawn from the market and added to the carryover, as conventionally defined, or indeed impounded. The amount of wheat withdrawn from the market and the length of time it might be carried in expectation of, or preparation for, a subsequent short crop would depend upon the amount of money the Board was prepared to invest in carrying wheat. Sooner or later, the short crop would arrive and the impounded wheat would then be marketed, primarily for the purpose of increasing the wheat price of the year in which it was harvested. Inevitably, however, the effect would also be to reduce the price of wheat in the crop year in which it was sold, and the net result might be a loss.¹

But suppose a short crop of wheat arrives in a season with a normal incoming carryover. The price rises. Suppose only

(or predominatingly) the domestic price, not the world price, rises. When the domestic price has risen to the level where it will pay millers to import duty-paid Canadian wheat, this will check further rise. In the interval, however, the Board could do little to prevent the rise in price, and it could not stabilize the price of wheat. The Board could not import duty-paid wheat and throw it on the market at less than cost in order to check the rise and stabilize the price; commercial imports alone would be relied upon to do this. This all is assuming that the Board desires to check the rise, before the intervention of duty-paid commercial imports.

In summary, the Agricultural Marketing Act provides for a comprehensive reorganization of co-operative marketing and rationalization of distribution of agricultural products. It does not contemplate a differential elevation of the domestic price level. Despite the conspicuous use of the word stabilization, in our view stabilization of the price level, strictly construed, is not mandatory under the Act. As will be later indicated, some stabilization of the price movement should attend the successful merchandising of wheat under the Farm Board; also the price of wheat may be improved and wheat returns enhanced. The Act, however, is so broad that the Farm Board could at its own election undertake a policy of positive stabilization of the wheat price or a policy of enhancement of the wheat price level. While not disposed to oppose the view that the Farm Board would take exceptional measures in the direction of stabilization and price enhancement under circumstances of unusual emergency, we cannot believe that such measures will be adopted as routine policy. Our views as to the adaptability of merchandising procedures, and the unadaptability of procedures of price stabilization and differential enhancement of the price level of wheat, will be developed in the succeeding sections.

¹ Cf. Mordecai Ezekiel, "A Statistical Examination of the Problem of Handling Annual Surpluses of Non-perishable Farm Products," *Journal of Farm Economics*, April 1929, XI, 211; John D. Black, *Agricultural Reform in the United States* (New York, McGraw-Hill, 1929), pp. 349-66; and House Committee on Agriculture, *Agricultural Relief Hearings*, March 27, 1929, Serial A—Part 1, pp. 30-31.

II. DEFINING THE SURPLUS OF WHEAT

The discussion of surpluses and surplus control have been much confused by vagueness of concepts and misleading use of terms. If the Farm Board is to succeed, it will need to get clearer concepts of significant kinds of surpluses than have been prevalent, and to be in a position to obtain quantitative estimates of the surpluses and their composition and location. It is therefore desirable to seek some clarification of the meaning of different kinds of surpluses, with special reference to wheat.¹

TYPES OF SURPLUSES

"Consumption surplus." There is never a surplus of wheat, or other relatively non-perishable commodities, in the sense that more is produced than could be consumed, or than is actually used. Even in the case of the most perishable commodities, there is rarely a surplus over what could be consumed in regions that could be reached before the products spoiled; but in such cases there is often a surplus of production over what is actually used, for part of the crop is not harvested at all because the price obtainable is insufficient to cover the bare costs of harvesting and marketing, and part of the marketed crop spoils because of delay in marketing. In the case of wheat, however, the largest part of the crop enters into the marketed supply; spoilage on the farm or attributable to delay in marketing is of little consequence; and what is raised is consumed by man, beast, or industry.

"Current surplus." For almost all commodities, on the other hand, there is regularly a surplus over immediate requirements. In the case of quickly perishable

commodities such a surplus may last for only a brief period; for those like eggs and apples, that can be economically stored for periods of heavy production, the period of surplus is more or less prolonged; for relatively non-perishable crops like wheat and cotton there is rarely a time when there is not a surplus in this narrow sense of an excess over requirements for current utilization. This use of the term surplus brings out the need of considering prompt, effective, and economical marketing of perishables; of developing effective and economical means of preservation and storage; and of processing or otherwise disposing of part of the product in the flush season so as to check extreme declines of price at particular seasons. But for non-perishables such as wheat and cotton this meaning of the term surplus is not usually of comparable importance.²

"Carryover surplus." Of more importance is the surplus in the sense of carryover from one crop year into another. A certain amount of old-crop wheat is normally carried over into a new crop year, to facilitate merchandising and milling operations. The quantity that may be regarded as minimal varies somewhat with the prospects for the new crop, in quantity, quality, and period of harvest and marketing. Beyond the minimum desirable for what may be called administrative convenience, there is usually an addition of greater or less amount resulting either from misjudgments in the marketing of the old crop or prospects of realizing sufficiently better prices in the next crop year to offset the carrying charges. One of the outstanding features of the wheat crop year 1928-29 was the prospect in the markets of a "burdensome" carryover, i.e., one so greatly in excess of administrative requirements as to affect the wheat prices adversely. A surplus in this sense does not appear in the case of perishable products that cannot be stored over a season, except as it often appears for them in dried, canned, or otherwise processed forms. But it does appear in the cases of many relatively non-perishable farm products.

"Exportable surplus." Of a different character and much greater significance with

¹ Cf. B. H. Hibbard, "The Agricultural Surplus," *Journal of Farm Economics*, April 1926, VIII, 194-207, and a mimeographed report on "Agricultural Surpluses," made on March 15, 1926, by a sub-committee (Drs. W. E. Grimes, B. H. Hibbard, and G. F. Warren) to the Special Committee on Marketing, Distribution, and Surpluses, appointed by the Joint Committee on Projects and Correlation of Research of the Association of Land Grant Colleges and the U.S. Department of Agriculture.

² In May of this year several trunk line railroads lowered the export rates on grain, following the view that an "emergency of national proportions in agriculture exists, necessitating every possible aid to the immediate removal of a grain surplus out of the country."

reference to wheat and certain other products is the exportable surplus, which may be defined as the excess of crop plus inward carryover over domestic requirements for seed, food, and feed plus the amount of outward carryover necessary for merchandising convenience. Domestic requirements are relatively constant, though not absolutely so.¹ Seed requirements vary a little with acreage sown; food requirements vary a little with quality, price, business conditions, growth of population, and trends in per capita consumption. Feed requirements vary somewhat with the amount of low-grade wheat, count of poultry, etc., and prices of competing feedstuffs. The administratively desirable carryover varies somewhat with the qualitative proportions of the old crop, the period of harvesting and crop movement, the size and composition of the prospective harvest, and so on. The exportable surplus cannot be estimated with precision, not only because the foregoing elements are not invariable but because of errors in crop estimates. Even so, the exportable surplus can be approximated within limits that are not very wide. The volume of actual exports in any year, however, affords no close check upon estimates of the exportable surplus. This is chiefly because of the possibility of substantial variation in outward carryover. Exports in a particular year may exceed the exportable surplus from the preceding crop, but exports almost invariably fall short (by widely varying margins) of the exportable surplus calculated from the crop plus inward carryover. Similarly, forecasts of probable exports usually run below estimates of exportable surplus, because it can usually be forecast that the outward carryover will not be reduced to minimum proportions. In the case of countries like Canada, Argentina, and Australia, which produce wheat primarily and predominantly for export, the term surplus is commonly used in the sense of exportable surplus; and the sense is important in the case of wheat in the United States.

"Economic surplus." In the post-war us-

¹ The domestic requirements may be taken as around 650 million bushels: 515 million bushels for food use, 85-90 million bushels for seed, and 50 million bushels, more or less, fed to animals, used in industries, and wasted.

age in the United States, however, the term has frequently been employed in a quite different sense, less susceptible of expression in terms of quantity. Though we almost always produce more wheat than we use domestically, we no longer produce wheat on a large scale primarily for export. Moreover, wheat growing has been, during several of the last few years, unremunerative to a large proportion of the growers. Hence the term surplus has come to be commonly if somewhat vaguely applied to that fraction of wheat crop which prevents the marketing of the crop at prices remunerative to the growers as a whole. Thus for example, if a crop of 900 million bushels is produced when a crop of only 800 million could be marketed at remunerative prices, the surplus is 100 million bushels, because the existence of this excess depresses the price of the entire crop below remunerative levels. In this sense a wheat deficiency would exist if only 700 million bushels were produced, with the result that prices rose above levels generally regarded as remunerative. The surplus in this sense is not identical with the exportable surplus. In an occasional year of world shortage and large United States crop (as in 1924-25), we may have a large exportable surplus and export heavily, yet have no recognized price-depressing surplus. In a quite different year in the world market (as in 1928-29) we may have an economic surplus approximating the exportable surplus and substantially exceeding actual exports.

The size of this economic surplus would thus depend upon several factors. Chief among these is the level of prices considered remunerative. A farm price of \$1.50 a bushel would almost certainly be regarded as remunerative, though a good many high-cost farmers would lose money at that price. A farm price of \$1.25 a bushel would probably be remunerative under present conditions to the producers of the bulk of the crop, but many more than at \$1.50 would find this price below their costs. Again, a price of \$1.00 a bushel would be remunerative to some growers in certain areas in certain years, but would be regarded as unremunerative by the producers of the bulk of the wheat. The higher one fixes the price to be regarded as remunerative, the larger will be the surplus

whose existence prevents the attainment of the remunerative price.

Moreover, the volume of the surplus in this sense depends on world conditions of wheat supply and demand. If the world crop is short and the demand substantial, it may be possible to market remuneratively a United States crop of 900 million bushels, with little appearance of a "surplus." Under other conditions of the world wheat market, a crop of 800 million bushels would be a crop with a depressing surplus. In discussions on surplus, emphasis is commonly laid on the influence of the world price in depressing the domestic price. But under certain conditions of crop the world price improves the domestic price. For example, on account of a relative shortage in world crop with a corresponding world price, the domestic farm price for the larger crop of 1924 was considerably higher than for the smaller crop of 1923. Correspondingly, stress is laid on the necessity of export as explanation of low domestic price of wheat. But if the avenue for export were not open, in many years the domestic price of certain grades of certain wheats would fall still lower in consequence and their prices would tend more closely than is now the case to approximate those of the coarse grains. Since the war the influence of world price on domestic price has usually been downward; but in the period 1907-15, the influence seems unquestionably to have been in the upward direction.

Such considerations indicate the difficulty of expressing the economic surplus in terms of figures, and account for the vagueness of the term. The implication is, however, that wherever a crop is so large as to result in prices below levels generally accepted as remunerative, a surplus exists. Whether this surplus is large, as in some years, or small, as in others, it is viewed as a thing that farmers would be better off without. This view of the surplus has led to proposals for segregating the surplus fraction, disposing of it for what it will bring in such a way as to raise the price on the rest of the crop to a level not merely remunerative in itself but sufficient to cover also the loss on the surplus fraction.

The contrast between exportable surplus and economic surplus can be seen more clearly if one considers other crops. Take

potatoes, for example. Because of their perishability and bulk, exports afford a comparatively negligible outlet for potatoes. Our export of potatoes has never reached 5 million bushels in any fiscal year. Economic surpluses of potatoes are of frequent occurrence, but for practicable purposes the export market affords negligible relief. The problem of dealing with an economic surplus of potatoes is almost wholly a domestic problem. Part of the crop will be left to rot in the ground. Part of it will be used more heavily than usual on the producing farms, or in the neighboring region, for food or feed. Part of it may be converted into processed foods or industrial products, though these outlets have not been highly developed in this country. Even with all these outlets utilized as fully as possible, the depressing effect of the surplus on prices may be such as to make a large crop yield less to the growers than even a crop of moderate size.

It is for such reasons that for the majority of crops produced in the United States the exportable surplus is a less significant concept than is the economic surplus. And even in the cases of wheat and cotton, the latter concept is of larger significance. It is a common misconception that attributes low prices of agricultural products to the fact that we produce certain commodities in part for a world market. The existence of an export outlet is frequently a source of advantage, not a regular source of loss. If we had no export outlet in the case of wheat, our economic surpluses of wheat would create reactions far more serious than those we have been facing. With all sorts of crops, production of a surplus over what can be sold at remunerative prices is of frequent occurrence. The problems presented are first to see what can be done to prevent the production of such surplus quantities, and second, when any have been produced, to find what steps can be taken to restrain the price-depressing influence of the surplus. The appropriate measures differ with different crops; but it is clear that the export outlet is only one channel of possible disposition of the surplus, and one which, even in the case of wheat, does not deserve sole consideration. In every case a serious difficulty is presented by the danger that restraints upon the price-depress-

ing influence of one surplus crop may lead to increased production and intensify the surplus problems of future years.

"Operative surplus." The wheat trade has its own idea of what constitutes a surplus, and whether it is advantageous or not. The trade uses what may be termed the operative definition of surplus. In the view of the trade, whenever the exportable supply encounters sales resistance in excess of the distributive and merchandising technique of the trade, irrespective of the relation of domestic wheat price to cost of production, an operative surplus is held to exist. This trade concept holds for all exporting countries. When the operative surpluses of several wheat-exporting countries meet on the world market, there results a "buyer's market," admitting of no hair-splitting definitions of what constitutes the complexion of a "buyer's market." On such a market, purchasers in importing countries pick and choose; despite the marked increase in consumption accompanying the decline in price, carryovers tend to accumulate. The contest on the side of the buyers is to secure the best wheat for the lowest price; the contest between the selling countries is to escape the burden of the carryover. Under such circumstances, the exporting country offering the poorest wheat and having the highest costs of production is most exposed. It requires no fine-spun analysis to indicate that whenever the world wheat trade has the complexion of a "buyer's market," wheat growers in the United States are apt to fare relatively worse than do growers in Canada, Argentina, and Australia, always assuming that none of these countries has a short crop.

When, on the contrary, the world wheat trade has the complexion of a "seller's market," the advantage tends to redound less to growers in the United States than to those in the competing export countries. Since the types of wheat available for export from the United States, and the quality within the type, stand relatively lower than those of Canada, Argentina, and Australia, other things being equal those countries stand to take fuller advantage of the rising wheat price level. In short, both for rising and declining wheat prices, the United States stands at a disadvantage. Thus, when an operative surplus exists in the

world wheat market, American wheat growers stand to suffer a disproportionate share of the disadvantage; where an operative surplus does not exist, they stand to miss the proportionate share of the advantage. And whether the world's market be a "buyer's market" or a "seller's market," the wheat trade is not in doubt as to what the surplus consists of.

"Regional surplus." Somewhat analogous to the exportable surplus of the country as a whole is the surplus of a particular producing region over its requirements for seed, food, feed, and administrative stocks. In the case of wheat, there are surplus and deficiency regions; the surplus regions "export" to other domestic regions or to foreign countries. In the case of an economic surplus of wheat or of other commodities, the gravity of the situation appears primarily in the regions producing a surplus; but if there is no economic surplus of the commodity the existence of a regional surplus creates no problem. On the contrary, if there is no economic surplus, the larger the regional surplus the better, as a rule, for the region concerned.

"Type or quality surplus." Either exportable surpluses or economic surpluses would occur if commodities were homogeneous, as they do when in fact a given crop also contains products diverse in type, quality, and value. But it is usually important to take account of such differences in appraising the surplus, exportable or economic. Our exportable surplus of wheat, for example, commonly consists of several diverse elements: low-grade wheats of all types, which are but little in demand here but are suitable for food use under standards less exacting than those of our domestic milling and baking industries; low-grade flours which are in a sense by-products of the production of superior flours; representative durum wheats, which we routinely produce for export; representative Pacific wheats, which are usually produced in excess of quantities that can be marketed domestically to advantage, chiefly because of geographical factors; and less often representative hard winter, soft winter, and hard spring wheats, and high-grade or representative flours. Our economic surplus of wheat, when it exists, consists in large measure of substandard

wheats and flours which are not highly esteemed in domestic or foreign markets, but which stand relatively higher in certain foreign markets than in our own. The surplus is price-depressing in the sense that there is more or less competition of this wheat with wheats of higher types and qualities. Much of this wheat represents the culls of the crop; it is not what farmers set out to produce.

THE WHEAT SURPLUS PROBLEM

In the light of these facts, the surplus problem is quite different from what it would be if the surplus consisted of standard high-grade wheat. The channels of disposition and the problem of carryover, among other things, are significantly different. Unfortunately in most of the discussion of surplus problems this phase of the matter is lost sight of; but a Farm Board dealing with actual commodities could not afford to lose sight of it, in connection with wheat, corn, cotton, potatoes, apples, or animal products. It would find a mere estimate of the amount of exportable surplus of little or no value. It would need to know not merely the amount of the crop and the amounts that domestic uses could absorb at various prices, but the extent of the economic surplus, if any, the character of that surplus, its appearance in time and region, and the probable outlets, export and otherwise, for surpluses of the character that were emerging.

The post-war surplus problem presents few phases for which precedents do not exist in our own history. Ever since colonial days there have been individual years and periods of years in which large crops depressed prices to the detriment of the growers, or years in which conditions abroad reacted adversely upon American farmers. Tobacco, cotton, wheat, corn, and lesser crops have all afforded numerous examples of economic surpluses in our agricultural history. Indeed it is to be questioned whether agricultural surpluses in general have been more "burdensome" since the war than they were in the eighteen-nineties and in some earlier periods of our history. We have had in the past repeated instances of injury to farmers in an older producing region as a result of

opening up new producing regions in this country, or the improvement or cheapening of domestic transport facilities—as has occurred since the war with the expansion of wheat acreage in the Southwest and on the western edge of the Great Plains, and with the specialization in fruit and vegetable growing in Florida, Texas, Colorado, Utah, California, and other states.

Since the war, however, several conditions have combined to cause the persistence of a surplus problem: an expanded production of wheat and other products under stress of war demands; a slackening of the rate of population growth; a tendency to declining per capita consumption of farm products, particularly of several home-produced staples including wheat; a large-scale substitution of automotive equipment for horses and mules, and of gasoline for horse feed; and an increased farm productivity per man or animal unit. Furthermore there has been a marked expansion since the war in the wheat output of Canada, Argentina, and Australia, a striking recovery in the wheat crops of Europe, and similar expansion or recovery in the output of other farm products abroad, together with a slackening in the recovery of cotton consumption in this country and abroad. In consequence, apart from "climatic surpluses" of various crops, there has been a more or less persistent surplus of farm products as a whole.

So far as concerns wheat in particular, there have been additional new developments. Apparently the average quality of our crop has deteriorated, and the milling and baking industries have become more discriminating in their selection of wheat and flour. Our durum wheat acreage has expanded more than our hard spring wheat acreage. The tractor and combine harvester have proved applicable and have been increasingly employed on certain kinds of wheat farms, and have facilitated the extension of wheat growing in semi-arid areas heretofore beyond the extensive margin of cultivation. In some areas costs of raising wheat have probably been lowered, after allowance for changes in purchasing power of the dollar; but in other areas they have risen or at least not declined. These developments have increased the size and changed the character of our exportable

surplus. Another change, whose influence may easily be exaggerated, is the transition of the United States during the war from a debtor country, which paid out of export surpluses the interest and portions of the principal of our foreign indebtedness, to a creditor country whose export surpluses are not needed for debt purposes and seem in part to facilitate the increase of our creditor position.

The surplus problem is often viewed as in large part an export problem: how to sell abroad a surplus over domestic requirements and yet maintain domestic prices on a high level behind the tariff wall, or at least on a level clearly remunerative to growers. This is the formulation of the problem that fits closely with the notions behind price-elevating plans such as the equalization fee or the export debenture. It is clear, however, that such a formulation can apply only to a small number of crops, and there is grave question whether the plans based upon it would really yield a net advantage to growers over a period of years. This view emphasizes the "exportable surplus," regards its existence as an incident in our agriculture, blames it for depressing farm prices, and regards its segregation and separate disposition as a major task of the Farm Board.

A truer view, in our judgment, would emphasize the "economic surplus" rather than the exportable surplus, and would visualize the surplus problem as a dual one of seeking to lessen the frequency and degree to which economic surpluses occur, and to manage and dispose of economic surpluses when they occur through various channels, domestic and export, in such ways as to prevent them from depressing prices below levels remunerative to the growers. Surpluses call for different action according to the nature of the crop and the amount of the economic surplus. In some cases, such as wheat and cotton, the export fraction calls for special attention. But the problem is significantly different from what it would be if the exportable surplus were regarded as the heart of the problem.

The Agricultural Marketing Act contains the following definition of surplus:

There shall be considered as a surplus for the purposes of this Act any seasonal or year's total surplus, produced in the United States and either

local or national in extent, that is in excess of the requirements for the orderly distribution of the agricultural commodity or is in excess of the domestic requirements for such commodity.

We interpret this to cover both economic and exportable surpluses, but with the stress laid upon economic surplus. This view is reinforced by the declaration that it is the policy of Congress to promote the effective merchandising of agricultural commodities in interstate and foreign commerce; and that the Act is designed to function

by aiding in preventing and controlling surpluses in any agricultural commodity, through orderly production and distribution, so as to maintain advantageous domestic markets and prevent such surpluses from causing undue and excessive fluctuations or depressions in prices for the commodity.

The two concepts employed in the Act are in part inconsistent. In the sense of exportable surplus, the size of the surplus varies directly with the crop. In the sense of economic surplus, however, the surplus of wheat might be smaller in a year of larger crop than in a year of smaller crop. For illustration, the surplus of the crop of 1924 (864 million bushel crop) was smaller than the surplus of the crop of 1926 (831 million bushel crop), because the crop of 1924 was the more easily merchandised and the farm price substantially higher. Conceivably a large crop might offer little corresponding to an economic surplus under the Act, while a relatively small crop might offer a heavy one. If we had a billion bushel wheat crop with a short wheat crop elsewhere in the world, with high world price there would be no economic surplus, according to the Act; whereas with a wheat crop of 800 million bushels along with a bumper world wheat crop, with low world wheat price there would be a large economic surplus, according to the Act.

ACREAGE SURPLUS AND YIELD SURPLUS

Whether one concentrates attention upon exportable surplus or economic surplus, a primary question concerns the factors proximately responsible for the existence of the surplus. The term "acreage surplus" may be applied to the surplus that results because of a large planted acreage with no more than average yields per planted acre,

and the term "climatic surplus," accorded to a surplus resulting from yields per acre above average because of weather and other conditions favoring light abandonment or good yields. The terms suggest a different type of responsibility for the surplus, exportable or economic: the acreage planted is to a large extent determined by the farmer's intentions; the yield per acre is largely independent of his control. In fact the division of responsibility can seldom be allocated as precisely as the terms seem to imply. But it can readily be shown that in the case of wheat, for example, we have regularly planted acreages which with average yields would yield an exportable surplus, if not an economic surplus; that variations in yield have merely altered the size of the exportable surplus; and that our economic surpluses of wheat have been the joint result of acreage and yield per acre in the face of certain conditions in the world wheat market. The inference is drawn that the nation has a larger responsibility for the disposition of climatic surpluses than for the disposition of acreage surpluses. Whether the Farm Board would take this view cannot be asserted; but it may wisely seek to find out how far each of the two factors is responsible for surpluses that exist. In particular it could ill afford to take care of a climatic surplus in such a way as to increase an acreage surplus. This danger is basic, to an extent not fully appreciated by most of the advocates of surplus control measures.

It is worth while to analyze the statistical data of wheat acreage and yields in the past twenty years, with special reference to the exportable surplus.

In the appraisal of the relative importance of acreage and yield in the determination of exportable surplus, the Farm Board would probably confine its attention to the wheat crops of the past twenty years; certainly it would not prove advantageous to go back of 1900. On account of regional changes in wheat growing, trend in acreage and trend in yield, comparisons between the wheat crops in the period 1889-1909 and in the period 1909-29 would be likely to prove hazardous. Also, the statistical data covering the past twenty years are more complete, and in every way better, than in the decades prior to that date.¹

Table 1 contains the data on the wheat crops harvested since 1909 in the order respectively of acreage, production, and yield per acre. The acreage figure in each year is the sum of the planted winter-wheat

TABLE 1.—ORDER OF WHEAT CROPS, 1909-28*

| Year | Acreage planted ^a (thousand acres) | Year | Production (thousand bushels) | Year | Yield per acre planted ^b (bushels) |
|--------|--|--------|----------------------------------|--------|--|
| 1909.. | 46,199 | 1911.. | 621,338 | 1925.. | 11.1 |
| 1910.. | 50,011 | 1910.. | 635,121 | 1916.. | 11.2 |
| 1913.. | 51,759 | 1916.. | 636,318 | 1917.. | 11.3 |
| 1912.. | 52,472 | 1917.. | 636,655 | 1911.. | 11.7 |
| 1911.. | 53,029 | 1925.. | 676,429 | 1923.. | 12.0 |
| 1914.. | 54,691 | 1909.. | 700,434 | 1921.. | 12.4 |
| 1924.. | 55,795 | 1912.. | 730,267 | 1919.. | 12.6 |
| 1917.. | 56,191 | 1913.. | 763,380 | 1920.. | 12.6 |
| 1916.. | 56,852 | 1923.. | 797,394 | 1910.. | 12.7 |
| 1926.. | 59,237 | 1921.. | 814,905 | 1922.. | 12.8 |
| 1925.. | 60,869 | 1926.. | 831,040 | 1928.. | 13.1 |
| 1915.. | 61,592 | 1920.. | 833,027 | 1927.. | 13.6 |
| 1927.. | 64,434 | 1924.. | 864,428 | 1912.. | 13.9 |
| 1918.. | 65,177 | 1922.. | 867,598 | 1926.. | 14.0 |
| 1921.. | 65,907 | 1927.. | 878,374 | 1918.. | 14.1 |
| 1920.. | 65,988 | 1914.. | 891,017 | 1913.. | 14.7 |
| 1923.. | 66,242 | 1928.. | 902,749 | 1909.. | 15.2 |
| 1922.. | 67,889 | 1918.. | 921,438 | 1924.. | 15.5 |
| 1928.. | 68,825 | 1919.. | 967,979 | 1914.. | 16.3 |
| 1919.. | 76,683 | 1915.. | 1,025,801 | 1915.. | 16.7 |
| Mean | 59,992 | | 799,785 | | 13.4 |
| Median | 60,053 | | 822,972 | | 12.9 |

* Data on acreage and production from *Agriculture Year-book, 1928*, pp. 670 and 676 (except for year 1909, which were obtained from the Department of Agriculture).

^a The figure for each year is the sum of the spring-wheat acreage harvested in that year and the winter-wheat acreage sown in the preceding fall.

^b The weighted average yield per acre planted for the period was 13.3 bushels.

acreage of the previous autumn plus the harvested acreage of spring wheat, in conformity with the view that agricultural effort and outturn are judged better on the basis of planted than of harvested acreage. Obviously it is assumed that harvested

¹ According to the amendment offered by Senator Norris, when the optional export debenture proviso of the McNary farm relief bill was pending in the Senate, the average wheat production of the last five crop years would be utilized as the base line, and the forthcoming wheat crop would not be regarded as excessive in surplus unless it were over 120 per cent of the base line. The average of the five crop years 1924-28 was 830 million bushels, 120 per cent of which would correspond to 996 million bushels. A wheat crop of this size has been secured only once in our history, in 1915; the 900-million-bushel mark has been passed only four times—in 1915, 1918, 1919, and 1928.

spring-wheat acreage is identical with planted spring-wheat acreage; this of course is untrue, but a significant error can hardly have been introduced thereby. Table 2 illustrates the crops that would have been produced with the stated acreage over the period at the yield per planted acre of the mean for the period, together with the amounts by which such an average

secondary significance for the practical definition of surplus in the immediate future. Regarding the acreage planted for the crop of 1919 as abnormal, within a decade the acreage planted to wheat expanded progressively from 50 to 65 million, with variations up and down since 1920. This expansion has included the new acreage, shifts from other grains to wheat and from

TABLE 2.—ACTUAL AND HYPOTHETICAL PRODUCTION OF WHEAT IN THE UNITED STATES, AND YIELD PER PLANTED ACRE, WITH DEVIATIONS OF YIELD FROM AVERAGE YIELD OF PERIOD, 1909-28*

| Year | Acreage planted ^a (million acres) | Hypothetical production at yield of 13.4 ^b bushels per planted acre (million bushels) | Actual production (million bushels) | Deviation of actual production from hypothetical production (million bushels) | Yield per acre planted (bushels) | Deviation from average yield of period (13.4) | |
|-----------|---|--|-------------------------------------|---|----------------------------------|---|------------|
| | | | | | | (bushels) | (per cent) |
| 1909..... | 46.2 | 619 | 700 | + 81 | 15.2 | +1.8 | 13 |
| 1910..... | 50.0 | 670 | 635 | -- 35 | 12.7 | -0.7 | 5 |
| 1911..... | 53.0 | 710 | 621 | -- 89 | 11.7 | -1.7 | 13 |
| 1912..... | 52.5 | 703 | 730 | + 27 | 13.9 | +0.5 | 4 |
| 1913..... | 51.8 | 694 | 763 | + 69 | 14.7 | +1.3 | 10 |
| 1914..... | 54.7 | 733 | 891 | +158 | 16.3 | +2.9 | 22 |
| 1915..... | 61.6 | 825 | 1,026 | +201 | 16.7 | +3.3 | 25 |
| 1916..... | 56.9 | 762 | 636 | -126 | 11.2 | -2.2 | 16 |
| 1917..... | 56.2 | 753 | 637 | -116 | 11.3 | -2.1 | 16 |
| 1918..... | 65.2 | 874 | 921 | + 47 | 14.1 | +0.7 | 5 |
| 1919..... | 76.7 | 1,028 | 968 | - 60 | 12.6 | -0.8 | 6 |
| 1920..... | 66.0 | 884 | 833 | -- 51 | 12.6 | -0.8 | 6 |
| 1921..... | 65.9 | 883 | 815 | - 68 | 12.4 | -1.0 | 7 |
| 1922..... | 67.9 | 910 | 868 | - 42 | 12.8 | -0.6 | 4 |
| 1923..... | 66.2 | 887 | 797 | - 90 | 12.0 | -1.4 | 10 |
| 1924..... | 55.8 | 748 | 864 | +116 | 15.5 | +2.1 | 16 |
| 1925..... | 60.9 | 816 | 676 | -140 | 11.1 | -2.3 | 17 |
| 1926..... | 59.2 | 793 | 831 | + 38 | 14.0 | +0.6 | 4 |
| 1927..... | 64.4 | 863 | 878 | + 15 | 13.6 | +0.2 | 1 |
| 1928..... | 68.8 | 922 | 903 | - 19 | 13.1 | -0.3 | 2 |

* Data on acreage and production from *Agriculture Yearbook, 1928*, pp. 670 and 676, except for year 1909, which were obtained from Department of Agriculture.

^a The figure for each year is the sum of the spring-wheat acreage harvested in that year and the winter-wheat acreage sown in the preceding fall.

^b Average of yields per acre for years 1909-28.

yield would have exceeded or fallen short of the reported crop. It also shows the yields per planted acre over the period with the deviation in units of the bushel and in terms of percentage of the mean yield of the period.

There has been, of course, an upward trend in the wheat acreage, which is confused by regional developments over the past thirty years; probably there has been also an upward trend in yield per acre, since improvement in strains and selection of seed have tended with each decade to make for enlargement of yield. Trends in acreage and in yield, however, hold only

grass land to wheat, in different proportions in different years.

Over the two decades the variations in yield per acre have been relatively wide, but differences in yield per acre by regions have been much wider. It has been the balancing effect of varying yields per acre in the four large wheat regions that has contributed a significant, if relative, stability to the average yield per acre. During the period under review in four years the yield (per planted acre) was below 12 bushels per acre; in six years it ranged from 12 to 13; in three years from 13 to 14; in three years from 14 to 15; and in two

years each between 15 and 16, and above 16 bushels per acre.

From the data several obvious inferences may be drawn. In every year there was more or less of an exportable surplus. There were three years in which climatic surplus clearly predominated.

| Year | Acreage (million acres) | Crop (million bushels) | Yield per acre planted (bushels) |
|------|-------------------------------|------------------------------|--|
| 1909 | 46.2 | 700.4 | 15.2 |
| 1914 | 54.7 | 891.0 | 16.3 |
| 1924 | 55.8 | 864.4 | 15.5 |

There were seven years in which acreage surplus obviously predominated.

| Year | Acreage (million acres) | Crop (million bushels) | Yield per acre planted (bushels) |
|------|-------------------------------|------------------------------|--|
| 1919 | 76.7 | 968.0 | 12.6 |
| 1920 | 66.0 | 833.0 | 12.6 |
| 1921 | 65.9 | 814.9 | 12.4 |
| 1922 | 67.9 | 867.6 | 12.8 |
| 1923 | 66.2 | 797.4 | 12.0 |
| 1927 | 64.4 | 878.4 | 13.6 |
| 1928 | 68.8 | 902.7 | 13.1 |

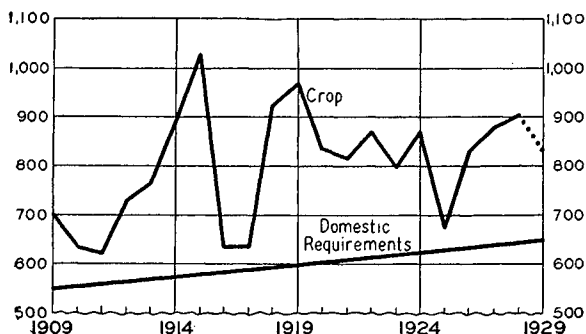
Finally, there were two years in which both acreage and yield per acre were effective in the crop.

| Year | Acreage (million acres) | Crop (million bushels) | Yield per acre planted (bushels) |
|------|-------------------------------|------------------------------|--|
| 1915 | 61.6 | 1,025.8 | 16.7 |
| 1918 | 65.2 | 921.4 | 14.1 |

With the curve of wheat crop one must compare the curve of domestic wheat requirements, determined largely by growth of population but also by changes in disposition. At the beginning of the period under review, the flour consumption was about 1.08 barrels per capita per annum. The use of wheat for seed varies directly with acreage, with slight changes from region to region. Wheat lost by waste and fed to animals varies from crop to crop, but no serious mistake will be made if this is taken as a constant. Thus approximately determined, the curve of domestic wheat requirements over the period (not including war years) may be taken *schematically* as a straight line, beginning at 550 million bushels in 1909, and ending at 650 million bushels in 1929. Chart 1 presents the curve of domestic wheat requirements and the curve of wheat crop, to serve as an approximate illustration of the surplus over domestic needs.

What amount of wheat in excess of annual domestic requirements should be produced annually as insurance of the food supply? To this estimate, extravagant expressions are commonly devoted; indeed, one might imagine from numerous expressions to be found in Congressional hearings that the wheat supply of the United States is in constant jeopardy. Such apprehensions are devoid of foundation in the history of our crop reports. Never in our his-

CHART 1.—UNITED STATES WHEAT CROP AND DOMESTIC REQUIREMENTS, 1909-29*
(Million bushels)



* Data for crops from *Agriculture Yearbook, 1928*, p. 670. See note, p. 356, for comment on domestic requirements. The dotted line for the 1929 crop stands much above the most recent estimate.

tory has the yield of wheat fallen so low as to approximate the requirement; only three times has it approached within 50 million bushels of it. We have four wheat regions, we have both fall-sown and spring-sown wheat. It is possible to imagine a series of climatic calamities which would so affect all regions and all types of wheat as to reduce the crop below 600 million bushels; but such a combination of disastrous circumstances has never occurred and the prospect is extremely remote. If such a thing should occur, we would have rye and coarse grains to fall back upon, also a surplus of wheat in Canada, where a crop failure to the level of domestic need is unthinkable. The historical wheat acreage of the United States cannot be justified on the basis of insurance of the food supply.¹

In fact, there has always been an acreage surplus, the effect of which in some

¹ Cf. "The Dispensability of a Wheat Surplus in the United States," *WHEAT STUDIES*, March 1925, I, 121-42.

years has been exaggerated by a surplus of yield. Leaving individual years and taking groups, the possible occurrences may be illustrated by the averages of the four lowest, the four median, and the four highest acreages, with yields representing the average of the four lowest, the four median, and the four highest yields per acre. These are given in Table 3.

TABLE 3.—POSSIBLE WHEAT CROPS, BASED ON RANGE OF PLANTED ACREAGE AND YIELDS PER PLANTED ACRE FROM 1909 TO 1928*

| Planted acreage (million acres) | Crop resulting at an average yield per acre | | |
|---|--|--|---|
| | Four lowest yields (11.3) (million bushels) | Four median yields (13.0) (million bushels) | Four highest yields (15.9) (million bushels) |
| At average of four lowest planted acreages (50.1) | 566 | 651 | 797 |
| At average of four median planted acreages (59.6) | 674 | 775 | 948 |
| At average of four highest planted acreages (69.9) | 790 | 909 | 1,112 |

* Based on data in Table 1.

Obviously 50 million planted acres would leave us with a deficit only if the yield represented the average of the four lowest yields; it would furnish enough if the yield represented the average of the four median yields. Fifty-nine million planted acres would furnish enough wheat if the yield represented the average of the four lowest yields. Of this we have a good illustration in the crop of 1925, when the planted acreage was 60.9 million, the yield 11.1 bushels per acre, and the crop 676 million bushels.

It seems to us that the common-sense inference to be drawn is that 60 million acres planted to wheat represents an outside conservative estimate of the acreage required to cover domestic needs, insure the food supply, facilitate milling operations, and provide a moderate export. Sixty million planted acres yielding only 11.1 bushels per acre would furnish 666 million bushels; at the average of the four lowest yields, it would furnish 678 million bushels; at the average yield of the period it would furnish 804 million bushels. Three times since 1917

—in 1924, 1925, and 1926—the planted wheat acreage has fallen below, or approximated, 60 million acres, furnishing crops of 864, 676, and 831 million bushels. With these are to be contrasted the years 1920, 1921, 1922, 1923, 1927, and 1928. With full recognition of the influence of world price on domestic price, it is clear that the years with large domestic acreage have been years of relatively low wheat price and the years with low domestic acreage have been years of relatively high wheat price. If one will take the yields per acre during the six crop years 1920-24, and 1927-29, and multiply them by 60 million and subtract the figures thus obtained from the reported wheat crops of those years, one will obtain figures for amounts of wheat without which prices would have tended substantially higher. There is no question that, other things equal in world price, domestic wheat acreage is inversely reflected in wheat price. Also, it is equally certain that the predominating cause of wheat surplus in the United States is not high yield due to climate, but overplanting.

It is commonly stated that large crops sometimes, or often, or usually, bring in a smaller gross return than do small crops. Obviously, the relation between size of domestic crop and domestic price would be different with a crop on the domestic basis than with a crop on the export basis. While the world price tends to influence the domestic price of wheat, at the same time an export outlet tends to prevent the domestic price of a crop from falling to where it would fall in the event of a bumper crop of a product not exportable. Thus, with a crop on the export basis both extremely high and extremely low prices are avoided, through the stabilizing influence of the broad international market. Peterson¹ has recently charted the relations of production to total farm value and costs of a series of staple agricultural products. Pointing out that during the past 42 years yields of wheat were within 10 per cent of normal in 31 years (for acreage harvested), and making certain assumptions as to costs, Peterson plotted his findings on charts to

¹ G. M. Peterson, "The Relation of Annual Weather Surpluses to Net Farm Incomes," *The Annals of the American Academy of Political and Social Science*, March 1929, CXLII, 391-401.

indicate that wheat (in contradistinction to oats, corn, cotton, and potatoes) gives increasing returns with increasing production.

THE QUESTION OF WORLD SURPLUS

The wheat situation in the United States cannot be intelligently appraised without reference to the world wheat situation. This would be true even if we produced no exportable surplus, but it is much more important so long as we do produce a surplus for export. In considering the problems created by our own surplus, the Farm Board would necessarily have to appraise, through appropriate agencies, the surplus or deficiency situation in the world wheat market, and in particular the position in exporting and importing countries. Here the question would be not so much how large the combined exportable surpluses or the volume of international trade promise to be, as the extent to which, if at all, an economic surplus exists as a result of new crops plus inward carryovers.

The Farm Board will need to formulate appropriate concepts and make approximate estimates, with data more or less imperfect or deficient, of carryovers and crops, exportable surpluses and import requirements, at various levels of wheat prices, for countries active in international trade. To say that there can be no world wheat surplus because all wheat that is raised will be consumed or that there are hundreds of millions of people on the globe who could consume many times any probable increase in wheat supplies without completely satisfying their nutritional need for cereals, is to ignore the outstanding fact that economic surpluses, depressing prices to low levels unremunerative to growers, frequently occur in spite of these facts. In most years an addition of 200 or 300 million bushels to the world crop may make a notable difference to the remunerativeness of the crop of wheat.

In any year the problem of dealing with the American wheat surplus will vary with the surplus or shortage characteristic of the world wheat market. A large domestic surplus co-existent with a relative shortage in the world at large will present the easiest situation; a large domestic surplus with a large world surplus the most difficult one;

but all variations are possible. Whether the domestic surplus or the world surplus will determine predominatingly the rule of action, would vary from crop year to crop year. To insure the possession of timely and dependable information, the Board might find it necessary to station competent and experienced observers in Argentina, Australia, Russia, and in western Europe. This would be necessary if the Farm Board were under compulsion to match its wits with those of the international grain traders, whose contacts have been long established and whose information (confidential in part) for the most part is demonstrably timely and usually accurate.

SURPLUS CONTROL OPERATIONS

In the light of the foregoing discussion of surplus it appears that the Farm Board would need to combine the objectives of reducing or at least preventing the expansion of our domestic economic surpluses, with the objectives of increasing the returns to wheat growers from particular crops. Suppose it accepts as desirable four interrelated objectives:

1. Reduction of marginal wheat acreage.
2. Reduction of outturn of inferior wheats.
3. Moderation of influence of foreign wheat price on domestic wheat price.
4. Increase in average gross income per acre planted to wheat.

Let it be further assumed that in the interest of a provisional recommendation to wheat growers for adjustment of acreage, the wheat acreage be surveyed state by state with the view of contraction, just as it was surveyed during the war with the view of expansion. Finally, appraising the table since 1909 of acreage planted, crop harvested, yield per acre, domestic requirements, exportable surplus from the United States, and exporters' surpluses and importers' requirements in the world—where would the Farm Board suggest delimitation of acreage? At what limit of acreage would the Farm Board suggest that irrespective of bumper yields per acre loans could not be extended to carry over a surplus from one crop year into the next? At what limit of acreage would the Farm Board suggest that loans could be extended to carry a surplus from one crop year into

the next only in the event of yield per acre above a certain figure? In short, what acreage of wheat would be denominated as supportable from the standpoint of national policy and made the announced basis of the policy of the Farm Board? It is not easy to show that planted wheat acreage in excess of 60 million could justify itself as entitled to national financial support as an act of policy.

Suppose, however, the Farm Board should reject the objectives for wheat stated above, and act on the view of Peterson¹ that the returns on the wheat crop do not vary inversely with the exportable surplus. In this view they could fall back on the testimony of Professor J. D. Black of Harvard University, who expressed the following opinion at a recent Congressional hearing on farm relief legislation:

The larger the crop of wheat, the more money in the aggregate the farmers receive for it. The wheat farmers are prosperous when there is a large crop of wheat. On the average, the farmers are better off when they have a large crop of wheat in the United States. . . . Large crops of

wheat in the United States sell for more money than small crops of wheat.²

Taken at their face value, such statements might readily be interpreted to mean that for the wheat crop there is essentially no problem of surplus control, but only a problem of merchandising. The proponents of the equalization fee, of the export debenture, or of the farm allotment plan would urge that the domestic fraction and the export fraction of the wheat crop could be sold at two different price levels, higher for the domestic fraction and lower for the export fraction. But in the sense of finding the surplus to be the effect of high yield rather than large acreage, if wheat growers in the aggregate are better off the larger the crop, then the Farm Board would face a problem of merchandising rather than a peculiar problem of surplus control, of adjustment of production to demand.

These contrasting views make it clear that among the first duties of the Farm Board would be the definition of surplus of wheat and the determination of policy based thereon.

III. GENERAL CONSIDERATIONS ON ORGANIZATION AND POLICY

It is a fair assumption that if the Agricultural Marketing Act had been passed in 1914 with the same objective of reorganization and rationalization of distribution, the wording used would have been significantly different from that in the Act of 1929. This difference arises in part out of the prolonged legislative struggle; but in part it proceeds from the happenings of the past fifteen years. Under these circumstances have arisen connotations and implications, the elucidation of which is vital to any undertaking to appraise the inherent purpose of the Act and to prejudge the policy of the Farm Board in its execution. In an earlier section we considered the concept of "stabilization," upon which the events since the war have conferred a special significance. Indeed, what is involved in stabilization of the price movement or enhancement of the price level, as distinguished from rationalization of distribution, must become

clear to anyone desirous of reaching a tentative opinion of the probable outcome of the new legislation. To this end, attention should first be given to certain considerations involving organization and policy.

RELATION OF FARM BOARD TO THE GRAIN TRADE

It is the natural right of the producer to market his commodity as he may elect to do. The wheat grower may sell his crop to the nearest middleman, or he may seek out the consumer of wheat. The Capper-Volstead act legalizes the association of wheat growers for the purpose of extending their marketing operations to take over the functions of middlemen. The established grain trade holds no vested interest; although terminal warehouses have been judicially declared to be "affected with public interest," this does not endow grain merchants with a vested interest in the distribution of wheat. The present generation of wheat growers is not bound to employ commission merchants or to use commercial elevators

¹ *Op. cit.*

² Senate Committee on Agriculture, *Farm Relief Legislation Hearings*, March 26, 1929, p. 61.

merely because the last generation of wheat growers did so. Wheat growers have the natural right to change their marketing operations at their own volition; they need not prove their case for so doing to anyone except themselves. It is a distinctly different matter, however, for the government to promote, with support and resources, the substitution of co-operation for competitive marketing. Yet this is to be done.

Let us state briefly the views of wheat growers—not universally concurred in, of course—without appraisal of the evidence upon which these views are based. The spokesmen of wheat growers believe that under proper organization growers could render to themselves at lower cost the same distributive services now rendered by middlemen, or could give better service at the same cost. They are confident that a higher average grading of wheat on the farm would be secured. They believe the profits of mixing could be added to the farm price of wheat. They feel certain that the premiums for milling qualities would be more fully reflected to farm prices. Thus, they believe that wheat growers could add to their gross income the sum now accruing to middlemen as profits, with additional returns resulting from reorganization and centralization of the handling of wheat.

The implications, for the established grain trade, of the reorganization of marketing of wheat by wheat growers' co-operative associations, operating under a Farm Board and with loans from the public treasury, ought to be frankly faced and not treated with evasion. The wheat growers' co-operative associations are mergers of producers for the purpose, among others, of merchandising their wheat. As in the case of the Canadian pools, the producers, through instruments created for that purpose, will take over the handling, mixing, carrying, wholesaling, and exporting of wheats now carried on by middlemen, in order that the profits of these transactions now accruing to middlemen shall accrue to producers, along with such additional profits as may be otherwise achieved. In Canada, the wheat pools have to a large extent supplanted private elevator companies. The expansion of wheat growing in Canada has made the loss of volume suffered by private elevator companies more

striking relatively than absolutely. In proportion as the wheat growers' co-operative associations succeed, independent elevators and merchants will retire from the field. This contingency, which is inherent in the movement, was clearly placed on record on behalf of the established grain trade in the testimony of F. B. Wells before the House Committee on Agriculture: "I believe in evolution, and if it is a better form of marketing, and is in the interest of the producers, I think eventually it will supplant the present system of marketing."¹ It may not be amiss to remark that the effort to have wheat growers' co-operative associations sell their grain direct to millers, feed manufacturers, and exporters is comparable with the efforts of manufacturers to sell their products direct to retailers instead of through wholesalers or other intermediary agencies. Direct selling of raw materials to proximate consumers and direct selling of finished goods to retailers or ultimate consumers are alike under way and on trial in the United States.

It is not in the public interest, however, to duplicate physical plants, with the result of overextension. The question of duplication of plants faces every co-operative movement. In Canada the expediency of duplication of grain elevators is of secondary importance, because grain acreage is in the course of undergoing long-term expansion. But in the United States, where grain acreage as a whole faces no such long-term expansion and is already well supplied with elevator facilities, the question of duplication of plants is important and pressing. In some of the newer wheat regions, sufficient elevator space is not now available, and in some areas elevators are not located to the best advantage. Apart from this, the system of grain elevators in the country is overextended, both in physical plant and in personnel, with consequent low volume of operations in relation to capacity. Savings could be made if the elevator plants of the country could be reorganized, with expansions in some places and contractions in other places, under centralized management and with appropriate reduction of their staffs. To date

¹ House Committee on Agriculture, *Agricultural Relief Hearings*, April 4, 1929, Serial A—Part 8, p. 727.

these desiderata have not been approached through the operations of farmers' elevators or co-operative associations. With organization of regional wheat growers' co-operative associations under the Farm Board, the utilization of existing elevator facilities (through purchase or contract with present owners), and the co-ordination and centralization of wheat handling, will represent outstanding administrative problems. Experience suggests that private elevators should be taken over at fair valuation and paid for out of loans or the owners allowed to operate them in such a way as to work out the purchase contract by amortization on agreed charges for services over a term of years.¹

If the experiences of the past five years in Canada can be accepted as definitive in themselves and as applicable to the United States under the Agricultural Marketing Act, we may expect relations between the wheat growing co-operative associations and independent grain merchants to work out somewhat as follows. It is doubtful if the co-operative associations will secure membership equivalent to more than half the crop. A considerable proportion of wheat growers would be a liability rather than an asset to the co-operative association, on account of their credit requirements, their marginal characteristics, or for other reasons. There are types of wheat growing, and of wheat growers, that lend themselves better to independent than to co-operative management. It does not now seem likely that under the new sign-up the Canadian pools will control over half the crop of wheat in the Prairie Provinces; to this outcome the pool promoters are becoming reconciled and many of the wiser leaders are coming to regard it as a situation of relative advantage. In our judgment, the Farm Board will be wise not to capitalize the momentary enthusiasm into a sign-up larger than is justified by the characteristics of wheat farming, of wheat growers, and of wheat itself in the several regions. In particular, the projected wheat growers' associations ought not to become too pronouncedly the mergers of sub-marginal lands, methods, growers, and products.

¹ Cf. Agricultural Marketing Act, Sec. 7, (c) 3 and (d). Railway terminal elevators are a problem apart.

² See below, pp. 373-75 and 393-95.

The adaptations and adjustments on the part of the private grain trade, voluntary and involuntary, seem susceptible to forecast. Weak units will retire, either by sale to the co-operatives or to stronger independent units. Some redundant plant equipment, elevators that are obsolete in time or in space, will be closed down. The strong independent elevator companies will tend to merge into larger organizations. This process of merger is now actively under way in Canada. It is reasonably to be anticipated that corresponding developments in the United States will follow the organization of wheat growers' co-operative associations. The problem of adjustment between the co-operative associations and private elevator companies may prove more difficult here than in Canada, because with continuously expanding grain production in the Prairie Provinces the problem of over-capacity of elevators gradually solves itself, whereas in this country liquidation of plants will be entailed (except in a few regions) upon both co-operative associations and private elevator companies. An additional difficulty will lie in the new problems created by the harvester-thresher combine, which will need to be met by changes in country storage, both on the farm and in the town, and probably also in terminal storage in some areas.

It will also be necessary for the Farm Board most carefully to consider the commercial elevator system in its existing relations with futures trading on the grain exchanges. At present, the risk of trading in cash wheat is largely obviated through insurance afforded by hedging. The wheat growers might be prepared to take these risks by not hedging receipts in functioning for themselves as distributors, of which more will be said in another place.² But the milling industry, also, has for the most part based its operations on hedging. Any alteration in the distribution of wheat enforcing widespread changes in the current practices whereby mills secure their supplies, and hedge their purchases of cash wheat and their advance sales of flour, would introduce far-reaching complications. These complications would lie essentially outside of the domain of co-operative organization of wheat marketing. If the Farm Board, with the taking over of the

merchandising of wheat by co-operative associations and a merchandising corporation, were to deprive the milling industry of processes wherewith they now secure their raw material and safeguard their subsequent operations, it would need to face the problem of replacing established practices of the industry with other processes.

RELATION OF FARM BOARD TO WHEAT GROWERS' CO-OPERATIVE ASSOCIATIONS

We take it that the functions of the Federal Farm Board will be especially related to policy, authorization of loans, and such regulation of the practical procedures as would be necessary to safeguard the loans and to secure continuity of operations. The Farm Board will not itself enter into the wheat trade. We take it that the actual operations in trade would be conducted by wheat growers' co-operative associations, or/and a wheat growers' stabilization corporation, both of which have the right to borrow money from the government fund under regulations based on the Act.

As we interpret the application of the legislation to wheat, the organizational relationship would be as follows. We take it that four wheat growers' co-operative associations will be organized, sooner or later, because that would best fit in with the regional distribution of wheat growing and the characteristics of the types of wheat. These regional associations would be built up around the existing detached co-operatives and the farmer-controlled elevators, some five thousand in number. The Act evidently contemplates the appointment of a single wheat advisory committee, though there may prove to be need of four rather than one, because of the specialized knowledge involved. But we regard only one wheat stabilization corporation as advisable, in the interest of centralized management.

The legislation provides that where a co-operative association, qualifying under the Capper-Volstead act, does not exist and cannot be organized, other agencies may, in the judgment of the Board, take the place of the co-operative association. But the Act is designed to facilitate the organization of co-operative associations, and in view of the nature of wheat growing, we are unable

to picture any other agency that could effectively supplant the co-operatives.

It is reasonable to infer that efforts will immediately be made to organize representative wheat growers' co-operative associations, and a stabilization corporation to work over them.¹ The co-operative associations would be incorporated, owned, and controlled by growers, under the Capper-Volstead act. The practical operations would not, however, be managed by growers. The merchandising of wheat is a technical specialty; management would need to be placed in expert hands, as has been done in the case of the selling agency of the Canadian wheat pools. The type of organization, and the details of contract of membership, need not be discussed here, but we infer that the business transactions of the co-operative association would be subject to audit by accountants reporting to the Farm Board. To what extent members who put in capital (that is, subscribe for shares) assume legal responsibility for debts and losses is an important question which need not detain us here, but to which the Farm Board will need to give grave attention.

For reasons to be stated below, the co-operative organizations to be created under the Farm Board would not need to control so large a proportion of acreage as would be advisable if they were to be isolated and self-sufficient organizations. The membership of the soft red winter-wheat association would hardly need to be extended outside the states of Missouri, Illinois, Indiana, and Ohio, in which is planted over one-half of the acreage annually seeded to soft

¹ Throughout this article we shall use the term "agricultural co-operative association" in the sense in which it is used in the Capper-Volstead act; the terms "advisory commodity committee" and "stabilization corporation" in the sense in which these terms are used in the Agricultural Marketing Act. But we employ the term "stabilization corporation" without connotations or implications; specifically, it is not to be understood to imply stabilization of price movement as the main objective. If one interprets "stabilization" to indicate and imply stabilization of marketing practices, rather than of terminal prices, the term is good. "Sales corporation" is too narrow a term and calls up analogues from industrial life that are not helpfully applicable to agriculture; in the same sense we regard "central selling agency" as too narrow a title to include the functions of the centralized merchandising agency of the Canadian wheat pools. Co-operative marketing of wheat includes much more than the selling of the wheat of members. In this broad sense we use the term set up in the new law, "stabilization corporation." A better term is "merchandising corporation."

winter wheat. The membership of the hard winter-wheat association would not need to extend outside the states of Nebraska, Kansas, Oklahoma, and Texas, in which is planted around 90 per cent of the acreage annually seeded to hard winter wheat. The membership of the hard spring-wheat association would not need to extend outside the states of Minnesota, the Dakotas, and Montana, in which is planted about 80 per cent of the acreage annually seeded to hard spring wheat. If a Pacific Coast wheat growers' association were to be organized, this would need to include only the states of Idaho, Washington, and Oregon, with over 4 million acres. Naturally, adjacent acreage would not be excluded. After this fashion, the associations would be compact and manageable in a sense not possible with more far-flung organizations. Such a scheme would make no specific provision for durum wheat—which might be included with hard spring, although its marketing problems would be quite distinct—or for detached and outlying areas.

The states named produce around 80 per cent of the crop. Many growers would not join; but organized under the auspices proposed, some growers would feel inclined to join who would not join independent co-operative associations. Nevertheless, it is doubtful if the associations could be counted upon to control over 50 per cent of the crop, at least at first.

Many believe, however, that such co-operative associations as would be organized with the support of and under the guidance of the Farm Board would be able to have practical control of the crop, even if the acreage under contract were relatively low, for two reasons. First, with a stabilization corporation and under the Farm Board, the associations would be adequately financed, and thus placed in position not merely to handle receipts of members, but also to deal in non-member wheat whenever desirable. Second, in the states named are located the strategic markets, and the wheat of the outlying districts, even if non-member wheat, would not tend to operate as a notably disturbing factor in the terminals.

Under these circumstances, properly managed co-operative associations ought to feel equipped to undertake control of the

marketing of the crop without controlling the crop by contract with growers. This could be done, however, only in the event of the establishment of a proper system of accounting. Inadequate accounting (not dishonest accounting, but unclear and misleading accounting) has been the bane of co-operative associations. In far-sighted associations, it would seem necessary to safeguard loans from the government and to build reserves for contingencies. We assume that operative losses would not be repeatedly paid out of the revolving fund: they would need, we infer, to be assessed back on members, paid out of a reserve fund built up out of profits, or paid by special appropriation of Congress. In order not to jeopardize reserves, over-organization of growers and over-payment to growers would need to be avoided and selling costs restrained. Too often in the conduct of agricultural co-operative associations, the benevolent relation of the organization to its component members has led to a benevolent grading of the products and a benevolent system of payments not justified by inherent values. From the point of view of internal management, the co-operative associations and the stabilization corporation would need to operate as conservatively as a line-elevator company. A co-operative association, like any business organization, must make profits if it is to avoid losses and continue as a going concern. The legal distribution of profits is a question by itself; but it is far simpler than the distribution of losses. As a practical proposition in business, the only way in which a co-operative association can hope to excel independent merchants is to equal them in efficiency of management and excel them in volume of operations. If the profits to be secured through taking over the functions of middlemen are as large as anticipated by wheat growers, with assured prospect of building reserves, there will be little fear in facing operative losses; but one cannot be confident that such can actually be secured. After the first enthusiasm of the experiment is over, Congress would not be expected to tolerate inefficient management in a co-operative association operating with government funds.

It does not seem to us implied or contemplated in the Act that the co-operative

associations should draw their credits solely from the revolving fund of the Federal Farm Board. On the contrary, commercial credits ought to be freely used and the control of wheat marketing by the Farm Board would facilitate the granting and safeguarding of bank loans. This, however, might have some influence on the form of organization of the co-operative associations which should be constructed to make the widest use of, and afford the soundest security for, credits, howsoever derived. Under the Act, co-operative associations are not expressly responsible for losses sustained by the stabilization corporation, though apparently the Farm Board is not denied the power to exact such responsibility as condition for a loan.

Membership in the wheat growers' co-operative associations would be restricted to growers. The advisory commodity committee would be appointed by the regional co-operative associations, five of the seven members being growers, the remaining two being experienced handlers of wheat. The final wheat stabilization corporation, to be recognized by the Farm Board, would be the creation of the wheat growers' co-operative associations, and in this sense farmer-owned and controlled. But precisely how this stabilization corporation is to be brought into being farmer-owned and farmer-controlled, retain that character, remain responsible to the co-operatives, and at the same time act as the instrument of the Farm Board, represents an obviously difficult administrative problem that will not be easily solved. In just such questions will the judgment of the Farm Board be brought into play.

We take it that the recently proposed "Farmers' National Grain Corporation" is the beginning of a stabilization corporation under the new law. It is apparently a merger of small co-operative associations and farmer-controlled elevator companies. A merger of farmer-controlled elevator companies does not make a co-operative association. When the Canadian wheat pools were organized, two large farmer-owned elevator companies were in existence. One of these was taken into the co-operative movement, but the other continues to exist as an independent farmer-controlled marketing organization. The merging of small

co-operative associations with farmer-owned elevators is of course a beginning, but it is only a beginning. Apparently it is sought, initially at least, to have the Farmers' National Grain Corporation handle coarse grains as well as bread grains. Despite the circumstance that coarse grains are handled in Canada by the wheat pools, regional conditions in this country are so different that we incline to the view that separate organizations will be found preferable. Because of regional differences, separate co-operative associations are indicated, but only one stabilization corporation. It will take time to organize representative co-operative associations, and this cannot be deferred, because it is difficult to contemplate having the stabilization corporation handle wheat in the absence of a growers' organization. Also, in such a case, the corporation would be handling largely non-member wheat instead of a controlling volume of member wheat plus more or less non-member wheat.

The Act contains no specific provision for the composition of the boards of directors of stabilization corporations, for which the laws of the state in which they are incorporated are to be controlling. A question of policy is sure to arise in this connection. The attempt will be made to have the prominent farm organizations represented in these corporations by having their officials placed on the boards of directors. The board of directors of a stabilization corporation will have intensive administrative tasks, and it is to be questioned whether it is in the interest of efficiency to have officials of farm organizations as members of boards of directors of stabilization corporations which function between the Farm Board on the one hand and co-operative associations on the other. The point is of administrative importance.

CONTINUITY OF OPERATION

It would be naïve to ignore the possibility that a Farm Board, entrusted with the inauguration of a new national policy, might have its deliberations somewhat influenced by considerations other than strictly economic ones. There is undeniably a psychology in the problem of farm distress and farm relief which makes it difficult to

anticipate sheer objectivity, at least in the initial period. Different members may evince tendencies to be radical or conservative, to view circumstances realistically or traditionally, to prefer the new way or the old way, to take risks or to avoid them. The history of the Interstate Commerce Commission, the Federal Trade Commission, the Federal Reserve Board, and the Shipping Board, illustrates what must be expected in the initial development of policy by the Farm Board. The Board will need to find itself, to feel its way, to be guided by trial and error, not merely because the development is experimental but also because social relations involved are in process of evolution. The legislative creation of the Farm Board is a beginning, the field is an opportunity, the technical procedure is an experiment, and the outcome is an expectancy.

The regional wheat growers' co-operative associations would resemble the provincial pools of the three Canadian Prairie Provinces, except for the important difference that the three Prairie Provinces of Canada grow the same type of wheat and harvest it at the same time. In a sense also the wheat stabilization corporation would resemble the central selling agency of the three provincial Canadian wheat pools. The agency operates continuously, on account of the large proportion of the wheat crop annually exported; continuous operation of the stabilization corporation might not be called for in the United States. We see no reason why the interior workings of the American regional wheat growers' associations, apart from their credit sources, should differ essentially from those of the provincial Canadian pools. The chief differences would grow out of the quasi-governmental status of the wheat stabilization corporation, since it would be directly responsible to a governmental board, as is not the case in Canada.

Since we interpret the Agricultural Marketing Act as incorporating a policy of merchandising rather than of price stabilization or direct price elevation, the procedures to be envisaged fall generally within the scope of measures with which wheat growers are already familiar. On the basis of available commercial experiences in the centralized marketing of agricultural com-

modities, it may seem indicated in some years for the operations to cover the entire crop, in other years to be confined to a part of the crop. Whether one operates with all wheats, or only with certain wheats, the available trading tactics are limited by the portability of wheat, the milling characteristics, and the supply of substitute cereals.

Some proponents of the stabilization procedures favor continuous operation; others would reserve the operation for emergencies. In the first case, the stabilization corporation would operate in each region after each harvest, act as merchant throughout the year, and control carryover in accordance with acreage and condition of the new crop. If the operation were reserved for emergencies, the stabilization corporation would operate only in the event of an exceptional supply, and withdraw when usual conditions became restored. Naturally, something would depend on the definitions of "usual," "exceptional," and "emergency." In short, the co-operative associations would operate continuously, but the stabilization corporation would operate continuously or intermittently, according to policy adopted. Wheat growers and grain traders during the progressive decline in the price of grains in the spring of 1929 assumed that with the passage of legislation the first thing to be done would be to organize a stabilization corporation to lift from the market the excessive carryover of grain. Even this expectation, however, did not contravene the view expressed above, since the carryover from 1928 into 1929, in relation to the world position, is exceptional. Since then the market has changed.

Both administratively and in matters of policy, the procedures in thus handling a wheat crop under a Farm Board fall naturally into two groups. The one contains the several functions in the handling and merchandising of the wheat passing into domestic consumption and in the routine sales of wheat passing to export. The other contains the procedures directly employed toward influence on price. Expanding or contracting the carryover, dealing in wheat futures, the impounding of wheat to be carried into the subsequent crop year, and the export dumping of wheat are the outstanding procedures available in this group.

Some would regard the first group of procedures as constituting the outstanding and continuing operations, the procedures under the second group being regarded as of such a nature as to be held in reserve for use under exceptional circumstances. Others, while laying no less stress on the direct importance of the procedures of the first group, regard the procedures of direct price influence as so continuously important for the objectives of the total operation as to require regularly their forceful application. According to this view, indeed, success with the co-operative procedures is contingent on success with the direct price-influencing procedures, and both sets of operations must be developed and applied. These differences in view imply not merely differences in scope of objective, but also a difference in appraisal of the probable effects of co-operation in the handling and merchandising of wheat instituted independently of operations designed to influence price. In our view, procedures of merchandising represent the basic and continuous operations.

GENERAL ASPECTS OF TRADING TACTICS

The trading tactics available and desirable (except in the event of an extraordinary emergency) would represent a combination of country and terminal operations. These include: (a) guidance of shipment by member producers directly after the harvest of winter wheat and possibly also later after the harvest of spring wheat; (b) supplementary thereto, purchase of wheat from non-member producers directly after harvest (as of grades, varieties, and qualities in amounts and proportions that would vary from crop year to crop year); (c) centralized merchandising from country points to mills; (d) centralized merchandising at terminal points of primary country stocks acquired; (e) centralized merchandising of export wheat; (f) determination and control of the carry-over (in toto and by regions, varieties, and grades, in varying amounts and proportions from crop year to crop year).

The objectives would be (employing loose terms of the markets) to create and maintain a seller's market, to heighten the buying competition between domestic

mills, and to moderate the influence of export prices on domestic prices. Such a policy would result in the somewhat paradoxical endeavor to simulate the marketing circumstances of a short wheat crop under varying conditions of larger crops. To the extent that such a policy might be successful, it is hoped that the post-harvest depression of wheat price would be moderated without disturbing the subsequent recurring rise in price that ought to occur to cover carrying charges. Beyond this, short-term fluctuations would be restrained, long-time and long-distance influences on month-to-month variations reduced, and milling qualities better reflected in terminal values. In short, by creating the atmosphere of a seller's market, it would be sought to have conditions of domestic supply and demand determine largely the domestic price of wheat, with some restraint of the influence of world conditions of supply and demand on domestic price, at least whenever these were working in the downward direction. To make the best of a domestic situation would be one thing, and would demand one type of procedure; to make the best of an international situation would be a different thing and might involve a totally different type of procedure. This policy would depend in part on the definition of wheat surplus formulated by the Farm Board.

RELATIONS TO GRAIN EXCHANGES AND FUTURES TRADING

The experiences of the private grain trade of North America, Argentina, and Australia, of the Australian and especially of the Canadian wheat pools, and of the United States Grain Corporation, the Inter-Allied Wheat Executive, and the wheat boards of the several European countries during the war seem convincingly to be interpreted in the direction of one fundamental conclusion to be applied to the impending American innovation. The Farm Board will need to decide between continuation of exchange trading on the one hand, and monopoly with fixed price of wheat on the other; there is no middle ground, in consideration of the characteristics of the international wheat market, for which precedents are available. A rever-

sion to grain trading without grain exchanges is conceivable, but it cannot be regarded as practicable: if auction sales are to be avoided (such as exist in the case of wool but are unthinkable in the case of wheat), wheat producers must assume the risks of price variations, or manufacturers of the raw material will widen their spreads to take account of them. In the post-war development of international markets in raw materials, exchange trading has expanded; and despite all congressional agitation for the restriction of trading in futures on the grain exchanges, the practice has never been so well established as it is today. American grain traders are active on the international wheat market; and in view of the trend in the direction of exchange trading in Argentina and Australia (where it is conditioned by the slow introduction of bulk handling), it would seem the wise policy in the immediate future to make the best of the existing international system rather than to introduce drastic changes by substitution of direct trading for exchange trading in the United States.

Direct selling from producers to millers, at home and abroad, suggests an improvement in efficiency, and is supported by many who regard elimination of middlemen as equivalent to elimination of waste. It may come about through the natural process of evolution, but it is not a progress that lends itself to the tactics of revolution. So long as the wheat trade of the world is adjusted to price registration on grain exchanges, it would seem preferable to continue wheat trading in the United States on this basis, since otherwise a problem of price insurance will be directly created in attempting to introduce direct trading. In the short-term view—the view of a decade, let us say—there would seem to be no alternative between monopoly and exchange trading. Regarding continuation of exchange trading as inevitably indicated, for the time being, in our judgment the attitude of the Farm Board, the wheat stabilization corporation, and the wheat growers' co-operative associations should not be one of tacit adaptation, but should be one of active co-operation.

That simultaneous registry of price at home and abroad facilitates export and

thus represents an advantage secured through trading in futures on grain exchanges is made obvious through comparisons between commodities traded on exchanges and those otherwise marketed. Barley, for example, has no futures market, and exports of barley in consequence are largely made on the basis of arbitration. Wool has no futures market and in consequence is commonly sold at auction. While price registry in the wheat pit permits a declining world price promptly to influence the domestic price in a corresponding direction, it also permits a rising world price as promptly to influence the domestic price in that direction.

It would be to no purpose at this time to undertake an appraisal of the services rendered to American agriculture by organized marketing on the grain exchanges. It is to be recognized that (a) public price registration, (b) the divesting of risk by country elevators, terminal grain merchants, and millers through hedging, (c) the assumption of risk by speculators through futures trading, and (d) the facilitation of bank credit thereby achieved are advantageous to wheat growers. At the same time, abuses have crept into the grain exchanges (or become more evident), particularly into the Chicago Board of Trade; and country grain dealers, terminal grain merchants, millers, and exporters have during recent years voiced emphatic protest against abusive practices. To certain perverse tendencies in the trading in grain futures, the Grain Futures Administration of the United States Department of Agriculture has given attention; and in the report of the President of the Chicago Board of Trade for the year 1925, cognizance was taken of those "who would take advantage of technical conditions and abuse the market for the sheer purpose of advancing their own selfish aims." Speculation depends on price fluctuations, but itself tends to moderate price movements. Nevertheless, it seems clear that under certain circumstances speculation may provoke price fluctuations.

The opponents of futures trading blame short selling especially for short-term declines; the proponents extol futures trading for sustaining prices over long periods. Conjoining these statements, the wheat grower makes the rejoinder that the de-

pressing effect of short selling is likely to occur directly after harvest when the wheat is being marketed from the farm, and the price-sustaining effect of long buying is likely to be most in evidence in the second half of the crop year, when the wheat is largely out of the hands of the producers and in the possession of middlemen. Also, wheat growers feel that since they run chances of selling their wheat on the bulges or on the breaks, they are thus forced into a speculation which is not of their choosing. What is wanted is retention of the advantages of trading in futures through what might be called "normal" speculation, with elimination of the disadvantages by the restraint of what may be called "abnormal" speculation. A doctrinaire distinction between so-called "normal" and "abnormal" speculation in wheat futures probably no one could set up in words; but experienced traders are rarely at a loss to make the distinction.

MANIPULATION OF CARRYOVER

Whether the corporation undertakes to operate with all wheat, or to restrict the operations to high-grade wheats or to low-grade wheats (these to be considered later), two accessory implements available are manipulation of the carryover and so-called "export dumping" of wheat. In the discussions on farm relief it seems generally to have been taken for granted that, under varying circumstances, increasing the carryover into another year and "export dumping" of wheat would increase the price in a readily predictable manner. But this is hardly the case. Entering on such a program, the corporation will find few reliable precedents in large-scale operations. Even when economic theory is applied to the propositions, this will be conditioned by qualifications and by assumption of "other things equal." None of the experiences of the wheat boards set up during the war, and continuing directly afterward, are available as precedents. When the corporation carries a substantial proportion of a crop of wheat into the next crop year, i.e., an amount in excess of the natural carryover, or undertakes to clear out the domestic wheat bin by dumping abroad a substantial amount, in excess of the otherwise export, the Board will be

conducting experiments. Let us consider some of the variables in the experiments.

Suppose the growers' price is viewed as unsatisfactory, and the Board contemplates withdrawing from the market of the present crop year a substantial amount of wheat for the purpose of elevating the domestic farm price during the current crop year, directly by the effect of such withdrawal on the domestic price, also indirectly possibly by the effect upon the world price. At the same time, the Farm Board must envisage some reduction in the otherwise price of wheat in the coming crop year, both abroad and at home, in consequence of the addition to the wheat supply of the coming year, of the wheat withdrawn from the supply of the present year. There will be expense attending carrying the wheat. Withdrawing wheat from this year's supply and adding it to next year's, with consequent effects on prices during the current year and the next year, at home and abroad, may result in changes in production and consumption, at home and abroad.

How, now, may the corporation compute the amount of wheat to be carried over under the circumstances, estimate the price-raising effect during the present crop year and the price-lowering effect during the next crop year, and appraise the expenses and possible losses of the operation? The problem is in fact an extremely difficult one. The expense of carrying the wheat would be the easiest part of the computation. Beyond that, lacking precedents, the Board would have little else to fall back on for guidance than arbitrary computations applied to past years. Taking crops, movements, and prices as they were in past years, on the basis of certain assumptions the Board could compute price influences to be expected from stated withdrawals of wheat from the market, stated expansions or contractions of the carryover, stated expeditions of wheat into export. There would need to be a great deal of "other things equal" in such computations. Even in years of relatively unchanging world wheat price level, such computations would hardly lead to explicit indications. The domestic price level can hardly be raised notably by any change of marketing short of taking so much off the market as to simulate a short crop.

But in most years the price level of wheat in the forthcoming crop year would be higher or lower than in the present crop year, rather than unchanged. If, owing to changes in supply and demand (largely on the side of supply) in the world, the wheat price level in the forthcoming year were to rise, then the price-reducing influence of the wheat carried from the old-crop year into the new-crop year would be minimized. In consequence, the agency carrying the wheat would lose less money, or might make money, on the transaction. Also, the value of the new crop would be increased. If the domestic crop were abundant in a crop year when the world crop was short, the import markets would tend to absorb the wheat carried over as well as the new exportable surplus, so that the net effect of the operation would be more or less strongly plus for the two years. This of course merely proves what the trade has always known, that a carryover from a long to a short year is profitable, provided the increase of price in the new year is large enough, and the quality of the old crop is good enough.

On the other hand, if relations between supply and demand in the new-crop year (especially on the side of supply) were such as to provoke a decline in the world price level, with consequent decline in the domestic price, the wheat carried over would enter a market lower than that from which it had been withdrawn, with the expense of carrying to make the situation worse. The carrying agency would have heavy direct losses; also, the loss on the farm price in the second crop year would outweigh the gain in farm price in the first crop year. The carrying agency would then have to decide between disposing of the carryover at a direct loss or storing the wheat for another year. But the prospect of gain in storing wheat for two years is less than in storing it for one year.

The gist of the dilemma would seem to be that there is prospect for profit to wheat growers in carrying wheat from one crop year to the next only when one operates into a rising market. In other words, it becomes a speculation in the wheat price level of the world during the coming year. Only under such circumstances (in view of the relation of the exportable surplus of the

American crop to the total volume of the American crop, to the total of the world crop, and to the total volume of exporters' surpluses) is there a dependable prospect that improvement in the farm price of wheat, consequent on the withdrawal of part of the domestic supply for addition to the next crop year's supply, will outweigh the depressing effect of the wheat carried over on the crop of the new year. Whether secret operations would have other effect than open operations need not be here considered.

Indeed, plausible reasons may be advanced for the view that a corporation would enjoy better prospects for increasing the farm price of wheat by employing just the opposite tactics. Instead of withdrawing wheat from a large crop and carrying it into the next crop year, it might prove better to withdraw wheat from a short crop and carry it into the next crop year. For wheat-exporting countries in the position of Canada, Australia, and Argentina, this could hardly be recommended; but in the United States, behind the tariff wall, the prospect would prove attractive. It would require a large amount of wheat to be withdrawn from a large crop to affect the current domestic price substantially; also, a large amount projected into the next crop would tend to depress its price substantially. But a small amount taken from a small domestic crop would influence the domestic price disproportionately, behind the tariff wall; also, a small amount added to the new crop would tend to depress its price but slightly. Naturally, such tactics would have to take careful account of conditions both in the world and in the domestic market. But in a country tending to approach the domestic basis, with a high tariff on wheat, probably the domestic price could be influenced more by making a short crop shorter than by making a long crop less long. The success of such a policy would be much enhanced if in addition to the flat duty on wheat there were also a differential rising scale, based on rising protein content. The amount of money required in this policy would be small. Such a practice could not of course be classified as stabilization, but precisely the reverse. It would be an outright monopolistic procedure of price raising.

EXPORT DUMPING¹

Carrying wheat from crop year to crop year might be termed a domestic device, to be judged on the basis of returns to wheat growers. In the case of "export dumping" of wheat, however, other phases enter than purely domestic considerations. Possibly the simplest aspect of the dumping of wheat into export is the question of the effect on price. In the nature of the commodity and of the circumstances attending the marketing of wheat, we take it that export dumping of wheat could be counted on to influence domestic wheat price much more than carrying wheat from crop year to crop year. There has been a great deal of discussion, in international circles, of dumping; and it seems clear, in general, that the dumping of exportable surpluses tends to be effective in raising domestic prices. Considered merely as a method of reducing the domestic supply, export dumping would lend itself peculiarly well to the marketing situation of the United States because of the large proportion of substandard wheats in our crop, wheats unfitted to meet American consumers' standards. These substandard wheats are readily salable in various export markets,² but only at notably low prices. From every point of view, domestically and internationally, the dumping of wheat would tend to contribute a better psychological effect on the wheat market than carrying wheat over from one crop year to the next; in the one case the wheat disappears, in the other case it is merely hidden and the storing country goes through the motions of trying to deceive the market.

The difficulties of such export dumping lie largely outside of the question of effectiveness of the procedure. In the first place, export dumping implies more or less continuous annual direct losses, often of heavy dimensions. Presumably the dumping would be done by the wheat stabilization corporation, not by the wheat growers'

¹ We use the term "export dumping" in the loose vernacular sense. It is not an exact expression and has no uniform international usage. We shall later consider the topic in some detail (see pp. 414-15).

² Partly in competition with rice, but more in competition with coarse grains and legumes.

³ See, however, pp. 379-80.

⁴ Cf. "The Export Debenture Plan for Wheat," *WHEAT STUDIES*, July 1929, V, 336-41.

co-operative associations. In time, a reserve fund ought to be accumulated, out of which export losses would be paid.³ Initially, export losses would stand as a sort of overdraft against the revolving fund. But it was not the intention of the Congress that losses on export should be definitively paid for out of public funds; a policy of export dumping would need to include some not yet projected scheme for prorating of losses back upon the wheat growers' co-operative associations, in proportion as the different regions participated in the exports. We hold this view, despite the language of the Act being interpreted to the contrary.

Second, export dumping may involve international complications. This would presumably not be the case in so far as the superfluous wheats were dumped into countries that do not raise wheat, or where bread grains are not extensively grown. Thus, export wheat, or flour, might be dumped into the Philippines, Japan, China, the East Indies, the Straits Settlements, the West Indies, and Central American countries, without provoking reprisals, countervailing duties, or other untoward reactions. But dumping wheat in Europe might easily provoke reprisals.⁴ Fear of reprisals is an additional reason why the losses on export dumping must be borne by the producers and not by the public treasury.

It seems obvious that export dumping hardly lends itself to price "stabilization," but is instead adapted to price elevation. To resort to export dumping and to carry wheat from one crop year to another for the purpose of smoothing out the price of wheat throughout the crop year looks like shooting at a small target with large artillery. After years of experience, a corporation might judiciously carry over a small amount of a particular wheat or judiciously dump a small amount of a particular wheat abroad, in order to prevent the price of one wheat from displaying an untoward variation not involving the other wheats. But broadly considered, carrying wheat from one crop year to the next or longer, and export dumping of wheat, are designed for elevation of domestic price level rather than for price stabilization.

The foregoing discussion again serves to bring into contrast the different objectives inherently implied under stabilization and

elevation of wheat price, and indicate how profoundly the procedures of the Farm Board will be modified in accordance with election of the objective. It is not going too far to suggest that a consistent merchandising policy might be based upon one or the other objective, but could include both only with additional complications. Of course, merchandising might include neither. There is some overlapping of objectives and obviously also of procedures in any case; but consistency in the main trend of operations would necessitate a definite delimitation of objectives.

PRICE INSURANCE

Section 11 of the Act authorizes the Board to cause to be issued policies of insurance to protect co-operative associations against "loss through price decline in the agricultural commodity handled by the associations and produced by the members thereof." Such insurance is offered only to the co-operative associations, not to the stabilization corporation. Premiums on the insurance policies would be paid by the association and would be placed in an insurance fund. In the event of loss under the price insurance policy, such loss would first be paid out of the insurance fund and thereafter out of the revolving fund, in the nature of a loan with interest to be later repaid from insurance premiums. In effect, therefore, a loan out of the revolving fund would be a loan to the insurance fund of the co-operative association and not to the co-operative association itself. Whether the association has or has not borrowed from the revolving fund for other purposes, has no effect upon the issuance of an insurance policy. It is provided that the co-operative association shall first seek insurance from private agencies, that insurance can be issued only in the event of public registration of price of the commodity, and that it shall not operate unduly to enhance prices or unduly to enlarge the surplus. And records must be available over a period of years upon which risk and premium may be calculated; insurance must rest upon a demonstrated actuarial basis.

We doubt whether insurance will be applied for to cover the price of wheat, or would be granted if applied for. But it is

worth while to point out that the operations of the stabilization corporation would be different if the co-operative associations had price insurance than without it. Also, it is interesting to note that price insurance could cover only member wheat and not non-member wheat.

THE PROFIT AND LOSS ACCOUNT

We take it the stabilization corporation and the wheat growers' co-operative associations would enjoy three sources of credit, alternative or supplementary. The first is the revolving fund of the Farm Board. The second is the Intermediate Credit fund. The third is the commercial banks. Naturally, emphasis has been laid upon the revolving fund; but we take it that as the wheat stabilization corporation and the regional wheat growers' co-operative associations develop, credit from the intermediate credit banks and banking accommodation of a strictly commercial character will become more and more prominent. Indeed, with the success of the undertaking and the establishment of proper reserves, it ought to become possible to dispense with the use of the revolving fund except in special emergencies, or to resort to it much in the same way as member banks borrow from the Federal Reserve Banks.

Previous legislation had already provided seemingly adequate credit facilities for agriculture, especially to individuals. We take it to have been the intention of the Congress in the new legislation to provide not merely supplementary and perhaps cheaper credit to co-operative associations, but rather to make available additional funds for special purposes after full use has been made of existing credit facilities. It can hardly have been the intent of the Congress to have the revolving fund of the Farm Board compete with other agencies for the business of providing banking accommodations to agriculture. In other words, we take it that co-operative associations ought first to make all available use of existing credit facilities before approaching the Farm Board for loans from the revolving fund. It is hardly to be urged that existing credit facilities have been exhausted; indeed, it seems clear that the pro-

visions of the Agricultural Marketing Act will operate indirectly to expand the volume of commercial credit available to agriculture by regularizing marketing operations and making them safer.¹

The intent of the Congress in respect to profits and losses may be taken as revealed in the Act. In what follows we endeavor to draw for the Agricultural Marketing Act a realistic rather than a legalistic interpretation. The provisions for loans to co-operative associations are separated from the provisions for loans to stabilization corporations.

Wheat growers' co-operative associations, upon such terms for security and other reservations as the Board may impose (including a reservation against undue production of surplus in excess of annual marketing requirements), may borrow money from the revolving fund for five purposes: (1) to aid in effective merchandising; (2) to lease or purchase physical marketing facilities; (3) to support the formation of clearing house associations; (4) to extend the membership of the co-operative association; (5) to enable an enlarged initial payment to be made to members on delivery of wheat. The granting of loans for lease and acquisition of physical marketing facilities is strictly limited. There is no stated provision for disposition of losses by co-operative associations. Presumably, therefore, the Board could fix upon the co-operative associations or assume for itself such losses as might be incurred, so long as the terms were not inconsistent with the provisions and purposes of the Act. We take it that in respect of management of profit and losses, the provisions of the Capper-Volstead act would continue to apply. It is to be observed that co-operative associations are not accorded the right of borrowing from the revolving fund for

the purpose of handling or control of surplus. But there is nothing in the Act to prevent a wheat growers' co-operative association from employing commercial credits in the handling of surplus wheat.

The provisions for loans to the stabilization corporation make distinction between loans authorized for use in marketing operations and those to be used "for the purpose of controlling any surplus in the commodity in furtherance of the policy declared in section 1." For both subdivisions of the stabilization corporation provisions are set up for building reserves out of profits. For both classes of loans to the stabilization corporation the Board is granted wide powers to control the uses of, and to establish security for, the credit. Losses sustained by the stabilization corporation in merchandising operations cannot be passed back to shareholders by assessment but must be paid out of reserves accumulated from previous profits or stand like an overdraft or lien against reserves to be accumulated out of future profits. Such losses would stand against that subdivision of the stabilization corporation until paid and could only revert to the revolving fund in the event of insolvency and dissolution of the corporation. In short, in respect to loans to the wheat stabilization corporation for merchandising purposes, the revolving fund remains a revolving fund and is not to be used as a coverage fund.

In respect to losses that might be incurred by the wheat stabilization corporation in controlling the surplus, these are segregated and are to be paid out of profits secured through controlling the surplus or will be paid, if such accumulated profits are not available, by a special loan from the revolving fund for that purpose. Reserves and profits secured through merchandising operations cannot be used to cover losses incurred in controlling the surplus. Losses incurred in controlling the surplus cannot be assessed against shareholders of the stabilization corporation. If a wheat stabilization corporation should incur loss in controlling the surplus and never previously or subsequently through controlling the surplus made profit enough to repay the loss, this would remain as a surplus-loss-loan and might eventually be-

¹ Hedging has two attributes: insurance of price and facilitation of credit. In a sense, since the price insurance of hedging is not complete, the facilitation of credit is quite as important as the price insurance. When wheat is hedged, commercial bank credit is freely available and the cost is relatively low. If, now, the wheat of co-operative associations is not hedged, it becomes less available as security for bank loans. This difference must be made up by the support of the revolving fund; the stabilization corporation must in some way contribute to banking accommodation that support which hedging now contributes. At the same time, it is clear that speculation must be retained in order to support the hedging of non-member wheat.

come a dead loss to the revolving fund. To this extent the revolving fund might become a coverage fund rather than a true revolving fund.

It is important to observe that under the Act it might develop that the wheat growers' co-operative associations, using borrowed money from the revolving fund, were making profits and building reserves and that the wheat stabilization corporation, with money borrowed from the revolving fund, was making profits out of merchandising operations and building reserves, while the same wheat stabilization corporation, with money borrowed from the revolving fund for control of surplus, had lost money and was in arrears. In such a contingency, the loss incurred in controlling the surplus could not be paid from the profits and reserves secured through merchandising operations on the part of the stabilization corporation or the wheat co-operative associations. In short, the co-operative associations and the merchandising branch of the stabilization corporation might be solvent and even prosperous, while the surplus control branch of the stabilization corporation might be in arrears and even insolvent.

Two observations are to be emphasized. In the first place, such a delimitation between merchandising wheat and controlling the surplus of wheat as seems implied in the Act does not in fact exist. Secondly, the powers and discretion vested in the Farm Board would enable it to make such stipulations in respect to loans to be used in controlling the surplus as would in all probability nullify the risk of having the revolving fund used as a coverage fund, since in the final analysis it is the Farm Board and not the wheat stabilization corporation which would determine whether and how a particular wheat surplus were to be controlled. The Farm Board has power, in respect to loans, to exact stipulations that are not imposed upon the Board in the Act.

We take it to be the intent of Congress that the till of the government should be used for working credit and not for liquidation of losses. While zealous co-operative agriculturists may not always approach the Farm Board with full realization of the distinction, we may expect the

Farm Board to grant applications for loans for controlling the surplus with such reservations as may be necessary to fulfil the intent of the Act.

At the same time, it seems clear that the Farm Board might not always be in position to exact from the stabilization corporation such security for a loan to be used in controlling the surplus as might be inherently desirable. With commercial banks, the intermediate credit system, and the Farm Board all participating in agricultural credits, it seems possible that the simpler operations would fall to the first two, and with them the better security, while the more difficult operations would fall to the Farm Board, and with them the lesser security. This would be the more certain if the freest use is to be made of conventional banking accommodation and the revolving fund restrained from growing to unwieldy dimensions. It seems clear also that agricultural credit from the several sources should be co-ordinated and not become competitive.

Wheat growers seem convinced that the co-operative marketing of wheat would bring to them a larger proportion of the dollar spent by consumers for wheaten products. If regional wheat growers' co-operative associations could take over the business of the so-called middlemen, i.e., grain merchants, and thus secure the same net profits that now accrue to the grain traders, these sums might be used to build up an operative fund and later a reserve fund which would make the co-operative associations independent of governmental assistance. The experience of the wheat pools of the Prairie Provinces of Canada is pointed to as proof of the inherent feasibility and practicability of this policy.

But even if this should eventuate, time would be required. Even if regional co-operative associations could be set up to handle the crop of 1930, under the most favorable circumstances the predicated accumulation of operative and reserve funds would require several years for accomplishment, as shown by the experiences of the Canadian pools. In the interval, the wheat growers' co-operative associations and the wheat stabilization corporation could hardly operate except with use of the governmental revolving fund.

Under these circumstances, we take it that the stabilization corporation would adopt the policy of paying its way. The corporation would not contemplate passing losses back to the government nor yet aim merely to avoid operative losses; it would aim to make profits. This was the aim of the United States Grain Corporation during the war, of the Commission for Relief in Belgium, of the (British) Royal Commission on Wheat Supplies, of the wheat controls of Australia, Argentina, and Canada during the war. Not all of these organizations made profits in their operations. But they were all run for profits, not because they had direct uses for the profits but because the surest way of avoiding losses is to strive for profits, just as the best defense is a good offense. Therefore, we take it that the co-operative association, responsible at once to the Farm Board and to wheat growers, would establish its policy of operations on the plane of making profits. And the Farm Board and the wheat stabilization corporation, though operating under broad powers, would, we gather, adopt the view of the profit and loss account of a going commercial concern.

Opinions vary as to the commercial outlook for the stabilization corporation. Rather oddly, farm economists seem to have little faith in the profitable outcome of the corporation's dealings, while experienced grain traders incline to the view that a properly managed corporation ought to make profits. Traders who hold this view, however, do so only in respect to merchandising operations, not to surplus control. No one expects the wheat stabilization corporation to make profits out of

surplus control except in the event of a windfall. The indirect profits of surplus control, the effect on domestic prices, are anticipated with far less confidence by the grain traders than by the farm economists.

If this appraisal of the situation be correct, a conservative management would seem implied. It will soon be determined how large are what could be termed the middlemen's profits of the co-operative associations. The consideration of the profit and loss account would influence the buying, storing, carrying, and selling policies of the corporation, also its attitude toward trading in futures. A conservative policy will result in setting up a super-merchant in wheat, which is what the central selling agency of the Canadian wheat pools is today. With expert management and in control of a large volume of wheat, a centralized merchandising agency would be able to take the best price advantages of varying situations and avoid dangers that would overwhelm an independent dealer. A centralized merchandising policy, unconservatively managed, especially as to control of surplus, might under exceptional circumstances bring it about that the stabilization corporation would be "holding the bag" for the wheat of the world.

The more one regards the profit and loss account, the more one is impelled to the conviction that it will represent not merely the end of the Farm Board's operation but also the beginning of it. That is, the policy on profit and loss will determine policy on operations. It is particularly from this point of view that the composition of the membership of the Farm Board is significant.

IV. COSTS AND PROFITS IN CARRYING WHEAT

THE POSSIBLE GAIN IN CARRYING WHEAT

The holding movement has been prominent among grain growers for a half century. Decades ago, agitation for public warehouses was based in part on the need of grain growers for leasing space in which to hold their crops for better prices. Behind successive acts aiming to provide increased credit facilities for farmers, stood the need of credit to enable growers to hold their grains for better prices. Regulations

on elevators in the central states were made with this contingency in mind; and one of the motives for the organization of farmer elevator companies was to enable the members to hold their grain for better prices. The wheat growers' co-operative associations and the stabilization corporation now fall heir to the holding movement and must use it or discard it. As we have seen,¹ the Agricultural Marketing Act implies, among

¹ See above, p. 360.

other things but presumably subordinate to them, stabilization of wheat prices within the crop year—moderation of the alleged post-harvest decline in price, without disturbance of the recurring seasonal price advance.

In the theory of the marketing of a transportable and (relatively) imperishable commodity which is seasonally produced and continuously consumed, the price is assumed to rise month by month, other things equal, by enough to cover the inclusive carrying costs. Other things being equal, the price of wheat toward the end of the crop year ought to be as much above the price of wheat at the beginning of that crop year as to cover gross carrying expenses.

Among wheat growers reigns the widespread conviction that grain traders secure large profits by buying wheat (the physical wheat) in the fall and selling it in the spring. To put the matter more succinctly, it is urged that heavy marketing during the autumn, under existing circumstances in the markets and grain exchanges, results in an undue relative depression of price during the first half of the crop year, and one not compensated for by a corresponding elevation of price during the second half of the crop year. Further, it is contended that the depressed price during the first half of the crop year falls on the grower, while the elevated price during the second half of the crop year accrues to the trade. By selling in the autumn, the grower has relieved himself of the risk of carrying the wheat; through the system of trading in futures, the grain trade that has come into possession of the wheat has protected itself against risk by hedging. If wheat growers' co-operative associations, or a stabilization corporation, replacing the grain trade, were to carry the wheat for growers' account, whatever profit accrued from the operation would be added to the weighted farm price of wheat.

To this the grain trade makes the rejoinder that as a rule there is no such net profit in buying cash wheat in the fall, carrying it through the winter, and selling it in the spring. If there were no trading in futures, on account of risk the price change from fall to spring would tend to be wider than it is now, as is known from the experiences of other countries; with risk mod-

erated through trading in wheat futures and the associated hedging, the recurring seasonal price advance tends to be restricted to actual carrying charges, other things being equal. The argument that the grain trade depresses prices in the fall, when farmers are marketing heavily, and raises prices in the spring, after the bulk of the crop is in the hands of dealers, appears unsustained when considered in the light of actual trade practice. All large dealers routinely hedge purchases. Having bought wheat, they have nothing to gain from a rise in the general wheat price level. About the only persons involved who might be benefited by a rise in prices from fall to spring are the farmers who store wheat, an insignificant group of small country elevators that carry wheat unhedged, and those speculators who buy futures in the fall. Speculators, however, are free either to buy or sell at any time, quite without regard to harvest seasons. There is no common interest among speculators in having prices low at one particular season and high at another.

In order to hold an opinion on this subject, it is necessary to evaluate approximately the effective costs of carrying wheat on the farm and in country elevators and in terminal elevators. Once the expenses of carrying wheat in the several positions are known, these may be contrasted with the changes in wheat prices representing the recurring seasonal price movement. Finally, the theory of the carrying charge in the marketing of wheat must be contrasted with the current terminal practice. When all this has been done, it will be possible to form an estimate of the prospect of profits, if, as, and when the seasonal carrying of wheat now conducted by the grain trade is taken over by a co-operative association or the stabilization corporation. Carrying wheat from one crop year to another involves considerations widely different from those concerned in carrying wheat from the harvest over the winter; we are concerned in this section only with the problem of carrying wheat within the crop year.

About the only practicable method of determining whether, as a historical fact, the cost of carrying wheat exceeds the seasonal price advance is to measure statistically the

average actual change in price between fall and spring in each of a series of years, and to set against it the average annual cost of carrying wheat for the same period, so far as one can ascertain what this cost is. This procedure is subject to a considerable range of error in view of the data which must be used.

Three qualifications are of special importance. First, comparisons must be confined to price series applicable to identical wheats—wheats of the same variety, grade, and milling classification within the grade; otherwise premiums and discounts will be disconcertingly introduced into the calculation. But price series clearly applicable to identical grades of wheat are difficult to secure for a long period of time. Second, the measurement of average price change from fall to spring cannot be precise in its meaning; for, historically, price movements within each crop year may be other than seasonal in nature. Ideally, the wheat price level should remain unchanged from year to year in order that fall-to-spring changes in price should reflect only the seasonal price movement. But in fact the price level changes. Third, the available data do not admit of anything like precise measurement of the cost of carrying wheat either in elevators or on farms. Nevertheless one may reach significant conclusions on the matter of carrying costs and seasonal price advance, with due regard for the qualifications stated.

Another difficulty in appraising the intraseasonal spread of wheat prices lies in the literal and schematic formulation of the question. The wheat grower inquires what would be his farm price of wheat, as compared with the price under the present rate of marketing, if the wheat were marketed evenly throughout the crop year. Or, more specifically, if each wheat grower held back a portion of his crop until spring, what would be the net effect on his farm price, following adjustment for inclusive carrying charges? Strictly construed, the answer to these questions is not to be found in a comparison of wheat prices throughout the year. The comparison of wheat prices in the fall and in the spring is really the beginning of the discussion and not the end. It is strange how few reports of results of actual carrying operations are available.

THE COST OF CARRYING WHEAT IN TERMINALS

The Federal Trade Commission conducted an extensive investigation of the expense of carrying grain in terminals before the war.¹ One defect in their findings lies in the fact that their estimates were almost always too high. Quoted rates, rather than the rates actually applied, constituted the basis of the inquiry. Or, put in another way, the findings of the Federal Trade Commission were based on published or formal charges, not on current and effective charges. The effective charges over the period of the investigation of the Federal Trade Commission were always lower than the formal charges, though varying lower from season to season. In any event the findings of the pre-war investigation do not well apply to present conditions. Without going into an exhaustive investigation, it is possible to indicate the range of gross carrying charges in the principal markets at present.²

The initial elevator charge is for receiving the wheat and later loading it out, including a stated number of days' storage. The formal rate for this service is 1 cent per bushel in Kansas City and St. Louis and 1.25 cents in Chicago with ten days' storage, and 1.5 cents in Minneapolis with fifteen days' storage. Then comes the rate for continuing storage, which is 1/20 of a cent per bushel per day in Chicago and St. Louis, 1/25 of a cent in Kansas City, and 1/30 of a cent in Minneapolis. Thus, the formal elevator charge for storing wheat 260 days is 13.75 cents per bushel in Chicago, 13.5 cents per bushel in St. Louis, 11.0 cents per bushel in Kansas City, and 9.7 cents per bushel in Minneapolis. Elevators are not permitted to exceed the published rates but may reduce them, provided the reduced rates apply to all grain in store. In some years, with high volume of storage, the operation of terminal elevators is profitable; in other years, with low volume, the returns are unprofitable.

Practically all grain is stored on borrowed money. The bank loans on hedged wheat lying in elevators in terminal cities

¹ Federal Trade Commission, *Terminal Grain Marketing* (Report . . . on the Grain Trade, Vol. 3), 1922.

² Cf. "Variations in Wheat Prices," *WHEAT STUDIES*, June 1929, V, 241-300.

represent credit accommodations secured by liquid collateral, usually at the going rate of interest on prime commercial paper. Rarely is it below 5 per cent or over 7 per cent; perhaps most often it varies from 5.5 to 6 per cent. The amount borrowed varies with the price level of the wheat.

Insurance represents a highly variable item of expense. Terminal elevators range all the way from antiquated inflammable wooden structures to almost fireproof modern concrete silos. Some are protected with every device against fire and dust explosion; others have inadequate equipment or none at all. Kansas City is a more modern terminal point than Minneapolis, St. Louis, or Chicago; there the Board of Trade has established a fixed rate of insurance against fire, explosion, lightning, and tornado at 40 cents per thousand bushels per month. In the other large terminal cities the insurance rates vary from as low as 20 cents to \$2.50 per \$100 per year, depending on the fire hazard of the particular elevator. An average rate in Chicago is \$1.80 per \$100 per year, with a higher rate for shorter periods. Other things being equal, storage in modern concrete elevators is preferred, but circumstances often dictate a different choice. When wheat is delivered on future contracts, other things equal, this tends to be done from elevators with high insurance rates.

To what extent particular grain merchants secure bank loans or insurance at reductions below the going rates is not known. At times, heavy and continuous borrowers secure lower interest rates, and insurance rates also may be shaded under certain circumstances. No one is in position to know, in any year for any terminal city, the weighted expense per bushel per unit of time included under interest and insurance to cover the storage of wheat.

Since no estimates are available for the weighted elevator charges per bushel per unit of time or for the weighted interest and insurance charges per bushel and per unit of time, in any year in any terminal market, on the books of the grain merchants, it follows that the gross cost of carrying wheat in terminals is represented by a range, within which the elevator charges and the interest and insurance charges

vary. But it is certain that the effective gross carrying charge assessed against the wheat is always less than the formal charge based upon published and going rates, and often much lower. The elevator rate is really fixed for each transaction, when the elevator man stores his own wheat, by the outcome of the deal.

From all this it follows that if one wishes to compare the cost of carrying wheat in terminal markets from fall to spring with the recurring seasonal price movement of wheat, one must do so, crop year by crop year, on the basis of actual carrying expenses, as determined from the books of elevators and grain merchants. The comparison cannot be made between quotations of formal and published charges and the observed recurring seasonal price change. Such a comparison tends to give a result somewhat exaggerating the figure for cost of carrying wheat. An elevator man may allot his wheat storage space for next to nothing in order to make money out of it in merchandising transactions. The real question is: could an outsider buy contract wheat, store it at regular rates and sell it later at a net profit? Usually he could not.¹

COST OF CARRYING WHEAT IN THE COUNTRY

Any attempt to estimate the cost of carrying wheat in country elevators encounters particular difficulties, some of a regional character. Country storage is commonly said to be cheaper than terminal storage. In the estimate of cost of terminal storage, shall one select Chicago with high rates or Minneapolis with much lower rates? If one undertakes to set up averages of many terminal cities, shall this be by regions or country-wide? As the basis for estimate of country storage, shall one use the relatively expensive elevators of the older wheat regions or the relatively inexpensive elevators of the newer regions? The rates for elevator services, varying from state to state, are for the most part regulated. Storage rates in country elevators are sometimes changed, varying

¹ J. E. Pope, "The Holding Movement in Agriculture," *Economic Essays Contributed in Honor of John Bates Clark*, edited by Jacob H. Hollander (New York, Macmillan, 1927), pp. 242-82; also, *Quarterly Journal of Economics*, 1916, XXX, 805-31.

with the wheat crops of the locality and with the crops of other grains. In general, interest rates are higher for country elevators than at terminal points and variations between rates for different borrowers are more pronounced. Insurance rates vary widely, though probably no more than between terminal elevators. Despite the commonly reiterated view to the contrary, we are not convinced that the complete country storage charges for carrying wheat from fall to spring are materially lower than the effective terminal carrying charges. In any event, the comparison ought to be made by regions and the relations would vary from crop year to crop year. It might well eventuate that in some regions, or states, actual terminal storage is cheaper than actual country storage; also, the relations might change from one year to another. Country storage ought to be cheaper.

Estimates of the cost of storing wheat on the farm involve stipulations on farm accounting. In order to exclude losses by destructive animals and by infestation with insects, storage bins must be well constructed. Frequently, the farm has no need for storage space for other grain than wheat. Shall the cost of the storage structure be amortized over a period of years and interest on investment, taxes, and a charge for depreciation and upkeep be included in the accounting? Or shall the storage structures be regarded as a part of the general farm equipment and receive no attention in the accounting of the expense of storing the wheat? When wheat is harvested from the shock or stack, it is usually dry enough to be stored safely; but when harvested by the harvester-thresher, it is often so moist as to run the risk of heating and bin-burning. Experiences with the harvester-thresher suggest that it is highly desirable for farms to be equipped to clean the wheat and if necessary to condition it to prevent bin-burning.¹ Such equipment, like the threshing implements, could be co-operatively installed; but in any event it would constitute a charge against the

stored wheat. Should interest be charged in the accounting if the wheat grower borrows no money on the stored wheat or only to the extent that money is actually borrowed on the stored wheat? A charge for insurance would apply if the wheat were insured; should an insurance item be entered if the wheat is not covered by insurance policy? The answers to be made to these several questions, from the standpoint of farm accounting, will determine the estimates of cost of farm storage.² If one assumes that it is all the same to the wheat grower whether, at his risk, he hauls his wheat out the week after it is harvested or hauls it out six months later, then the estimate of cost of farm storage will be very low. But if one pictures the farmer as wheat grower storing the wheat with his other self as farm elevator man, and attempts to itemize the expenses just as would be necessary if the wheat were commercially stored in the elevator in the neighboring town, the costs of storage would be relatively high. If a co-operative takes possession of the wheat of a member and stores it on the farm of the grower, then certainly all the commercial charges and risks must find expression in the accounting of the co-operative association. As a matter of experience, the losses attending storage on the farm are apt to be considerable. For illustration, a considerable proportion of the wheat of the 1928 crop stored over the winter on Kansas farms is known to have deteriorated. Unlike corn, wheat does not naturally tend to improve in grade on storage.

Whatever the practice of the individual wheat grower storing his grain in respect to depreciation, upkeep, interest, and insurance, a wheat growers' co-operative association would need to give a strict accounting to these items. If wheat growers were urged to restrain the rate of marketing wheat and store it on the farm, the growers' services to the association should be compensated. In effect, the co-operative association may be regarded as taking possession of the wheat when it is harvested and the inclusive expenses of country storage would accrue against the co-operative association, to be paid to the grower or to someone else, and the disposition of the wheat would be at the command of the

¹ Cf. H. M. Bainer, *More Farm Storage for Wheat* (The Southwestern Wheat Improvement Association, Kansas City, 1929).

² Cf. R. M. Green, *Farm Storage as a Factor in the Marketing of Kansas Wheat* (Kansas Agricultural Experiment Station Bulletin No. 229), November 1922, and J. E. Pope, *op. cit.*

association. We take it that if this view of the farm storage of wheat of members of the co-operative association were to be adopted, a strict accounting of expenses of storage would be developed and the operation no longer merged in the general conduct of the farm.

The use of the harvester-thresher combine has greatly changed the scope and the meaning of farm storage of wheat. When wheat was threshed after drying in the shock or stack, it could be stored without risk in any vermin-proof space on the farm. Under these circumstances, the cost of storage was low and there was some justification for declining to charge against such storage interest and upkeep on the buildings in which the wheat was stored because these could and did serve other purposes than storage of wheat. But when wheat is harvested with the combine and the implement employed at its lowest cost, it is desirable to clean the wheat on the farm and to store it in self-ventilating bins. These self-ventilating bins serve no other purpose than the storage of wheat threshed moist from the harvest, and a charge for interest and upkeep must therefore be placed against the storage. The increased cost of storing wheat with combine harvesting must be subtracted from the heavy saving in threshing costs otherwise secured through the use of the combine.

Farm storage of wheat is perhaps less to be recommended on grounds of marketing than on grounds of farm management, since cleaning and storage in ventilating bins on the farm alone permit of the utilization of the potential economies in the use of the harvester-thresher combine. Also, farm storage relieves pressure on terminal storage, a matter of importance in connection with velocity of farm marketing consequent upon the use of the combine. The general recommendation that wheat be cleaned of dockage on the farm and the dockage used as feed must be supplemented with instructions to destroy the viability of weed seeds in the dockage either by grinding or cooking; otherwise increasing the farm use of dockage for feed will intensify infestation of the fields with weeds.

Under these circumstances, when widespread transactions in the storage of wheat come to be undertaken by co-operative as-

sociation or stabilization corporation operating under the Farm Board, it will be found that the data necessary to determine the costs of farm storage of wheat, in guidance to the association, are not available. Therefore, when the question arises whether the cost of storing wheat on the farm from fall to spring is higher or lower than the recurring seasonal movement in the farm price of wheat from fall until spring, the answer will not be found ready-made. To a predominating extent, probably, local circumstances will determine the cost of storing wheat on the farm, in country elevators, and in terminals, and the value of the service in terms of farm price.

In summary, the expenses attending the storage and carrying of wheat represent a range, varying from city to city for terminal storage and from region to region for country storage, and varying also from year to year. Leased storage space in terminal elevators costs more in the operation than using storage space owned by the merchant himself storing grain. In general, the estimates of the effective charges involved in terminal storage are apt to be too high, and this despite the recognized fact that a terminal elevator cannot make money in an average year by leasing storage space. The expenses of country storage, on the other hand, tend to be underestimated. Finally, the expense in storing wheat may be modified by transportation charges. Under favorable circumstances, a program of storing wheat over the winter might be carried through at a relatively low weighted average price; under unfavorable circumstances, the cost might be two or three times as much. In fact, in each crop year, the prospective expense of carrying any large amount of wheat over the winter would represent a different as well as a difficult problem.

THE CARRYING CHARGES AND THE RECURRING SEASONAL PRICE ADVANCE

Other things being equal, the price of a commodity produced seasonally and consumed continuously would be expected, during the interval between one producing season and the next, to rise by enough to cover the carrying charges. The price of new-crop wheat (other things being equal

and especially in the absence of a secular trend in the wheat price or of a shift in the wheat price level) would be expected to rise month by month until the end of the crop year. Even when other things are equal and the wheat price level is unchanging, the recurring seasonal price advance is somewhat conditioned upon two circumstances: the behavior of prices in transition from the old-crop year to the new-crop year, and the sagging of wheat price commonly observed when the new-crop wheat flows actively to market.

The initial phases of the question of the recurring seasonal price advance lie in the last weeks of the old-crop year and in the first weeks of the new-crop year. With unchanging wheat price level and other things (especially quality) equal, the oncoming price of new-crop wheat tends to stand lower than the price of old-crop wheat; this is implicit in the theory of the carrying charge. New-crop wheat without established milling values will be priced relatively lower than old-crop wheat with established milling values, until the mills have determined the quality of the new crop. How to climb down, so to speak, from the relatively high level at the close of one crop year to the relatively low level at the beginning of the next crop year, constitutes an annual problem in the grain trade. This annual problem is illustrated in the difficulties of transition from the May to the July future, and from the July to the September future, even in years with unchanging wheat price level. Since 1900 (excluding the years 1915-20), during May the July and September futures were at a discount under the May future in eighteen years and stood at a premium in five years. Clearly the usual relationship in May is to have the May contract price stand above the price of the July and September futures. This, however, is conditioned on the size of the carryover. If the visible supply and prospective carryover of old-crop wheat appears relatively small, then during May the May future will stand at a premium over the July future; if, on the other hand, the visible supply and prospective carryover of old-crop wheat appear large, the July future will tend to a premium over the May future.

What may be termed the marketing sag

(or dip) in the post-harvest price of new-crop wheat is naturally modified by the prospective size of the crop. With a short new crop, there may be no price dip, with probability of rise in the wheat price level; with a moderate crop, involving no change in the wheat price level, the sag will be of varying depth and length; with a large crop, even though no change in the wheat price level is eventually evolved, the sag tends to be deep and more prolonged. This marketing trough usually appears in July, but may be anticipated in June; it may be deferred until August or longer; it may last from one to three or even four months. In this post-harvest dip participate both old-crop and new-crop factors; indeed, there is ground for the belief that in some years the carryover of old wheat has more influence on the marketing sag of the price of new wheat than has the volume of marketing of new wheat.¹

Wheat growers have long been convinced that this price dip in the early months of the new wheat year is exaggerated by speculation. At this time there is usually a heavy volume of selling hedges. Millers and merchants buy in the country, where few notice the cash transactions; they hedge in the terminals where everyone sees them selling hedges. Wheat growers believe that in addition to a seasonal increase in selling hedges, insuring the early purchases of cash wheat by dealers and millers, the sag in prices is intensified by speculative short selling. The presumptive objective of such short selling would be to increase speculative profits, on the hypothesis that the peak of the price to be attained around May in the recurring seasonal price advance would be the same, even though this price advance began from an artificially low point following the harvest. Since farm sales would be active during the period of post-harvest dip, the net effect of such short selling would be to enrich speculators at the expense of producers. Thus runs the bill of grievance.

As wheat growers view the situation, the gain which accrues from carrying the wheat over the winter is composed of two fractions: one, a more or less artificial ex-

¹ That congestion in terminals tends to depress cash prices, even on a rising market, has been again illustrated during recent months.

aggregation of the post-harvest price decline, and the other, the gain secured in the subsequent recurring seasonal price advance.

From the lowest point of wheat price in the early months of the new-crop year, begins the month-by-month increment in wheat price which, extending to the end of the crop year, constitutes the recurring seasonal price movement. The extent of this price movement obviously depends upon many factors, varying from year to year, outside of the carrying expenses of which it is in theory the direct expression. It is therefore difficult to measure the recurring seasonal price advance independent of other factors which add to it or detract from it. We have recently collected statistical material bearing on the subject in an attempt to compare the extent of the recurring seasonal price advance, strictly construed, with the costs of carrying wheat over the interval.¹ From the data thus assembled emerges the conclusion that when proper account is taken of the variability of extraneous factors, the increase in price of wheat over the winter is usually not enough to cover the expenses of carrying the wheat over the interval. Only in an occasional and exceptional year, and particularly in the event of rise in the wheat price level, does wheat in the spring and early summer sell for enough more than the same wheat sold for in the previous autumn to cover the expenses of storage. As against exceptional years of gain with rising price level must be balanced the years of heavy loss with declining price level. This conclusion, which we reach in spite of what we acknowledge to be none too exact a measurement of the amount of carrying charges, is in harmony with the appraisal of the subject by the Federal Trade Commission.

Since now it seems clear that with an unchanging wheat price level the recurring seasonal price advance is usually not enough to cover the costs of storage in terminals, a storage account becomes speculative. In crop years when the price level rises, the May price would be above the price of the preceding August, for example,

by more than the cost of carrying wheat; but in crop years with decline in the wheat price level, the price in May would be relatively low, or even absolutely below the August price. But balancing the gains in years of increasing wheat price level against the losses in years of decreasing wheat price level, it follows that the cost of carrying wheat over the winter is not as a rule covered by the increase in wheat price from August–November to May, as revealed in the reported terminal prices.

Whether this holds for farm price of wheat also has not been demonstrated; but the natural presumption lies in the same direction. In short, in years of unvarying wheat price level and other things equal, it is not possible routinely to purchase cash wheat after the harvest and carry it over the winter at a net profit. Furthermore, it is not possible under the same circumstances routinely to purchase cash wheat after the harvest, hedge the transaction in the May future, and in the following May sell the wheat and buy in the hedge at a net profit. As a straight transaction it is not routinely possible to buy wheat after the harvest, hedged or not hedged, and sell the identical wheat in May at a net profit.

If one observes the operations of grain trading in terminal markets, and in connection with these observations peruses the Federal Trade Commission's reports on the grain trade and the recent book of B. F. Goldstein entitled *Marketing: A Farmer's Problem*, three inferences will emerge. First, it is not routinely possible in cities to conduct elevators as a pure warehousing proposition, at the current rates of storage, insurance, and interest applied to wheat and secure operative income sufficient to cover insurance and interest on the investment in the elevator. Second, it is not routinely possible in cities for grain merchants not owning or operating elevators to engage in the handling of wheat on the basis of leasing elevator space on toll at the established rates and secure enough operative income to cover prudent interest on the investment and a modest reward to the entrepreneur. Third, it is not routinely possible to find the recurring seasonal price advance of wheat sufficient to cover the cost of carrying the wheat over the interval. But year after year much wheat is car-

¹ "Variations in Wheat Prices," *WHEAT STUDIES*, June 1929, V, 241–300.

ried over, and it is not done at a routine loss. The explanation of the riddle lies in the merchandising practices of the grain trade.

SOURCES OF PROFIT TO ELEVATOR OPERATORS

These conclusions are enforced by consideration of the actual operations whereby elevator companies obtain their profits. Grain dealers in terminal cities carry on four interrelated departments of their business. Though interrelated, these departments are susceptible of decentralization, both in management and in accounting. The accounting of a grain house is made difficult by the fact that the operations of the fiscal year are not sharply terminated with the crop year, since both cash wheat and wheat futures are carried over to varying extents. Also, it is difficult to segregate the items of separate and joint expense; indeed the accounting in this respect is to some extent always arbitrary and the practices of accounting are not uniform throughout the trade. What may be termed the four departments of a terminal grain business are the following:

1. The operation of terminal elevators (with or without country line elevators) owned or leased, both public and private.
2. The mixing of country-run wheats to conform with federal grades.
3. The merchandising of the several and special wheats on the basis of commodity values, especially premium wheats.
4. The management of the hedging account.

Often, in some cities usually, terminal elevators are leased (for example, from railways), not owned, by grain houses; the country line elevators are usually owned. If the terminal elevators are owned, there is an appropriate investment account, with provision for insurance, depreciation, and upkeep; if the elevators are leased, there is a rental account, with provision for insurance and upkeep. Whether owned or leased, there is an operating account. In the private elevator only the grain of the operator is stored; in the public elevator operated by a grain house are stored both the grain of the operator and the grain of clients, on toll at established rates. All legislative attempts to divorce the warehousing

of grain from the handling of grain have failed.¹ Except at the seaboard, there is practically no such thing as a terminal grain elevator conducted strictly as a warehousing proposition, rendering services on toll at established rates. Any idea that the warehousing of wheat is comparable with warehousing of household furnishings, or of distributive stocks of finished commodities, is entirely erroneous.

Under the existing system of trading in futures on grain exchanges and including the hedging of wheat purchased for cash, the control of a terminal elevator is the indispensable basis of the operations of the grain house. On the basis of leased public space, no modern wholesale terminal grain business can be operated. The control of the terminal elevator provides the opportunities for the operations of the three other departments of the business. It is necessary in the appraisal to separate the elevator man operating for others on toll from the same person operating for himself as merchant. The elevator man will not put in store in his public space the wheat of another merchant unless paid his formal storage charges at published rates.² But he will put his own wheat in store when he knows that he will not receive out of the transaction, correctly accounted, the storage charges which he would collect from a storage customer. That is, in effect, he cuts the storage rate to himself on his own wheat. On his books he may charge the full storage rate, or he might assign a flat low rate, or he might compute the return for storage as the final result of the accounting. He may, according to his accounting, lose money as an elevator man and make money as a merchant; he may make money as an elevator man and lose money, or make less, as a merchant. When the business is analyzed from the standpoint of management involved, it is clear that the money is made in management of merchandising rather than in management of storage. It is from this point of view that one must accept the customary statement that only in highly exceptional crop years do grain houses receive on grains stored in

¹ Cf. B. F. Goldstein, *Marketing: A Farmer's Problem* (New York, Macmillan, 1928), pp. 269-76.

² Cut rates, published and applicable to all grain in store, occur but are not common.

the elevators they control anything corresponding to the current storage charges.

If there were no trading in futures and no hedging of cash transactions, it would be possible to picture the operations of a grain house engaged in mixing and merchandising wheat without being simultaneously engaged in running a public grain elevator; but so long as there is trading in grain futures and so long as the insurance features of hedging are accepted as desirable in the interest of growers, the business of the elevator man and of the grain merchant seem necessarily conjoined.¹

With his operations protected by control of storage space, the grain merchant puts in his stock of goods—namely, wheat purchased in the country—and hedges his purchases in an appropriate month and market, within limits irrespective of whether or not the difference between the price paid for the wheat and the price of the wheat future in which the hedge is sold covers the regulation storage charges, interest, and insurance. The merchant is aiming at volume of operation and unless there are contra-indications wheat is almost routinely bought and placed in store when the margin between the cash and the future is wide enough only to cover interest and insurance. Grain merchants not only buy wheat, hedge it, and then merchandise it, but they also do the opposite—under certain circumstances they buy wheat futures, and take delivery when the price looks right.

With large and workable volumes of various wheats in hand, the operations of mixing and merchandising proceed, and here the particular qualities of management of the grain house are revealed. These two departments are really conjoined, though the one is largely an internal operation and the other largely an outside operation. The customers of the grain house are millers,

manufacturers of various cereal preparations, exporters, and other grain merchants.

As the crop year progresses, the hedges may be transferred from one market to another and from one month to another in accordance with developments of prices in futures, and are closed out whenever wheat is sold. The objective of these operations is to widen the margin initially secured between cash and futures. The hedge is not merely an initial insurance, it is a progressive insurance, usually perfected by the handling of the hedging account; and therefore, somewhat paradoxically, one refers to profit or loss in the hedging account.²

When the season is over, the various debits and credits are assembled in the combined account, and there is usually left a profit. Predominantly, this profit on money invested and reward of the entrepreneur is not the profit on carrying wheat; it is the profit on merchandising operations, to which the carrying of wheat is merely a necessary incident. The profit is not secured as the direct expression of the recurring seasonal price advance; this would usually not be enough to reward the entrepreneur and pay interest on the capital invested.

The wheat growers' co-operative associations would presumably execute the functions now carried out by wheat merchants in respect to the seasonal carryover, except the hedging account. It does not lie within the theory of co-operative marketing of wheat to have the association hedge receipts from members as the grain trade hedges purchases. Even those who believe that co-operative associations ought to deal in futures for the furtherance of certain objectives, as does the central selling agency of the Canadian wheat pools (to which we shall later advert), do not contemplate a futures account based on the hedging of wheat receipts. To the extent, therefore, that the hedging account contributes to the net profits of wheat merchants, the co-operative associations would thus secure smaller profits from the operations when they replace these merchants in the distribution of wheat. On the other hand, centralized management and the possession of larger volume of wheat would tend to increase the earnings of the associations.

¹ Cf. B. F. Goldstein, *op. cit.*, pp. 261-81.

² Not infrequently developments in futures and in premiums for cash wheat are highly favorable to the grain dealer, and sometimes the relations of prices in different months provide opportunity for profit. "We purchased some March wheat and sold May against it at 4¼ cents difference, which is at the rate of 36 cents per bushel per annum, and much better than a carrying charge after paying a good rate of interest, full storage and insurance." (From column of market comment of Uhlmann Grain Company, *Chicago Journal of Commerce*, March 9, 1929, p. 12.)

CONCLUSIONS

We may conclude that the prospect that co-operatives or a stabilization corporation have of making money directly as result of carrying wheat from the harvest to the following spring is not promising. This holds for co-operative associations in the same manner as for the terminal grain dealers, when the returns from mixing and merchandising of wheat are separated from returns on warehousing. There may be other reasons for carrying wheat, by grain dealers or by co-operatives; but direct net profits on carrying wheat as revealed in the relation of the recurring seasonal price advance to the expense of carrying wheat is not an adequate reason for carrying wheat. There may be large gains in particular years; but there will be losses in other years. There may, indeed, be rea-

sons for expecting that wheat co-operative associations, or a wheat stabilization corporation, will make as much or more money from mixing and merchandising of wheat than the combined terminal grain dealers make; but the negative experiences of terminal grain dealers in respect to profit on direct carrying of wheat will hold for producer-controlled organizations.

What has been said above applies solely to intraseasonal operations, the carrying of wheat over the winter to be disposed of during the terminal months of the same crop year. Carrying wheat from one crop year into another crop year is a topic involving entirely different factors. To the subject of interseasonal carryover we shall return later in dealing with crop-year carryover, export dumping, and interseasonal stabilization of price.

V. OPERATIVE PROCEDURES

PRICE-INFLUENCING PROCEDURES

On the basis of available experiences, there are three different ways in which the value-influencing procedures of co-operative associations or a stabilization corporation might be applied to wheat. The first method would be application of the procedure to all grades of wheat, under appropriate differentials, changing from year to year or even within a year. This was the scheme adopted during the war. The second method would be to limit the procedure to wheats of the basic contract grades and upward. The third method would be to remove from the market all substandard wheat, disposing of it abroad or at home for purposes other than flour milling for domestic consumption, and thus promoting the rise of prices of standard and premium milling wheats in the absence of competition from lower-grade wheats. It is our purpose in the present section to indicate the problems which a Farm Board would naturally face if it determined to operate upon any one of these three bases.

In the program it would be necessary to take account of the relations of flour grades as well as of wheat grades. Flour millers purchase wheats primarily from the standpoint of flour grades and only secondarily

from the standpoint of wheat grades. Except in custom mills and in isolated regions, little remains of flour ground from country-run or elevator-run wheat; flours having any considerable range of distribution are made from blends of wheats. Some superfine brands of flour are made from premium wheats exclusively. But for the most part, standard patent flour for the family trade is made by grinding a blend of premium wheats and wheats deliverable on contracts, in different proportions from region to region and from year to year; and often to some extent including also discount wheats or even low-grade wheats not deliverable on contract. Standard patent flours for the bakery trade are usually made from a blend of much the same categories, though bakery flours contain as a rule a smaller proportion of premium wheat than flours for the family trade. To some extent, straight flours are made from wheats deliverable on contracts and discount wheats, without admixture of premium wheats, but such flours are distinctly inferior to the representative American flour. Export flours ground from domestic wheats are usually manufactured from wheat blends distinctly inferior to blends used for flour for the home market. So-called self-rising flours are usually long

patents, or straights, made from wheat deliverable on contracts and discount wheats; some lower - grade self - rising flours are blends of straights with clears secured from the manufacture of patent flour containing premium wheats.

For the household trade, the mills manufacture flours to meet and maintain established standards sold under brand and trade-mark. But for the bakery trade flours are being manufactured more and more on specification. Usually bakeries specify exactly what the flour must do and then leave it to the miller to blend the available wheats in order to secure the desired result, leaving the clear flour in the hands of the mill. Occasional bakeries prefer to contract for a specified rate of extraction, with instructions to the mill how to cut the straight flour into patent and clear flour, both of which are taken by the buyer. The recurring problem of the flour mills, a problem at once comprehensive and intricate, is to manufacture relatively unchanging flours from continually and often widely varying raw materials.

The weighted price of the crop milled in this country is thus the composite of a considerable number of factors. Whenever the wheat crop of a year, as it stands, is to be managed from the standpoint of maximum returns to growers, this may tend to result in favoring some wheats and discriminating against others, to the gain of some growers and to the prejudice of others. The co-operative associations would need to deal more or less heavily with low-grade as well as with high-grade wheats, of both esteemed and undesirable varieties. It would be necessary to fit these procedures into the milling situation at home and into the demand situation abroad. Thus, the domestic operations would be modified by the crops of other surplus-exporting countries, and by the varying demands of European and other countries.

In consequence, the approach to influencing farm prices of wheat through control of terminal prices of grades under the federal standards must take account of the present conventional operative classification of wheats into premium wheats, wheats deliverable on contract with or without discount, and wheats which are not deliverable at all.

We shall repeatedly employ the terms "representative wheat" and "substandard wheat," and "representative flour" and "substandard flour." Under representative wheat is to be understood wheats adaptable, by type, variety, and quality, to the manufacture of standard flours meeting the specifications of consumers in the United States and marketed more or less nationally under brands. Thus construed, the representative wheats include only those of contract grade and higher, but by no means all of such wheats of contract grade. In most years the representative American wheats (outside of durum and Pacific wheats) carry some premium for quality, i.e., premium over the contract grades. Substandard wheats are wheats which do not lend themselves directly to the manufacture of such standard flours. Thus construed, considerable wheat of contract grade is substandard; some substandard wheat is, however, blended with representative wheat in the making of flour of representative grade. In short, we have spring wheats from which a representative hard spring-wheat flour cannot be made, hard winter wheats from which a representative hard winter-wheat flour cannot be made, and red winter wheats and white winter wheats from which a representative soft flour cannot be made. The divergence between representative and substandard wheats and representative and substandard flours is due in part to inherent defects in the wheats, or in the regions in which they are grown, but in large part to high flour standards that have become established in the United States in households and in the manufacture of bread, crackers, and sweet goods. The differences between representative and substandard wheats and representative and substandard flours vary somewhat from year to year; also, the fact contained in the distinction, with the corresponding implications, must not be used in an exaggerated form in discussions. Nevertheless, the fact is of outstanding importance because Canada, Argentina, and Australia always export representative wheats and corresponding flours, whereas the United States for the most part, after the domestic wants have been supplied, is able to offer only substandard wheats and flours.

In what follows we shall describe the alternative procedures with sharp distinctions. Done for the sake of clarity, the contrast will thus be overdrawn. In fact, the three procedures may readily merge into each other and overlap, though the objectives remain distinct when discriminatingly appraised. There is from crop year to crop year a varying relation of good to poor wheat, both at home and abroad, and the widely varying proportions modify more or less the range of wheat prices and the premiums and discounts. Somewhat paradoxically at first sight, but reasonably enough on technical considerations, the world market demands both good and poor wheat, and this circumstance modifies prices in all exporting countries. Directly considered, the three procedures might be comparatively appraised on the basis of precedents. But no such order would necessarily hold in practice, since the advantage of one procedure over another would be modified by varying circumstances in the wheat markets at home and abroad. The wheat-importing countries endeavor to secure certain qualities in their imported supplies and at the same time to pay the lowest possible weighted price for import wheat. American wheat growers endeavor to make domestic millers pay as much as possible for the flour qualities involved in consumers' preferences, and at the same time sell abroad for as much as possible the wheats finding no utilization at home. Thus the merchandising tactics under the Farm Board must be continuously changed to meet varying conditions at home and abroad; and in any one crop year the same marketing treatment, so to speak, might not be found applicable to the different wheat regions. Success will depend upon mobility of procedures as well as upon correct appraisal of current conditions.

TRADING IN FUTURES

On the assumption¹ that the Farm Board would not wish to set up a monopoly of wheat, with the corresponding price-fixing entailed, but would prefer to have the price openly registered on the market, it follows

that the practices and facilities of the grain exchanges would be made use of under the new system. Making use of the grain exchanges does not mean tolerating their continued existence; it implies a positive policy of adding trading in futures to the armamentarium of the co-operative associations and the stabilization corporation, just as has been done by the wheat pools of the Canadian Prairie Provinces. There are good reasons for believing that trading in futures, discriminatingly employed, may render distinct service to wheat growers.

It has not been supposed to be necessary (or indeed proper) for a wheat growers' co-operative to hedge receipts of wheat delivered by members. Since the co-operative would possess a large volume of wheat, it is secure when the contracts of a trading month are closed out. Since a co-operative does not buy member-wheat in the ordinary sense, but only sells, the position is somewhat different from that of a stabilization corporation, which would need both to buy outright and sell outright wheat both of members and non-members. The Canadian pools (and, so far as we know, this holds for all the small American pools) do not hedge receipts; consequently, we take it that if wheat growers' associations were to be created under the new Farm Board they would not hedge receipts, at least from wheat members.

But even if wheat growers' co-operative associations did not hedge wheat receipts, they still could not avoid trading in futures, if the futures market persisted. When a pool sells wheat to millers and merchants who practice hedging, it is often compelled to accept their futures contracts in closing the transaction. These futures must then be closed out on the exchange. Thus, as seller of wheat, so long as the present system of grain trading is in operation, wheat growers' co-operative associations must engage in trading in futures, even though as buyers of wheat they do not so engage.

More important still in this connection is the fact that dealing in futures will present an alternative method of merchandising. Desirous of securing wheat from non-members, the co-operative association or the stabilization corporation could purchase cash wheat for immediate delivery or purchase futures for delivery in a sub-

¹ See above, pp. 373 ff.

sequent month. Such purchase of futures would not be speculation, because it would be done with intent to accept delivery. Purchase of premium wheats would need to be made on the cash market; but purchase of contract and discount wheats could be secured in either way. Indeed, filtering through the markets and being delivered on futures contracts in December, March, and May would represent perhaps the best way of purchasing the wheats for which domestic use is not available. Presumably purchasing futures in the summer and fall would have as much influence on the post-harvest price as purchasing cash wheat; probably purchasing futures after the harvest and accepting delivery in May would have a better influence on the recurrent seasonal price advance than purchasing the deliverable wheats for cash after the harvest and carrying them over the winter.

Similarly, the wheat growers' co-operative associations, or the stabilization corporation, could sell wheat either for cash or with futures. The seller of wheat can sell spot or to arrive for immediate delivery or on the cash market for deferred delivery; or wheat futures may be sold and delivery enforced in the contract month. For a wheat pool to sell futures and make delivery is not a speculation, because the wheat is in the possession of the seller and the contract is made with intent to complete delivery. Wheat sold on futures and delivered represents a sale to a general purchaser rather than to a specified buyer; it is a common practice of the central selling agency of the Canadian wheat pools.

A wheat growers' co-operative association has thus two ways of selling: spot sales and wheat futures. In possession of the wheat, it is quite immaterial to a pool whether a buyer buys cash grain today (and hedges it in a distant future) or whether the pool sells a corresponding volume of wheat futures in the same distant month. In the broad sense, if the position is watched carefully, it ought to be quite immaterial to the pool whether it disposed of its wheat by the cash route or the futures route. This is the point of view of the Canadian pools, as made clear in the testimony of A. J. MacPhail, in the recent Congressional hearings.¹ Indeed, it seems

clear that by a combination of the two methods—selling for cash and selling through futures—the field of choice in selling wheat is widened and the opportunities for merchandising enhanced. Since the wheat pool possesses the wheat, selling wheat by contract, which is what futures selling is, is merely a form of selling for deferred delivery. But it is the operations of speculators that make this possible for a wheat pool.

Further, it is possible to extend more widely the suggestion for participation in trading in wheat futures. Looking backward, it is easy to point out crop years in which it would have been advantageous to wheat growers' co-operative associations to sell wheat futures against the unharvested crops or to buy wheat futures before the crop is harvested, to make or accept delivery of the physical wheat after the harvest. For illustration, it would have been profitable for a hard winter-wheat co-operative association to have sold wheat futures in the spring of 1928 and made delivery on the contracts in September. Conversely, it would have been profitable, in Kansas City in the early summer of 1929, to have purchased wheat and accepted delivery on the contracts in September. It will be rejoined that "hindsight is easier than foresight"; but these are relative opinions. A well-equipped Farm Board would possess foresight as well as hindsight. Such transactions by a wheat growers' co-operative association would not be speculation in the sense of the grain exchanges, since delivery or acceptance of delivery would be physically possible and desired. With due regard for acreage under control of the co-operative association, buying or selling wheat on futures before the crop is harvested is not essentially different from buying or selling wheat on futures after the crop is harvested.²

Lastly, occasions might arise when it

¹ Senate Committee on Agriculture, *Farm Relief Legislation Hearings*, April 4, 1929, pp. 555-88; also House Committee on Agriculture, *Agricultural Relief Hearings*, April 5, 1929, Serial A—Part 9, pp. 836-56.

² We follow the loose conventional usage of the word "speculation." More strictly construed, investment shades into speculation both with securities and with grains. Purchase of grain futures with intent to take delivery and sale with intent to make delivery are not regarded as speculation on grain exchanges, but might be so regarded in other circles.

would seem commercially advisable for co-operative associations to enter the futures market in furtherance of a price policy. Usually such an operation would be in defense of a price; but occasions might arise when a growers' co-operative association might find it advisable to sell futures to restrain a temporarily undesirable rising price of wheat. The Canadian wheat pools have on occasions dealt in wheat futures in furtherance of their price policy. This represented entrance into speculation, usually for the purpose of supporting the price of the wheat or to facilitate transition from one crop year to another. But speculation by a pool is always different from speculation by an ordinary trader since the pool is always physically prepared to accept or make delivery.

It may be objected that one of the implied purposes of legislation for farm relief is to get rid of speculation in grain; instead the above proposals contemplate continuing it. In spite of this, and regardless of the present or ultimate attitude of growers toward futures trading, we hold it in the interest of growers for the time being to make use of speculation. Indeed, we regard it as an outstanding advantage of co-operative marketing of wheat, that wheat futures may be purchased with intent to accept delivery and wheat futures sold with intent to make delivery. In short, we regard these transactions as valuable merchandising tactics. It is difficult for us to picture national and international marketing operations of a wheat stabilization corporation without the fullest use of the facilities of grain exchange trading, on occasions at least, so long as trading in wheat futures continues actively. It might frankly find it desirable to regard speculation in wheat, under the existing conditions in the world wheat market, as a necessary part of its operations, particularly since, in possession of large funds, in control of a large volume of supplies, and in position to advise wheat growers as to the rate of marketing of their crops, the hazards of speculation would be reduced to the minimum.

THE PROCEDURE APPLIED TO ALL WHEATS

Probably what would generally be regarded as the most natural method of in-

fluencing the price of wheat would be to include all varieties, grades, and qualities in the operations. From year to year, the crops vary in the several regions, with changes in the proportions of the different types. From year to year the proportions by grades and qualities vary within each type. As a rule, there is a shortage of one variety of hard wheat, sometimes of both; often there is a shortage of soft red winter wheat and sometimes a shortage of hard white Pacific wheat. Usually there is a relative shortage of dark northern spring and of dark hard winter wheats, and a relative excess of northern spring and of yellow hard winter wheats. As a rule, there is a relative shortage of wheats of federal grades No. 2 and better, and a relative excess of lower grades of the representative varieties, of undesirable varieties, and of mixed wheats. There is usually a shortage of high-protein wheats. During each crop year certain varieties, grades, and classes stand at a premium, others at a discount.

At first the effect of the entrance of the stabilization corporation into the wheat market will be to elevate prices, with the public drawn into the movement of buying wheat. This may lead to an overbought position with sharp recessions, followed again by rise of price. After a time, the wheat merchants and speculators will learn to make allowances for the dealings of the corporation, and the situation will be changed from the present mainly by the added participation of one more factor in the market, albeit an outstanding factor.

The co-operatives, or the stabilization corporation, without stating prices, might announce for the several terminal markets or at country points, the differentials at which would be taken all wheats offered, with premiums and discounts established between the several grades and varieties in accordance with quantity, quality, and milling requirements, with adjustments for freight rates in the several regions. During the war the fixed price of wheat was for No. 1 Northern Spring at Chicago, with differentials for other grades and markets and adjustments for regional distances.¹

The particular advantage of such a plan lies in the maintenance of established prac-

¹ Cf. F. M. Surface, *The Grain Trade during the World War* (New York, Macmillan, 1928), pp. 72-75.

tices on the cash markets and on the grain exchanges of the country. The outstanding difficulty would lie in the time of price appraisal. The successive months of harvest of the several domestic wheats of the different regions, from May to September, make the setting up of differentials for the crop year both difficult and hazardous. To set them narrow would be to offer little advantage to growers; to set them wide would be to run grave risk of financial losses. To change the differentials from month to month would tend to restrain trade. Something would depend upon which was the primary and which the secondary price objective—merchandising of wheats or elevation of prices. If elevation of price were the primary objective, different tactics might be indicated. It might be possible, or necessary, to adjust the differentials from time to time in conformity with movement of world prices.

As against the suggestion for announced differentials for the crop year (in view of the difficulty of setting them up when the winter-wheat crop comes in and out of regard for possibly hazardous contingencies), the policy might be adopted of basing the differential operations on the Canadian price as a base-line, and utilizing in each year and in every possible way for improvement of domestic price, the various wheat crop factors as they develop from the close of one crop year to the opening of the next. This is necessarily the policy of the Canadian pool, which safeguards its operations by making the initial payment to growers so far below the prospective price level as to provide a safe working margin in the merchandising of all grades. The Canadian problem is relatively simple, because all the crop of note is spring wheat and comes in at one time, whereas the American wheat crop consists of five or more types harvested in four regions at different times.

The four regional wheat growers' associations would need to work in accordance with an agreed mutual policy, seeking co-ordination rather than competition. This would constitute a difficult undertaking, since growers of premium wheats in any one region would resent any appearance of interference on behalf of the wheat of another region. A wheat stabilization corporation would need to establish the same

harmonious policy. The general plan would be to disturb commodity trade as little as possible. With four regional wheat growers' co-operative associations, this would lead to mergers of line elevator companies, as in Canada. The elevators and mills should buy cash grain during the harvesting period; the stabilization corporation should buy futures. This would seem the best way to influence price, to buy futures and later take delivery, helping the price during farm marketing and securing possession of grain later, without upsetting the sample-trading methods of the trade.

It would need to be decided which wheats, if any, would need to be "dumped." It would be necessary to establish a policy of disposal of low-grade wheats on the feed market. The amounts and proportions in which the several wheats would be carried into the carryover would need to be determined. Each crop year would represent a new set-up, a different series of problems with the necessity of varying and sometimes extensive adjustments—in short, each crop year would be a new period of experiment, becoming somewhat easier with accumulating experience, but still with the possibility of uncovering a novel situation for which no precedents would be available.

Whatever the differentials adopted, the policy of administration would be to "feed out" the wheats to the milling industry in such a manner as to secure the maximum influence on the price of wheat to be derived from competition between mills. Such competition now makes effective the premium prices for wheats that are more or less current during each crop year. In attempting to intensify the competition between mills by holding back wheat desired by mills, caution would need to be observed not to exaggerate beyond milling values the spreads between premium wheats and discount wheats.

On the face of it, this procedure, directed to the entire wheat crop, would seem to fit in best with the current practices of merchants, grain exchanges, flour millers, and exporters. Since the wheat growers' co-operative associations would be designed to replace independent grain merchants and exporters for the most part, the point would have less importance for these groups. But it would be expedient to have the measures

of merchandising fit in with established practices of flour millers. Millers in particular would favor the procedure applied to all wheats because it would leave the buying and selling of the various grades and varieties on a competitive basis, and cause no arbitrary shift in the costs of making flour. If the stabilization corporation were to buy futures, instead of cash wheat, after the harvest, this would facilitate country selection and buying by mills.

The effect of the new marketing procedures on the grain exchanges would be problematical. If the co-operative associations did not hedge receipts, this would eliminate futures trading now based on hedging of receipts by elevators and merchants. The millers would continue to hedge. If speculative trading were otherwise undisturbed, the elimination of hedging by wheat merchants might tend to increase the insurance value of hedging by flour millers.

But could speculative trading continue in undiminished volume? Speculative dealing in wheat futures is based on short-term price fluctuations, on intraseasonal price changes, and on the prospects of interseasonal price movements. In proportion as the operations under the new régime reduced short-term fluctuations, intraseasonal price changes, and interseasonal price movements, the speculative interest would decline. Under such circumstances, speculative trading might be so reduced as to make the volume too small to absorb even the reduced volume of hedging. More than at present, speculative trading would be based on foreign rather than domestic conditions. Professional speculators might find prospects of gain more attractive on foreign than on domestic exchanges. This has happened before, when for reasons associated with the domestic crop, domestic price fluctuations have been small and speculative interests have directed their attention to foreign exchanges where price fluctuations were wider. An established policy of reducing price fluctuations would tend to restrict the volume of operations in wheat futures on the domestic exchanges and impel speculators to direct their attentions to foreign grain exchanges, to futures trading in other commodities than wheat, or to the stock exchanges. Price fluctuations

are entwined with price differentials. The subject of price differentials is one of extraordinary complexity and setting such differentials would constitute probably the most intricate technical determination of the Board.

THE PROCEDURE APPLIED TO HIGHER-GRADE WHEATS

The second method of influencing wheat prices would consist in applying the operations only to the contract grades of the representative milling wheats. Disregarding for the moment durum and Pacific wheats, this would limit the price-influencing tactics to, let us say, Nos. 1 and 2 Red Winter, Nos. 1 and 2 Dark Hard and Hard Winter, No. 1 Dark Northern Spring and No. 1 Northern Spring wheat. All other varieties and lower grades would be excluded; the co-operative associations would of course receive such wheats from members, but would not include them in their price policies. The stabilization corporation would not deal in them domestically, and would not include them in the carry-over operations, but would include them in export activities. Growers raising wheats outside of the accepted list included in the operations would thus have to shift for themselves. The objectives of such segregation would be to accord to the representative milling wheats the premium values corresponding to their qualities, to encourage the production of better wheat, and to discourage the production of poor wheat.

Despite the attractive simplicity of the initial statement of the plan, the undertaking to operate only with higher-grade wheat would create practical difficulties new to the trade and to the milling industry. With due consideration for the objectives of such price policy, the grain trade and the milling industry would adapt themselves to the innovations in a manner to favor their commercial interests and not to injure them. Limiting the operations to higher grades would mean confining the operations to wheats which, for the crops of 1920-28, have represented the quantities and proportions of the inspected crop as shown in Table 4 (p. 398). From these figures may be formulated an idea of the scope of operations from year to year.

If effective, this procedure would mean that the range of prices between the top grade and the lowest grade would be widened, and a sharper price cleavage would be introduced between the higher-grade wheats as a group and the lower-grade wheats as a group. For the grain merchant, this might tend to diminish the speculative risk in dealing with wheats whose prices were subject to the operations,

different wheats, and manufacture a series of products, namely different flours and millfeeds. For the most part, flours are now blends, and the material price sheet, the operative cost sheet (including administration and manufacturing expenses), and the selling price sheet lie on the desk of every mill executive. Anything disturbing the openly competitive relations among the several varieties, grades, and qualities

TABLE 4.—TOTAL INSPECTIONS OF HARD RED SPRING, HARD RED WINTER, AND SOFT RED WINTER WHEATS, AND AMOUNTS AND PERCENTAGES GRADING NOS. 1 AND 2, 1920-28*

| Crop year July-June | Hard red spring | | | Hard red winter | | | Soft red winter | | |
|------------------------|----------------------|---------------------------------|----------|----------------------|-------------------------------------|----------|----------------------|-------------------------------------|----------|
| | Total inspections | Inspections grading No. 1 | | Total inspections | Inspections grading Nos. 1 and 2 | | Total inspections | Inspections grading Nos. 1 and 2 | |
| | | Amount (thousand bushels) | Per cent | | Amount (thousand bushels) | Per cent | | Amount (thousand bushels) | Per cent |
| 1920-21 | 173,214 | 57,906 | 33.4 | 389,015 | 250,473 | 64.4 | 113,720 | 73,477 | 64.6 |
| 1921-22 | 125,229 | 36,196 | 28.9 | 404,494 | 250,641 | 62.0 | 114,427 | 39,585 | 34.6 |
| 1922-23 | 165,703 | 110,743 | 66.8 | 295,761 | 150,095 | 50.7 | 94,616 | 33,467 | 35.4 |
| 1923-24 | 133,679 | 52,961 | 39.6 | 240,433 | 138,571 | 57.6 | 84,961 | 50,330 | 59.2 |
| 1924-25 | 160,939 | 102,284 | 63.6 | 450,385 | 340,935 | 75.7 | 65,543 | 35,753 | 54.5 |
| 1925-26 | 176,481 | 86,832 | 49.2 | 194,582 | 144,470 | 74.2 | 55,110 | 39,248 | 71.2 |
| 1926-27 | 136,853 | 51,160 | 37.4 | 407,445 | 347,495 | 85.3 | 104,408 | 75,957 | 72.8 |
| 1927-28 | 241,294 | 106,285 | 44.0 | 310,295 | 223,739 | 72.1 | 63,635 | 36,358 | 57.1 |

* Data from *Agriculture Yearbook, 1927*, p. 752, and *1928*, p. 683. The data for inspections are for receipts at all inspection points. Percentages computed by Food Research Institute.

and increase the speculative risk in dealing with wheats whose prices were excluded. It would tend to intensify the practice of mixing wheats in order to secure as large a volume as possible of wheat included in the classification employed for higher-grade wheats. This would tend to lower the weighted quality of the higher-grade wheats, since grain merchants would use to the maximum the arts of mixing, in order to load the higher-grade wheats as heavily as possible with lower-grade wheats. Thus, the net result would tend to be a reduction in the average quality of the premium milling wheats and widening of the price margin between the representative wheats and the substandard wheats. Other things being equal, lowering the grade of the representative wheats would tend to favor importation of duty-paid wheat in years when the larger part of the Canadian crop is high grade.

The difficulties that would face the flour millers would be of a serious nature, at least in certain years. The mills buy varying assortments of raw materials, namely

of wheat, would introduce adventitious factors into the conduct of flour milling. This would hold, whatever the relations of the mills to the co-operatives.

Each large mill knows every day (within limits) what it costs to produce the barrel of straight, long patent, short patent, and clear flour and the ton of the several mill feeds from each variety of wheat, each grade of wheat based on protein content. In the large milling centers, the cost of a barrel of straight flour from a premium wheat may be more than a dollar a barrel above the cost of a barrel of comparable straight flour from the grade of wheat deliverable on contract on the futures market. Millfeed prices and expense factors being equal or adjusted, the continuous endeavor of the mills is to meet the requirements of the trade at the lowest cost of raw materials. This means diluting premium wheats with contract wheats and discount wheats, or strengthening contract wheats and discount wheats with premium wheats, as the case may be.

If, now, operations with wheat were to

be limited to certain federal grades—for example, as specified above—this would tend to increase the margin between the favored wheats and those outside the operation. It would tend to widen the margin between the cost of the barrel of flour from a premium wheat and the barrel of flour from a contract grade wheat or from a discount wheat. With this widening of the margin, the buying practices of the mills would be made more difficult, the manufacturing problem of blending accentuated, and new selling difficulties introduced. In proportion as the prices of flour from the representative wheats rose relatively above the prices of the flours from the substandard wheats, resistance would develop on the part of flour buyers. The large bakers would amplify their efforts to use cheaper flours and the large mills would intensify their efforts to make acceptable flour out of the lower grades of wheat. The stabilization corporation would be pulling one way and the bakeries the other way, with the mills between them.

In particular, the segregation of high-protein wheats would create a disturbance based on the assumption that protein content alone determines price. The premium wheats are purchased by carload lots on individual merit, the premium depending not only on protein content but upon quality of gluten as well, and upon flour yield and other specifications. High-test protein wheats cannot be mixed to obtain an average of protein content in disregard of all other factors. This entails separate binning of quality wheats, which would make difficult the application of price procedures designed solely for premium wheats.

From the standpoint of millers, instead of limiting procedures to premium wheats it would seem preferable to establish clearing houses for premium wheats in the principal markets, through which adjustment of supply to milling demand could be effected in the interest of price improvement. One of the most difficult steps would be fixing the differentials between types, varieties, and grades, especially as the winter wheats come in first and the values of the winter wheats are modified by the characteristics of the spring wheat harvested later.

Under a procedure operating only with

premium wheats some restraint of speculation might be provoked, since deliveries are not made in premium wheats, though premium prices are based on contract prices. Purchases of premium wheats could not be made through futures, but only in cash transactions. Sales of premium wheats also could be made only in cash transactions, and not through futures with delivery. In general, a limitation of the operations to part of the wheat crop might tend to limit future trading and open registration of price.

The outcome would be different in different years, depending on the varying proportions of the several wheats. The flour-buying public might not follow the enforced program of higher priced high-grade flour that would be expected to result from exclusive operation with high-grade wheats. It is hardly to be assumed that the high American household standards of flour would yield under pressure of price; but certainly bakers contrast commodity values with prices closely and effectively. The country buying of mills would be disturbed and the selective purchases by which wheat growers now receive their best returns for quality would be disorganized. The mills might find it necessary to curtail their operations with premium wheats and develop the policy of having the flour supply of the year more closely correspond to the average quality of wheats deliverable on futures contracts. In short, the outcome of the policy of improving the prices of high-grade wheats might have the result, for the flour supply of the country, of tending to produce a uniformity in the direction of longer extraction and lower strength, such as was the case during the war, when all wheats were mixed and milled to 74 per cent extraction.

Therefore, the reactions of the flour-buying public, and the corresponding adaptation in practices of the mills, might not work in furtherance of such a policy. All told, a policy of devoting attention only to premium wheats, while in itself logical and attractive, would seem to tend to disorganization of relations between sellers of wheat and the proximate consumers, the mills. What is wanted is directness and simplification in mill buying; complications would hardly enlarge returns to growers.

THE PROCEDURE APPLIED TO LOWER-GRADE
WHEATS

The third method of applying the price-influencing procedures would be to remove a large part of the unrepresentative and inferior wheats from the market and dispose of them outside of the grain exchanges. This procedure corresponds in spirit with the application to wheat of a type of practice widely used in merchandising perishable products on the basis of rigid grading. When substandard or ungraded fruits and vegetables are withheld from the market, the sale of the graded products is facilitated. The marketing of renovated butters injures the sale of creamery butter. If the packers could less unprofitably dispose of lard and cured fat pork, packing-house operations would be more remuneratively sustained by the sale of ham, shoulders, and bacon. The analogies of course must not be driven too far; the basic consideration is that substandard products tend to compete injuriously with standard products. The removal of the substandard wheats from the market has been several times recommended as an alleviation for wheat growers, and was strongly urged in an agricultural hearing by J. W. Brinton, of the Nebraska Wheat Growers' Association.¹

The lower-grade wheats might be utilized, along with screenings and feed wheat, as poultry feed, and in the manufacture of mixed feeds; in part, they might be put to industrial uses; in part they would need to go abroad. Under such circumstances, the lower-grade wheats thus segregated by the stabilization corporation would not appear in the visible supply, or in the carryover. Speaking approximately, an 800-million-bushel crop with 100 million bushels of lower-grade wheat removed from the open markets, would roughly correspond domestically to a crop of 700 million bushels of wheat. Removed from the market, the price-effective crop would thus be reduced, though not in corresponding proportion. The price-raising influence of the withdrawal of 100 million bushels of lower-grade would not be as effective as would be the withdrawal of 100 million bushels

of higher-grade wheat, but the influence of the operation would still be in the positive direction. To "dump" 100 million bushels of low-grade wheat abroad, especially in the Orient and at a very low price, would lower the world price, but not to the extent that it would raise the domestic price.

One supposed advantage of this procedure lies in the fact that it represents an intensification of what is already current practice. What happens now, for the most part, is that the mills grind the representative wheats, with some blending of lower grades, while the unrepresentative wheats and the lower grades of the desirable varieties pass to other than milling uses and to export. The difference would lie in the mechanism of marketing. At present, the unrepresentative and lower-grade wheats which leave the farms pass to market largely through the grain exchanges, are hedged and unhedged, function in the visible supply, and influence both the cash and contract prices of wheat. These low-grade wheats are not segregated sharply enough so that the distinction is widely known. If low-grade member wheats could be segregated on farms or in country elevators, the price-depressing influence of the merchandising operations directed toward their sale would be greatly reduced.

Such a segregation would reduce the volume of wheat passing through the customary commercial channels and would entail reduced volume to grain merchants. It would restrict somewhat the freedom of buying and scope of blending by flour mills; but if the procedure were carried through with discernment, this effect would be reduced to the minimum. From the standpoint of the mills, the procedure would amount to operating with a short crop of relatively high-grade wheat. The segregation would be different in a year of relatively high grade of quality in the crop and in one of relatively low-grade quality; adaptation would be necessary from season to season. Hedging and trading in futures would be relatively undisturbed.

The wheat growers' co-operative associations would need to secure low-grade wheats from non-members on an initial payment representing a safe margin below their prospective values. Administratively, the problem would be comparable with that

¹ House Committee on Agriculture, *Agricultural Relief Hearings*, April 1, 1929, Serial A—Part 5, pp. 381-420, and Senate Committee on Agriculture, *Farm Relief Legislation Hearings*, April 1-2, 1929, pp. 407-45.

facing the Canadian pools in a year of low-grade crop. Whenever the spring-wheat crop of Canada has a relatively low proportion of wheat of statute grades and a relatively high proportion of wheat of commercial grades (4, 5, 6, and feed wheat, also straight, tough, and rejected) the segregation of the wheat of lower grades constitutes one of the major problems of the pools. In 1928-29 grades Nos. 5 and 6 and the feed grade represented over 160 million bushels, in excess of 35 per cent of the crop as officially inspected. In so far as such wheat may be disposed of as feed or for industrial purposes, or shipped abroad for purposes of feed or for human consumption in countries with low wheat standards, the problem of the pools is alleviated. The advance payments on Nos. 5 and 6 and on feed wheat of course have been much lower than the advance payments on the statute grades. The problem the Canadian pool has had in paying to growers of low-grade wheat the exact values for which they may be merchandised, is similar to the problem that would be faced by American wheat co-operative associations in attempting to improve wheat prices by the removal of unrepresentative and low-grade wheats from the market.

This plan would require, in some years, a larger use of money than would be necessary if only the prices of the high-grade wheats were to be considered, but might require no greater capital than necessary if the same procedures were to be undertaken for all varieties and grades of wheat. Administratively, the procedure would not be easy; but it might be the least disturbing of the three methods under consideration in its effects on the milling industry or the grain exchanges. We fancy that under some circumstances it might be directly quite effective in influence on the price of wheat; but the problem of disposition of losses on the export of the lower-grade wheats would remain to confront the Board.

If the wheat growers' co-operative associations and the stabilization corporation were to remove from the market low-grade wheat representing a substantial proportion of the crop, this would leave the grain trade, the grain exchanges, the speculators, and the millers in a situation comparable to that of a short wheat crop of better than usual quality. The disposition of the low-

grade wheat would, however, have some tendency to lower the wheat price level abroad. The low-grade wheat belonging to members would be culled out at the source; the low-grade wheat secured from non-members would be best secured, at least in part, not by cash but by purchase with futures, since delivery on futures would be made with contract or discount wheats. Sale of low-grade wheat, in order to have the least price-depressing tendency, would be made in cash and not in futures. Much would depend upon the volume of sub-standard wheat in the crop; the procedure might be as difficult in one year as it would be easy in another.

COMMENTS ON ALL PROCEDURES

Whichever of the three procedures may be applied, the interpretation of it will be facilitated by an adequate appreciation of the originating organization. The wheat growers' co-operative associations are mergers of producers; the stabilization corporation may be compared with a holding company, functioning as a super-merchant with unusual command of credit. Under centralized management, dealing on a large scale, enjoying the use of a revolving fund, and having unusual command over bank credit, a continuing operation removed from the fear of failure of the ordinary commercial type, a scope and plane of operations is indicated from which alone the feasibility of the three procedures indicated may be judged. Put in another way, these procedures are to be appraised not merely on the basis of content and context but also in the light of the extraordinary organization by which they would be administered. The success of any scheme of price or marketing control presupposes marketing possession of a determining fraction of the supply and implies no substantial change of demand or of production. With wheat a Farm Board could afford to disregard variations in domestic demand; marketing possession of a determining factor of the supply would depend largely upon financial resources.

As between the first two methods the principal difference appears to lie in the fact that the first would best allow differences between certain grades to be estab-

lished by the market. In all three cases there exists substantially the same problem as to how to make effective any price influence decided upon.

In judging of the procedures adapted to the centralized merchandising of the wheat crop, much will depend upon the emphasis laid upon stabilization of prices. If the Board were to seek only such price stabilization as might incidentally emerge out of centralized, sound, and well-managed marketing procedures, then the appraisals given above, based upon the continuation of trading in futures, would stand. But if the Farm Board were to undertake a policy of definitive stabilization and seek specifically to restrain short-time fluctuations, month-to-month fluctuations, the recurring seasonal price change, and year-to-year

variations, this could not be done without disturbance of trading in futures. Under such circumstances, the hedges of independent dealers, exporters, and millers would not be carried by the reduced volume of speculation. Also, the co-operative association and the stabilization corporation would find themselves debarred from using the grain exchanges, as we have indicated above, for the buying and selling of wheat through the use of futures. Viewed in this light, we return again to the realization that some contradiction exists between the marketing of wheat as a purely merchandising proposition and the stabilization of the price of wheat. There is more contradiction between merchandising and stabilization of price than between merchandising and enhancement of price.

VI. SPECIAL PROBLEMS OF ADMINISTRATION

PREMIUMS FOR QUALITY

Whatever method of price-influencing is employed, it would be necessary in addition to perfect the procedures so that growers would receive payment for their wheat not merely as of grade, but also as of milling qualities. The federal grades are unsatisfactory in several directions and take imperfect account of milling qualities, especially quantity and quality of protein. Mills are interested in the prices of wheat as of the grade, to some extent as source of milling material, but more largely on account of hedging and the possibility of enforced acceptance of deliveries. Their manufacturing operations are conducted on the basis of purchase of wheats by sample and on tests. Quantity of protein, quality of protein, yield of flour, millability, color, ash, and fiber vary from wheat to wheat, even of the same variety and of the same weight, in different years; also in different regions in the same year. More and more as time passes the mills plot the wheat-growing regions for milling qualities. More and more, as country buying has developed, the premiums for quality tend to be reflected back to growers. But it is evident to observers that to a substantial extent growers still receive prices for their wheats only as of grades.¹

When the buyers for mills purchase

wheats, they examine the samples carefully, judge the proportion of vitreous kernels, count the frosted and immature kernels, watch for deleterious inclusions such as smut, garlic, ergot, and peas, determine the weight per bushel, and then on specification for protein content bid so much above or below the contract price, using the current option or a distant one. Only in the case of small mills grinding regional wheats are flours made by grinding elevator-run wheats as of the grade. For practical purposes there is no such thing nowadays as flour that might be termed elevator-run flour; most flours are blends.

When the exporter buys wheat, on the other hand, he usually buys as of the grade, being content to make sure that his purchases will pass inspection at the port. The merchant who sells wheats for export tries to furnish, on the bid accepted, no more costly wheat than will comply with inspection as of grade at the port. Thus the wheat merchant selling wheat to millers and to exporters conducts business on two quite different procedures.

In the hard wheats the most prominent premium is based on protein content. Other things equal, the protein content is of im-

¹ Cf. W. J. Kuhrt, "Accurate Reflection of Protein Premiums to Growers by Farmers' Elevators," *The American Elevator and Grain Trade*, April 15, 1929, p. 592.

portance to bakers because it determines tolerance of flour to modern bakeshop methods, the yield of loaves per barrel, and the texture of the loaf. At the same time, it is clear that the importance of the protein content of wheat has been exaggerated in recent years. There is no parallelism between quantity and quality of protein. Not only have wheats of high protein content been purchased by millers for more than the intrinsic value of the protein in flour, but the graded scale of premiums for increasing amounts of protein has sometimes represented payment of money for differences in protein content that lay within the plus and minus errors of sampling and analysis. The high premiums for protein have prompted a technical re-examination of milling methods; and mills are learning how, with a lower protein content of wheat, to meet the specifications of bakers. Nevertheless, other things equal, the protein content of wheat remains the outstanding characteristic, within the variety and grade, upon which price premiums are based. Protein content, however, plays only a minor role in the dealings in soft red winter and soft white wheats.

The quality of protein is equally important; indeed, it may be more important than the quantity. Two samples of durum wheat of identical protein content may yield respectively a relatively high and a relatively low grade of semolina. Flour made of Black-hull hard winter wheat of 13 per cent protein content is not as good, or as trustworthy, as flour made from Turkey Red wheat of the same content of protein. A 13 per cent protein flour from Kota or Garnet wheat is different from, and inferior to, a 13 per cent protein flour made from Marquis or Reward wheat. Every new variety of wheat introduced has to prove its quality of protein; and many new varieties, with otherwise desirable characteristics, have failed because of low quality of protein present in large amount.

Since, now, the wheat co-operative associations or a stabilization corporation would restrict the scope of country buying by mills and undertake themselves to sell directly to mills, it would be necessary to continue and elaborate the plotting of wheat areas, in each crop year to make early studies of the baking qualities, and to conduct country

storage and separate binning of delivered member wheat and of purchased non-member wheat in the country and in terminal elevators, with a view to merchandising wheats on the basis of cash sales by sample and on chemical and baking tests. Success in this undertaking would be largely a matter of administrative efficiency and physical equipment. Though the mills compete with each other for premium wheats, they would presumably co-ordinate their practices with those of the co-operative associations or stabilization corporation, in order to facilitate the selection of wheats for milling. Whether this would entail setting up additional grade standards, on the basis of protein content, need not be here discussed; but it seems inevitable that refinement of the practice of grading at country points would have to occur.

If, on the other hand, the co-operative associations or the stabilization corporation should decline to organize and expand the merchandising of wheat on the basis of milling quality, or should fail to make such efforts effective, the alternative result would be the mixing of wheats to conform to the minimum definitions of the federal grades. There is already too much mixing of wheats just to meet the grades; the practice may be in the interest of exporters but not in the interest of millers. If, discarding the merchandising of wheat by sample and on test as a substitute for country buying of mills, the wheat growers' associations or stabilization corporation were to allow the wheat supply to be physically averaged by grades or between grades, this would tend to discourage improvement in wheats and accelerate the deterioration in wheat quality now widely in evidence. Alike from the standpoints of improvement of wheat, supporting the farm price of wheat, and maintaining the quality of flour to meet American standards, the merchandising of wheat on the basis of quality would seem to constitute an obligation resting on wheat co-operative associations and the stabilization corporation.

The centralized marketing of the major portion of the crop of wheat (the member wheat) would deprive flour mills of some advantages they now enjoy in country buying. The millers have classified and plotted the hard wheat belts, are familiar with the

qualities from county to county, and early in the season make approximate appraisals of the milling qualities of the new crop. In effect, this corresponds to a country-wide extension of the cash grain market, and through country buying the millers are thus enabled to enjoy valuable advantages of selection.

With wheats pooled in elevators of the co-operative associations, this would restrict country buying by mills. If the pool elevators were systematically to mix the receipts of wheat, this would curtail a deterioration from the standpoint of the miller. Selected wheats would be replaced by country-run or elevator-run wheats. In particular, such mixing would render difficult the purchase of wheat on the basis of protein content. Only by separate binning on the part of country elevators would it be possible to retain the scope of selection now enjoyed by mills in country buying.

Separate binning for quality would involve a particularization in the operations of a wheat pool that is not easy to attain. It is the complaint of North American and European millers that under the operations of the central selling agency of the Canadian wheat pools, the selection of wheats for milling quality has not been facilitated.¹ In order to return to individual growers the full prices for their premium values it will be necessary to furnish to millers the full values for premium prices. The problem is made all the more difficult by combine

¹ On the Winnipeg Grain Exchange is a sample market in name but not in fact; it is a cash market with sales as of the grade for delivery elevator-run at the head of the lakes. But in effect what might be termed an indirect sample market exists. Buyers specify wheat as of a grade from a particular region and the order is filled by diverting cars from the specified district, prior to arrival at terminals at the head of the lakes. For selection as of the grade by districts a small premium is paid; this is more or less routine practice on the part of Canadian mills, Buffalo mills grinding Canadian wheat in bond, and to some extent European mills. Some wheat as of the grade is also sold by selection from different bins at the head of the lakes. Such selections are based largely on weight, dockage, frosted and immature kernels, and estimated flour yield, and to some extent also on protein. Premiums for protein are occasionally paid, especially with a crop of low quality, though the practice does not begin to have the standing it occupies in the United States.

² Cf. "Variations in Wheat Prices," *WHEAT STUDIES*, June 1929, V, 241-300.

³ The subclasses red spring and yellow hard winter wheat are really unrepresentative varieties.

harvesting, since this imposes so heavy a burden upon storage facilities, both on the farm and in the channels of trade, that separate binning for quality is made more burdensome.

The merchandising of premium-grade commodities is a bilateral operation which seems to have been more successful in the hands of co-operative associations dealing with perishables than with those handling staples. The sales market for premium grades must be developed and the full premium prices exacted of users of premium products; the grower must be paid for the premium wheat he delivers. In the case of the California Fruit Growers' Exchange, for example, particular attention is paid to the classification and merchandising of premium grades of fruits, and the grower receives an accounting for his deliveries based on identical classification. The same situation holds for co-operative canneries, and such a rule is indeed imperative in the efficient handling of fruits and vegetables. The price differences between wheats of varying qualities are not as wide as in the case of fruits and vegetables, though they are often surprisingly wide.² But accurate classification for miller and for grower is made fairly simple in the case of wheat because wheat is relatively nonperishable; the procedure is largely a matter of a protein analysis and a baking test, and separate binning. Unquestionably, giving satisfaction at the same time to the flour miller and to the wheat grower—price for quality to the grower and quality for price to the miller—will represent one of the important functions of the Farm Board.

PROBLEMS OF SPECIAL WHEATS

Our exports of hard spring and soft red winter wheats, and even of hard winter wheat in many years, are largely the wheats culled from the crop by the mills; little representative wheat, and especially no premium wheats, pass into export.³ In some years, however, hard winter wheat of contract grade, grown in Texas and Oklahoma, is rather freely available for export just after the harvest, when the price of old-crop Canadian hard spring wheat tends to be relatively high. The prices of esteemed millable wheats of these three types stand

variably above the world price behind the tariff wall. Of soft white Pacific and durum wheats, on the contrary, we export representative wheats (with some qualifications regarding amber as distinguished from red durum) except in years of exceptional shortage; as a rule, the price level of these wheats is on the export basis; and prices have not been raised above the world price by the tariff. In short, the exports of hard spring, hard winter, and soft red winter wheat are largely incidental, the exports of Pacific and durum wheats are primary. The export trade in hard spring, hard winter, and soft red winter wheats is comparable with that of a by-product or of an occasional surplus; but the export trade in Pacific and durum wheat is a major operation.

Pacific wheat. The wheats of the Pacific states—including Idaho, Utah, California, Oregon, and Washington—will represent a peculiar problem to the Farm Board. Despite regional isolation, Pacific wheat could not be treated as an orphan or a stepchild. These five states as a group produce more wheat than they consume, and a large proportion of the crop must go to export. Most of these wheats are white and soft; some, such as Baart, Bluestem, and Federation, are at best semi-hard; but some hard red wheat is produced in Idaho and Utah. Mills in these states ship in a certain amount of hard wheat from Kansas and Montana in order to strengthen the milling blend; also, there is some shipment of hard spring-wheat flours and hard winter-wheat flours into the Pacific states. California is a net import state; Oregon and Washington are net export states in regard to wheat.

To understand the usual export relations, it must be kept in mind that the export wheats of the Pacific region resemble those of India and Australia. To sell in world markets in competition with Indian and Australian wheats, the price of the Pacific export wheats must approximate world parity, modified by the fact that the seasons are not identical. Even when soft Pacific wheat is exported to the Orient, the transaction tends to have some relation to world price parity because the Australian wheat, which is the chief competitor in the Asiatic market, is at the same time being shipped to Europe. With appropriate reser-

ervations, it is therefore correct to say that prices of export grades of Pacific wheat tend to be on the world price basis. Pacific merchants and millers do not regularly hedge their transactions as is done east of the Rocky Mountains.¹ The exports of wheat and flour are often conducted by the same firms in the trade. The grain dealers and millers of the Pacific Coast have open to them, via the Panama Canal, both Pacific and Atlantic markets for wheat and flour. There is some small shipment of wheat and flour overland across the Rocky Mountains, more or less in different years, and some small coastwise shipment of flour to the Atlantic seaboard.

Usually the quality of the soft wheats in the Pacific crop is lower than that of Australian wheats; we export, however, some soft wheat flour equal to the best on the market. Usually the quality of the Pacific semi-hard wheats is inferior to that of Argentina, and we now export no hard wheat flour from the Pacific Coast. In most years, the largest single flour market is in the Orient. The so-called ex-European market for wheat and flour is in several senses peculiar.² For a Farm Board to market Pacific wheats on the basis of Asiatic conditions is quite a different thing from marketing wheats raised east of the Rocky Mountains on the basis of European conditions. To elevate the prices of Pacific wheats will tend to mean, therefore, something approaching an export subsidy, in a sense that does not hold for exports from regions east of the Rocky Mountains.

The organization of a Pacific wheat growers' co-operative association would probably be less difficult than in the case of other regions. It would need to include farmers in only three states, Idaho, Washington, and Oregon; the farmers in this section are "co-operatively minded" and the direct dependence on exports would seem to be an assisting factor. It is open to discussion whether Pacific wheat would not best be handled under a stabilization corporation of its own.

¹ In the Pacific Coast states, let it be emphasized, grains are not routinely hedged; the producers of wheat and merchants in wheat are to a large extent speculators in cash wheat, and the losses of some years balance the gains of other years.

² Cf. "Ex-European Trade in Wheat and Flour," WHEAT STUDIES, August 1928, IV, 307-56.

Durum wheat. The durum wheats are essentially macaroni wheats, not bread wheats; they are milled to make semolina rather than flour. The largest part of the domestic consumption is in the form of semolina used in the making of alimentary pastes. Small but varying amounts of durum wheat are in some mills ground with hard spring, and even hard winter wheats, to make flour; and considerable red durum is merchandised for feed. The exported durums go largely to Mediterranean countries prominent as users of alimentary pastes, but are to some extent used abroad in making bread flour. There are two classes of durum, amber and red, with several grades of each, amber durum being much the superior variety for alimentary pastes. The durums are often mixed, and the mixtures sometimes include varying amounts of hybrids, such as Kota wheat, and of non-durum bread wheats. On account of climatic conditions in the Dakotas, the durum wheats are apt to display wide variations in quality; there is usually some premium amber durum wheat, but the discount durum wheats commonly include the larger proportion of the crop. Just now, the acreage of durum wheat is declining in favor of Marquis wheat.

Durum wheat will present a peculiar problem. The crop of durum wheat runs from 48 to 93 million bushels. Domestic consumption (food, feed, and seed) is uncertain in amount, but may usually run between 30 and 45 million bushels. Obviously, durum wheat is raised primarily for export. Raising durum wheat for export is quite comparable with raising malting barley for export. There is a futures market for durum wheat on the Duluth Board of Trade, and practically all the exports are sent through Duluth. Since nearly or more than half of the crop must usually go to export, the price of durum is practically always on the export basis. Except in a year of unusually low quality, we export representative durum wheats; but the higher grades of amber durum are less often on an export basis than the lower grades, or than all grades of red durum.

In the same sense as this applies to Pacific wheat, or to a greater extent, to improve the price of durum wheat would resemble an export subsidy, in a sense that

does not hold for exports of other wheats east of the Rocky Mountains. Whatever merit may reside in the view that the exportable surplus of hard spring, hard winter, and red winter wheats is the expression of climate, this cannot hold for Pacific and durum wheats. These are in a definite sense export wheats; they are raised for export more than for domestic consumption. Thus the question of surplus control comes under a separate category, with a different meaning for the producers. In one sense, there is no surplus problem in raising a product for export.

Despite the fact that both the domestic and export relations of durum wheat are quite different from those of hard spring wheat of bread type, it would seem impracticable to have a separate management for durum wheat, because in the broad sense these wheats are raised side by side, despite the fact that in some parts of the Dakotas the one type of wheat predominates heavily over the other. Possibly a commodity committee devoted to durum wheat might advantageously function between the co-operative association and the stabilization corporation common to both types of wheat.

CONTROL OF THE CARRYOVER

In the discussion of various phases of the problems confronting the Farm Board, comments have been made on the handling of the carryover. At the risk of some repetition, the subject is deserving of appraisal under its own heading, on account of the importance it has assumed in public discussions. The current view seems to be that the carryover can be used as a sort of shock-absorber to moderate the effect of variations in supply on price. Since the wheat growers' co-operative associations and the wheat stabilization corporation would have possession of a large portion of the crop, enlargement or contraction of the carryover seems commonly to be regarded as a rather simple technical achievement.

Expansion or contraction of the carryover of wheat might seem indicated to the Farm Board in different years in consequence of varying circumstances in the current and in the oncoming crop year at home and abroad. Part of the carryover of wheat

represents administrative stocks—on the farm, in country elevators, in terminals, in the hands of country and city mills, and in flour stocks variously located—which are larger or smaller from season to season, depending on prices, availability of quality wheats, and other factors.¹ Beyond this, to enlarge the carryover of wheat represents in effect contracting the supply of the current crop year and enlarging the supply of the forthcoming crop year; to contract the carryover is in effect to enlarge the supply of the current crop year and to contract the supply of the forthcoming crop year. These effects apply both to the domestic and to the international situation, and in one sense the ideal policy would be to adapt the domestic to the world carryover.

The quality of the wheat crop may in itself determine a shift in the carryover. It would be doubtful policy, except under unusual international circumstances, to expand the carryover from a crop year of low quality, that is to carry over a large amount of unrepresentative wheat. On the other hand, an increased carryover from a crop of high quality might be indicated. Such is indeed the natural policy of the mills. If in a crop year the high-grade wheats are so abundant that premiums for quality are low, substantially below the average, the chances are that a similar crop would not be harvested twice in succession; therefore, other things equal, it might pay to increase the carryover of high-grade wheat, since this would tend to increase the premiums during the current crop year and if premium wheats were relatively short in the forthcoming crop year the price on the old wheat ought to do more than cover the cost of carrying. There are, indeed, substantial reasons for believing that the policy on carryover ought to be determined largely by considerations of quality in the domestic crop, rather than by quantitative considerations.

¹ On variability of stocks and carryover of wheat, see *WHEAT STUDIES*, February 1928, IV, 135-80.

² Cf. Mordecai Ezekiel, "A Statistical Examination of the Problem of Handling Annual Surpluses of Non-perishable Farm Products," *Journal of Farm Economics*, April 1929, XI, 196-200, and J. E. Pope, "The Holding Movement in Agriculture," *Economic Essays Contributed in Honor of John Bates Clark*, edited by Jacob H. Hollander (New York, Macmillan, 1927), pp. 244-82. See also discussion above, pp. 381-91.

Whenever the stabilization corporation is weighing the practicability of storing, holding, or carrying over wheat, it will need to formulate several estimates.

1. Will the operations show a direct profit or loss, and how much?

2. What effect will the procedure have on the terminal wheat price during the year of operation?

3. What effect will the change in terminal price have on the farm price during the year of operation?

4. What effect will the operation have on gross farm income?

5. How will the direct gains or losses of the corporation compare with the indirect gains or losses of growers, as reflected from the changed price level?

6. What will be the effects in the subsequent crop year?

There is little evidence to indicate that wheat can prospectively be carried from one crop year to another with net profit.² But the Farm Board might decide that being in control of a large volume of wheat, under good management it might occupy a better position (than shown for the wheat trade in statistical analysis) to outguess crop developments in the world, world requirements, and the maneuvers of international wheat merchants. It is of course probable that the Farm Board, like the central selling agency of the Canadian wheat pools, would endeavor to contract the carryover with the oncoming of a large world crop and expand the carryover with the oncoming of a small world crop. In their way, this is exactly what speculators are trying to do; the quotations on the distant futures contrasted with those in the month of active trading indicate, in part, the forecast of speculators on price development.

Large world crops are not apt to occur in succession, not alone for reasons drawn from the theory of probability, but also because a large yield tends to reduce the capacity of the soil to repeat immediately with another large yield. On the basis of this consideration, there would be less chance of a third successive large world crop than of a second, which would have some further effect on carryover policy. The same considerations apply, of course, to the domestic crop; in each case the objective of the policy of carryover would be to meet a

small new crop with a large carryover and a large new crop with a small carryover. But the domestic crop might move in one direction and the world crop in another, with the tariff on wheat of assistance in the one case but not in the other. The Board would, therefore, have four factors in the decision in each year: the quality of the outgoing domestic crop, the prospect of the forthcoming domestic crop, the carryover of world wheat, and the prospect of the forthcoming world crop. Other factors might intervene, but these would always be present. So runs the traditional formulation.

To enlarge or to contract the carryover of cash wheat, thus appraised, corresponds with the annual problem of the Canadian pools, of the European wheat merchants engaged in international trade, and of the groups in control of the Argentine and Australian wheat crops. In order to succeed, the European merchant engaged in the international wheat trade must correctly forecast developments seven times out of twelve. In order to make money for American wheat growers by carrying over wheat, the Farm Board would need to make as good a record. Natural possession of a large volume of wheat is sometimes urged as conferring an advantage in competition with international traders; in the long run this may be true, though in an occasional year it is clearly a disadvantage. The leading spirits in the Canadian pools are apparently of the opinion that concordant policies in the principal wheat-exporting countries must be arrived at if full values for export wheats are to be secured for growers. With the large proportion of their wheat going to export, the Canadian pools must formulate an adaptive carryover policy every year. In the case of the United States, however, it might well be urged that motivated expansion or contraction of the carryover (apart from considerations of quality) might well be regarded as an emergency measure and restricted to exceptional circumstances.¹

In so far as shifts in price level from one crop year to another were due chiefly to international circumstances, the Farm Board would endeavor to forecast the direction of an impending shift in price level and arrange its stocks, merchandising, and carryover accordingly. Presumably the Board

could more readily influence a shift in price level due to domestic circumstances than one resulting from international conditions. Precedents are wanted. For example, if, with a moderate domestic crop, the world price were to decline in consequence of large crops in Canada and Argentina, would it be indicated to enlarge the domestic carryover in order to work against the price decline due to world supply? Would the same course be indicated if a major influence in declining world price proceeded from a large crop in the United States? The varying circumstances in different years would call for expert interpretation of world-wide conditions, even with the accepted policy of variation of carryover, and the pitfalls would be many.²

The notion that the net result on wheat prices would be in the opposite direction to the change in carryover is, however, not axiomatic. Indeed, circumstances exist under which the opposite would be true. As J. D. Black pointed out in a Congressional hearing,³ the net effect on wheat price might be better if a short crop were made shorter by increasing the carryover into the following crop than if a long crop were made less long by increasing the carryover into the next crop. However applied, increasing or contracting the carryover would tend to occasion direct losses, against which must be set the indirect gains due to increased wheat price during the two years connected by the carryover under operation. The direct losses and gains might not be difficult to compute, but the indirect losses and gains would be difficult to estimate. From expanding or contracting the carryover arise necessarily added problems relating to export, in particular export dumping.

CONTROLLING THE FLOW OF WHEAT TO EXPORT

The flow of American wheat to export would constitute two overlapping projects of the Farm Board—the one a merchandis-

¹ For a consideration of the costs of carrying wheat, see pp. 381-91.

² The money value of a carryover may be radically reversed within a short time by change in crop prospects. On the first of June it was regarded as unfortunate that our carryover promised to be high. But with the change in crop prospects it now seems obvious that Americans have made money by having a large carryover of old-crop wheat left on our hands.

³ House Committee on Agriculture, *Agricultural Relief Hearings*, March 27, 1929, Serial A—Part 1, p. 30.

ing task, the other a supplementary price-influencing procedure. As an item in merchandising policy, the export movement would be continuous though seasonal; as a special price-influencing procedure, modification of the otherwise seasonal merchandising movement would be occasional and in the nature of a trading emergency. In the long run the former would represent the more important function.

A. *As merchandising procedure.* The international trade in wheat is a seasonal movement; except under very unusual circumstances, exporting countries do well to conform to the seasonal scheme imposed by the harvest periods of the wheat-producing countries. The international trade in wheat represents under different circumstances from a fourth to a sixth of the world crop of wheat. Other things being equal, each importing nation has a shipment program of convenience rather than of necessity—including elements of custom, climate, port and mill capacity, finance, and transportation—whereby the imports of wheat, joined with the domestic crop, form the moderately varying seasonal supply of bread.¹ With customary adjustments between supply and demand in the world, the importing countries have the first say; they make the offers, and to a sensible extent the buyers rather than the sellers give complexion to the market. When the American winter-wheat crop is harvested and ready for export, the Australian and Argentine exports are tapering off and Canada is exporting the remnants of the old crop; Europe is awaiting the new crop, and summer imports from the United States are desired to help the European importing

countries into the new crop year. When the North American spring-wheat crop is harvested, Europe turns to Canada to secure the hard wheat needed to strengthen the soft wheat of her new crop, and there is usually a heavy flow of Canadian exports until the closing of lake navigation. During December–April, when navigation on the Great Lakes is closed, Europe imports Canadian wheat stored at eastern lake ports, continues to take some hard winter wheat from the United States, and draws from Argentina and Australia the remnants of their exports. European imports during the winter tend to be conditioned on the prospects of the new crop in Argentina and Australia. Toward the close of winter, the new Argentine and Australian crops appear on the world market, and there is a heavy flow of wheat from the south into the Northern Hemisphere up to the close of the crop year. With the reopening of navigation on the Great Lakes in April, exports of hard spring wheats are resumed in increasing volume, tapering off through June or July, the last shipments competing with the first shipments of American hard wheat from Oklahoma and Texas. This seasonal sequence of events changes somewhat from year to year with varying import requirements and exporters' surpluses. American exports of durum and Pacific wheat, occasional exports of Indian and Russian wheats, and ex-European imports enter into the picture in a less regular and more sporadic manner. There is an annual seasonal curve of international monthly wheat movement with a high autumnal peak and a second lower peak in the spring, the duration and the height of the peaks and the duration and the depth of the troughs changing somewhat from year to year. By quarters, the movement is more even. The international movement of wheat is orderly, but it is not evenly spaced.

Now, as a rule, it will be the objective of the Farm Board to have the co-operative associations and the stabilization corporation make the best use of these seasonal circumstances and not to undertake forcibly to modify them. To restrain the flow of export wheat when the importing countries naturally desire it, with the hope of building up the price, or to force the flow of export wheat when the importing countries

¹ Using Great Britain as illustration, the seasonal blendings of wheats may be indicated as follows. The domestic wheats are milled largely during the first half of the crop year, mixed with old Australian and Argentine wheats, old and (but mostly) new American winter wheat, and old and new Canadian hard spring wheat, with Indian wheat whenever available. After the first of the year the blends largely consist of new Canadian, Argentine, and Australian wheats, with little domestic or hard winter wheat. Analogous circumstances exist in the other countries of western Europe, modified by the proportions of domestic wheats available. Whatever their utility in the European milling program in a particular crop year, American hard winter wheats are most in demand from August to December. Any undertaking to force exports of hard winter wheats to Europe during January–July is apt to encounter intensified sales resistance.

are less anxious for it, in order to reduce the exportable surplus, are hazardous procedures, likely to provoke untoward competition by other wheat-exporting countries and tending to disorganize the merchandising of export wheats on quality considerations. The undertaking to make some other exporting country "hold the bag" at the end of the crop year is certain to leave us "holding the bag" occasionally or possibly frequently. Each exporting country is endeavoring to sell its products, on the basis of comparative qualities and comparative c.i.f. prices; the importing countries distribute their purchases partly on the basis of price and partly in adjustment with their domestic circumstances.

The co-operative associations will have possession of the export wheats belonging to the fraction of the crop which they control. They, or the stabilization corporation, may also have possession of export wheats purchased from non-members. Export wheats purchased from non-members would, as a rule, be best secured through accepting delivery in December, March, and May on wheat futures purchased during the previous July-September, which deliveries would automatically bring in wheats of export grades.

The experience of the Canadian pools seems to indicate that there is a field abroad for what may be termed opportunistic merchandising of wheat. By this we mean that those in control of our export wheats should not rest content with accepting cabled offers for contract-grade wheat, but should have selling agents abroad developing a merchandise policy, based year after year on the varying qualities of our export wheats. The success attending the efforts of the Canadian pools in the disposal of wheat grades Nos. 5 and 6 during the last crop year suggests that there is something in a centralized export policy directing an organized selling campaign in importing countries.

In merchandising abroad the surplus of American wheat, the wheat stabilization corporation would encounter certain influences to which reference has been made under different contexts and which deserve a conjoined statement. These influences, deterrent in their direction, have been outstanding only since the war.

1. *Type of wheat exported.* The different world wheat markets desire certain types of wheat, and they wish these if possible representative of the type, of fair quality, and uniform. For the most part, since the war, our exports have fallen short of these expectations. Our irregular exports of hard spring wheat (excluding durum and Pacific wheats) contain little of Marquis or any other outstanding variety of hard spring-wheat type. Instead, the exports consist largely of mixtures of inferior varieties. Of durum wheat the European market desires amber durum, but we raise largely red durum instead. The soft white Pacific varieties, for the most part, do not conform to the type desired in the soft wheat. Our exports of hard winter wheat contain varying amounts of Turkey Red and Kanred wheats, but incline more and more toward yellow rather than red hard winter wheat. The exportable surplus of soft red winter wheat is exceedingly mixed and nondescript. In short, the exportable wheats vary greatly as to type. In contrast with this, the exportable wheats of Canada, Argentina, and Australia for the most part conform to established types, and these in most years of high grade.

2. *Quality of wheat.* Within the type and in the varieties exported, the quality of our export wheats tends to be substandard. This is outstanding in the case of hard spring wheat and red durum wheat; it holds also for soft red winter wheat and to a lesser extent for hard winter wheat. We export on the basis of the contract grade and most of the exports barely grade No. 2 Hard Winter, No. 2 Red Winter, and No. 1 Northern Spring wheat; these export wheats are for the most part mixed for export with the view of just making the contract grade. Viewed as a whole, these wheats are substandard in the United States and are not up to the import standard of Europe; not only are they substandard, but they are not representative of the American wheats consumed at home. These wheats meet abroad the representative and standard wheats of Canada, Argentina, and Australia. The European importer is more or less continuously in the position of contrasting unrepresentative American wheats with representative Canadian and Argentine wheats on the basis of price and utility

in the European milling program. The wheats of Canada are sold on grade; those of Argentina and Australia are sold on the basis of "fair average quality"; and in applying the annual definition of "fair average quality" of Argentine and Australian wheat, the European importers have in effect a voice. American wheats are purchased on the basis of federal grades, under inspection at the ports, against which European importers have repeatedly protested (privately, publicly, and officially) during recent years.

3. *Merchandising practices.* Up to the present, the exported American wheats may fairly be said to have been sold without salesmanship abroad. The importer in the foreign country makes an offer, or the American exporter makes a tender. The American exporter (who may be an American, a Canadian, or the American representative of an importing foreign house) does not search out foreign markets; he is, in effect, a passive exporter on the basis of price. No salesmanship abroad is contributed by representatives of the American Departments of Agriculture or Commerce. In fact, no one is demonstrating American wheats abroad. The European importers are willing to take American wheats when they can secure them cheap for certain purposes; the American exporters are diligent in making export sales when the transactions promise a profit. But that is all.

In the case of the competing wheats of other countries, on the contrary, there is a factor of salesmanship. The sellers of Argentine and Australian wheats and the buyers of those wheats in Europe are closely associated and are often indeed business connections. There is, therefore, in a real sense a selling campaign in Europe on behalf of Argentine and Australian wheat, on the basis of purely commodity considerations. In the case of Canadian wheat, the Pool has representatives in many foreign countries engaged in a campaign for direct sale of Canadian wheat to millers. This is indeed one of the outstanding advantages in the co-operative marketing of wheat, that salesmanship is thus practiced in foreign countries. Contrasting the positions of American and competing wheats, it is not unfair to state the situation

as follows: in the United States are export wheats for sale, foreigners can take them or leave them, and the selling prices are frequently influenced by contract prices not closely in line with conditions abroad; in Canada, Argentina, and Australia the sale of export wheats includes a searching out of foreign markets and a program of salesmanship, and the domestic prices tend to reflect closely the prices in Europe. Under a Farm Board, the American wheat growers have the opportunity to develop a foreign selling policy and program comparable with that employed by the Canadian Pool.

4. *The international accounts.* Of the major wheat-exporting countries, the United States alone is a creditor country. Canada, Argentina, and Australia are all debtor countries; they are still actively borrowing foreign capital and have not yet reached the position of mature borrowers. Annually they must make large international payments to cover interest charges, mostly to the United Kingdom and to the United States. Other things being equal and unless the balancing of the international accounts is peculiarly modified by invisible items, these three countries must sell wheat abroad in order to obtain foreign exchange. In particular, they must sell wheat to obtain sterling exchange. American wheat growers do not need to sell wheat to obtain sterling exchange or any other foreign exchange. Broadly appraised, our excess of exports of goods over imports is sustained by, and is largely the expression of, a continuing export of capital. One is justified in saying that, other things equal, the continuing export of wheat from the United States entails a continuing export of capital. In short, wheat growers in Canada, Australia, and Argentina must export wheat in order to pay interest on their debts, while Americans must extend fresh foreign credits or loans, or make investments in order to induce Europeans to take our wheat. The net result of this situation is that Canada, Argentina, and Australia are, so to speak, exporting wheat downhill, while we are exporting wheat uphill. It is very difficult (and it may be impossible), on account of complexity of relations between visible and invisible exports and imports, to prove the direct effect of these

influences on wheat prices and exports. But there can be no doubt that in the broad sense these circumstances work to make Canadian, Argentine, and Australian wheats relatively cheaper to the European than American wheats. If we were a debtor nation, our wheat export problem would be somewhat easier.

B. *As price-influencing procedure.* In addition to controlling the flow of export of wheat on merchandising considerations, the co-operative associations and the stabilization corporation will sometimes need to examine the possibility of modifying exports in the endeavor to influence prices. It seems rather widely assumed that such a procedure would be regularly used; it seems to us more likely that it would be only occasionally employed. Circumstances are conceivable under which restraint of exports or withdrawal from the export market might seem indicated. In the hope of influencing the domestic price of wheat, even at the risk of lowering the world price, or in the endeavor to improve both the domestic and the world prices of wheat, the seasonal outflow of wheat might be modified, exports might be withheld from the current year and transferred into the succeeding year, or export dumping, so called, might be employed. There is a certain contradiction between controlling exports on the basis of merchandising considerations emerging from the qualities of available export wheats and price-influencing procedures which are quantitative and take little or no account of considerations of quality at home and abroad.

At once arises the question to what extent variations in the American exportable surplus influence the world prices of wheat. In theory, if the statistical data were adequate and trustworthy, it would be possible, under certain assumptions, to compute the influence of changes in supply on price; in practice, however, it is likely to be an unsatisfying computation. It may be attempted for wheat in several ways.

According to the first method, one would take the reported wheat crops of the world (including Russia, India, and China) and with certain assumptions in respect of elasticity of demand and supply of substitutes, compute the influence on the level of wheat prices of a stated increase or de-

crease in the American wheat crop, other things equal; or compute the influence on the wheat price level of a stated increase or decrease in the American wheat crop, in connection with stated variations in the wheat crops of other countries. One would need to elect the wheat price at a particular point as representative of the general price level or compute an index of wheat prices in selected countries. The fact that the wheat crops in different countries enter the market in different months, together with more or less uncertainty on crop estimates and carryovers, introduces obvious difficulties into this computation. So also does the absence of accurate knowledge of the size of wheat crops in China and other countries.

According to a second method, one would take the reported wheat crops of Europe (excluding Russia, but including northern Africa), Canada, the United States, Australia, and Argentina, and with certain assumptions in respect of elasticity of demand and supply of substitutes, compute the influence on the level of wheat prices of a stated increase or decrease in the American wheat crop, other things equal; or compute the influence on the wheat price level of a stated increase or decrease in the American wheat crop in connection with stated variations in the wheat crops of the other regions included in the survey. One would need to elect the wheat price at a particular point as representative of the general price level or compute an index of wheat prices in the regions included in the survey. This method has some advantage over the first method in trustworthiness of statistical data and in mobility of the wheat involved.

According to a third method, one would prepare an estimate of European and ex-European import wheat requirements (on the basis of the wheat crops and supplies of substitutes on the continent) and contrasting these with export surpluses in Canada, the United States, Australia, and Argentina, compute the influence on the wheat price level of stated increase or decrease in the American wheat crop, with certain assumptions in respect to the elasticity of demand and supply of substitutes in the countries involved on both sides of the Equator. The advantage of this method

is that it is a moving estimate, deals with mobile wheat, and expresses the broad inference that the unit of wheat moving in international trade has greater influence on wheat price than the unit of wheat produced in international agriculture.

Selection of point of registration of wheat price represents a difficulty with all three methods, but the price of wheat at Liverpool or London, preferably a weighted price, is better adapted to the third method than to the first or second. That the price of wheat is a range and not a point constitutes a difficulty with all three methods, though one least prominent with the third method. The influence of a stated crop variation—for example, 200 million bushels—on the American price would be least when computed according to the first method and most when computed according to the third method; probably the third method would give too high a result and certainly the first method would give too low a result.

It is possible, as supplementary to the above, with similar computations to estimate the influence on the American wheat price of variations in the American carryover; but since variability of carryovers is less in bushels than variability of crops, and the trustworthiness of the data probably no better, such computations would be more hazardous than in the case of computations applied to variations in the crop.

The effect of interrelation of domestic with foreign prices is a balancing of consequences. Being an exporter exposes us to the world price, which probably more often means a depressing than an elevating influence. But it also means a stabilizing influence, since the world price of wheat is apt to be more stable than the price in any one country. Large crops of wheat do not tend toward low farm returns, as is the case with crops on a domestic basis. Thus wheat differs from most other crops on a domestic basis or where we make the world price, as in the case of cotton. The returns on the wheat crop rise and fall with the domestic crop and are not reversed by climatic surpluses, so that the relation to a world price has thus sometimes a relative advantage. To curb price fluctuations provoked within the season (or from one crop year to another) by crop developments at home or abroad, would represent a difficult prob-

lem. In so far as the situation were international, acquiring or releasing domestic stocks of wheat and diminishing or increasing the carryover out of the crop year might prove to be relatively weak weapons. Interseasonal price movements have such varying factors that it is scarcely an exaggeration to say that each pronounced interseasonal price variation stands without precedent. In some crop years the functions of the stabilization corporation would be one-sided and limited to protecting wheat growers from the results of international circumstances that would otherwise eventuate (naturally and without manipulation) in a lower world price of wheat. In other years, the objective would be positive, to utilize as far as possible an international situation to the advantage of the domestic wheat price. Probably the transitions from one crop year to another crop year of the same wheat price level could be made more smooth by a consistent policy of the Farm Board applied to regional stocks and carryover; but the net effect of this on farm prices of the two years could hardly be expected to be large.

The rate of export tends to influence the price. Since the export wheat of the United States is one of the factors in determining the Liverpool price of wheat, it is urged that the Liverpool price might be modified by controlling the flow of American export wheat. If export of wheat could be restrained during the autumn, could not Europe be compelled to draw more heavily on domestic supplies with consequent raising of price? In short, would it not be possible by a centralized exporting policy to take advantage of varying circumstances in Europe rather than allow Europe to take advantage of marketing pressure during the autumn in North America? In certain years this would undoubtedly be feasible, with the co-operation of the Canadian wheat pools; but in other years, the outcome would be not merely without profit but would entail heavy losses. In most years there remains in each exporting country of prominence an exportable carryover. If American exports were restrained, this might simply have the result of facilitating the exports of other countries and leave in this country at the end of the crop year a disproportionate carryover of exportable

surplus. Certainly, effective export tactics could hardly be employed by the United States without the co-operation of Canada. Whether North American wheat could be employed as a unit in price-raising tactics directed against Europe, with or without the co-operation of Argentina and Australia, is a hypothetical inquiry that need not detain us here.¹

It is easy to adduce illustrations of kaleidoscopic changes in the export situation. In May of this year, with Kansas City wheat below a dollar, the carryover of hard winter wheat represented something akin to a catastrophe to that region. In July, with Kansas City wheat over \$1.40, the same carryover was transformed into a welcome addition to the new crop, and it is likely that the carryover, which is largely sub-standard wheat, will sell for as much as the high-grade wheat of that crop sold for directly after the harvest. It is at once the changeability of prospects and the hazards of losses that make control of exports as price-influencing procedure so enigmatic.

EXPORT DUMPING AGAIN

The words "export dumping" as applied to wheat are employed in a loose and unconventional sense. Export dumping of manufactured goods means selling abroad the articles at a manufacturers' price lower than that secured for the identical goods remaining in the home market. The so-called export dumping of wheat would be concerned with a fraction which for the most part is not identical with that consumed at home. Secondly, it does not follow that it would be sold abroad below the lowest figure received for some of the identical wheat in some of the domestic markets. Export dumping of wheat really implies hunt-

¹ It is instructive to note that consumers of import wheats in Europe contend that the margin between f.o.b. price in exporting countries and mill price in Europe is excessive, just as producers in exporting countries contend that the margin between farm price and f.o.b. seaport price is excessive. Attention was not long since directed to this point in the course of a British investigation into wheat prices by the Linlithgow Committee. The charge failed of substantiation, and it was made clear that what may be termed the importer's margin (including ocean freight, insurance, interest, commissions, handling charges, and middlemen's profits) could not be regarded as excessive.

² Cf. Mordecai Ezekiel, "A Statistical Examination of the Problem of Handling Annual Surpluses of Non-perishable Farm Products," *Journal of Farm Economics*, April 1929, XI, pp. 212-14.

ing up foreign markets and facilitating the sale of surplus wheat abroad for whatever it will fetch, quite irrespective of the domestic market. The wheat which is disposed of abroad by so-called export dumping could be sold on the domestic market for feed. When disposed of in export trade for what it will fetch, this will be more than what it could bring for feed on the domestic market, but less than the price of a comparable wheat. When the Canadian pool searched out, in various parts of the world during the crop year 1928-29, markets that were able to utilize No. 6 wheat in conjunction with their other wheat supplies, this was not a dumping in any correct sense. But the wheat exporters of Argentina doubtless held it to be export dumping.

Whenever the stabilization corporation is weighing the possible effect of export dumping of wheat on domestic price of wheat, it will need to formulate a number of estimates:

1. What effect would a stated export dumping have on the domestic terminal price?
2. What is the leeway of protection afforded by the tariff wall?
3. What effect would the change in the terminal price have on the farm price?
4. What effect would the operation have on gross farm income?
5. What effect would increased domestic price have on domestic consumption?
6. What would be the direct costs and losses of the dumping operation contemplated?
7. What effect would the stated dumping have on the world price of wheat?
8. What effect would the changed world price have on the world consumption of wheat?
9. How would the corporation's direct loss and cost of dumping compare with the indirect gain to growers through elevation of domestic price?
10. What would be the effects in the subsequent crop year?

Despite these formidable questions, viewed directly as an example of computable relations in the equation of supply and demand in price, it seems clear that under certain assumptions export dumping of wheat would operate effectively to raise the domestic price level.² But we take it that in

practice, under the complexity of circumstances attending the procedure, the effect would be less computable and ponderable, though it is to be granted that, other things equal, dumping wheat on the foreign market holds larger promise for price increase than carrying wheat on the domestic market from one crop year to another. The losses incurred in export dumping of wheat would of course need to be absorbed (to which we have given attention in an earlier section), and the indirect gain on the price of the large amount of wheat domestically consumed would need to be contrasted with the direct loss on the relatively small amount of wheat dumped into export.

Export dumping in any form carries with it the danger of provoking reprisals. The subject of foreign reprisal in retaliation against dumping was recently discussed in *WHEAT STUDIES* in connection with the export debenture.¹ There is some distinction between export dumping with the losses reflected to the producers of the commodity and export dumping in consequence of governmental subsidy, the latter being regarded in international circles as the more heinous offense. But in actuality, such distinctions may easily be lost sight of. Urban workmen in the industrialized countries of Europe would welcome export dumping of American wheat by a stabilization corporation, an attitude shared by the capitalists who employ them and the exporters of European goods, without concern as to who absorbs the export losses. Such export dumping would be resented by the landlords and peasants of the same European importing countries, and the agrarian class possesses in many countries singularly effective political power. It was striking to observe how promptly the import duties on wheat were raised in France, Italy, and Germany with the sharp decline in wheat prices prior to June of this year, and it is possible that one of the effective arguments employed was that such action was necessary to protect wheat growers from the assumed results of the lowering of the export wheat freight rate in the United States.

Finally, retaliation of one type or an-

other might be provoked in the competing wheat-exporting countries. We take it for granted that some sort of understanding will be established between the American wheat growers' co-operative associations and the Canadian wheat pools that will preclude anything resembling export trade wars. Both countries are engaged in the export wheat trade and the commercial interests of wheat growers in both countries are conditioned on getting their surpluses of wheat sold. At the same time, we take it there will be enough class solidarity to prevent export dumping by Canadians or Americans, undertaken without cognizance of the other party and of an obviously discriminatory character. In the case of Argentina and Australia, the same inferences cannot be drawn. The Australian wheat growers are again endeavoring to revive state pools. If Australian wheat export policy should again be determined by growers, some understanding with Canadian growers might be arrived at, though the reaction of Canadian butter producers to the Australian plan of export butter control was in the opposite direction. Argentine export policy is really in the hands of the European importers, despite occasional gestures to the contrary on the part of the Argentine government.

Centralization of policy and management in wheat-exporting countries will bring European wheat importers closer together, make them less competitive with each other, and tend to promote group solidarity. In their reactions, European importers of wheat will be supported by European importers of other raw materials and by shipping interests. Western Europe lives by exports of finished goods made from imported raw materials, turned out by workmen fed to a large extent on imported foodstuffs. Cheap bread is economically as important to the manufacturing classes of Europe as higher-priced wheat is to American farmers. With this background, it is clear that reprisals against export dumping of wheat, whether dumping in fact or merely in appearance, are not to be lightly dismissed as academic discussion. Reprisals are based on political as well as on commodity considerations; often the former embody the purpose and the latter merely the occasion of reprisals.

¹ "The Export Debenture Plan for Wheat," *WHEAT STUDIES*, July 1929, V, 336-40.

VII. ADJUSTMENT OF SUPPLY TO DEMAND

There would be little purpose at this time in entering into appraisal of the relation of planting of wheat acreage to price of wheat, all the more because the new factor of price policy will enter the situation as an unprecedented variable. In view of the circumstances attending the development of the country since 1870, we do not believe that coefficients of correlation between wheat price and wheat acreage could be relied upon to forecast the influence of wheat price on wheat acreage in the near future. In the press one reads the most divergent views. On the one hand, the influence of price of farm products on farm practice is so exaggerated as to give the picture of farmers without plan of rotation modifying each year's practice in accordance with the previous year's prices. On the other hand, it is urged that the majority of farmers cannot shift acreage with prices, but are tied down to financial commitments or follow an unvarying scheme of individual management. Also, it is commonly asserted that low wheat prices increase wheat acreage as much as high wheat prices, since many farmers, facing irreducible cash commitments, must increase acreage with low prices in order to secure the necessary cash income.

We take it that the Farm Board would adopt the common-sense view, at once realistic and orthodox, that higher price and policy of higher price would tend to influence wheat acreage in the direction of expansion, especially as wheat is a prominent cash crop. There would be tendencies to turn land to wheat from other less promising cereals, to direct rotations more toward wheat, to put some grass land into wheat, to put under wheat some untilled land within farms, and to expand wheat growing in new regions. The admission that higher price would tend to stimulate production, and that some provision for restraint must be kept in view, was well stated by Senator Norris in the Senate on April 30: "Any legislation to increase the prices of farm products will tend to increase production. No one denies that. It is true of every protective tariff ever adopted. There may be more danger in this instance, and therefore I

think we should be willing to put a penalty on overproduction."¹

The rejoinder will be made that the Farm Board will direct attention to improvement of prices of all cereals, which will tend to prevent growers' intentions from being diverted in the direction of wheat. We are convinced this is an overdrawn expectation. As between wheat, rye, barley, oats, and corn, wheat is by far the easiest cereal to approach with improvements in merchandising and price. It is difficult to picture the organization of a rye growers' co-operative association, an oat growers' co-operative association, a barley growers' co-operative association, or a cash corn growers' co-operative association, in view of the regional relations of production and of the large proportion of the crops used locally and not entering the public markets. Rye might be handled by the spring-wheat growers' co-operative association. It is difficult to picture a coarse grain co-operative association extending beyond the upper Mississippi Valley states. In the present position of animal husbandry and with the gradual replacement of work animals by tractors, the commercial prospect in raising coarse grains is in most years and in most regions definitely below the commercial prospect in raising wheat, on soil adaptable both to bread grains and to coarse grains. The Farm Board would certainly adopt the view that where grain growers were considering alternative attractions, the decision would tend in the direction of expansion of wheat acreage relative to acreage in other cereals.

In our judgment, the success of efforts to improve the price of wheat consistently hinges on adjustment of supply to demand. If, under the operations of a Farm Board, wheat growers are left to follow their own

¹ A comprehensive study of correlation of wheat acreage with wheat prices, with allowances and adjustments for other varying factors, has never been published. But Bean has remarked that "in general the acreage in grains responds more to high prices than to low." (L. H. Bean, "The Farmers' Response to Price," *Journal of Farm Economics*, July 1929, XI, 381.) In any event, farmers' responses to naturally occurring variations in wheat prices would tend to be less pronounced than to prices plus a governmental price policy.

devices, we can hardly hope that the price-influencing procedures of the wheat growers' co-operative associations or the stabilization corporation would have a substantial continuing effect. Still more would a policy of elevation of the price level result in expansion of acreage. For reasons that are obvious, factors of distribution bearing on the price of wheat have been given great prominence in political discussions, while factors of production bearing on the price have been subordinated. It is our considered view that factors of production have had more to do in the establishment of unsatisfactory wheat prices than have factors of distribution.

In matters of manufactures, adjustment of production to demand is usually easier than adjustment of demand to supply. In the discussions on farm relief it has been more or less predicated that adjustment of production to demand is so inherently difficult as to be practically impossible and that relief must be sought through improvement in distribution and expansion of demand. Unfortunately for wheat growers, the relatively inelastic nature of the demand for wheat does not fit in well with this formulation. For our part, we are convinced that substantially higher prices for wheat are to be routinely secured in the United States only when some restraint on production, however devised, is added to improvement in quality and in distribution, and supplemented by search for new demand.

If one will regard the wheat-growing states, everywhere one finds evidence of submarginal production of wheat—production on submarginal land, or with submarginal methods, or by submarginal farmers. The extent and circumstances vary from state to state. In some places, wheat is a choice of evils as a rotation crop; in other places it is merely the least undesirable of the small grains; in some areas the straw is almost as valuable as the grain. In some places it is a form of one-crop farming from which no escape is readily perceived. In some regions, where wheat was once the crop of choice, through soil exhaustion it has become a crop of makeshift. Considerable wheat is grown on soils relatively unadapted to wheat for reasons of climate, rainfall, frost, and other hazards. A survey

of the expense of raising wheat in the different regions indicates that a considerable but variable portion of the crop is raised at exceedingly heavy costs, ranging beyond possible prices. It is easy to recommend diversification, but this proceeds slowly on account of the limited availability of adaptable animals and plants of selected strains and remunerative outturn.

Also, a surprising proportion of the crop is submarginal in quality. We raise every year large amounts of wheat of undesirable varieties, often mixed. In some regions, the wheats of all types and varieties tend more or less toward low grade. It is a fair statement that in different years from 100 to 300 million bushels of wheat raised in the United States are unmillable for the purpose of producing flour good enough to meet the specifications of the high-grade trade. It is for the most part through prices of these culls of the crop (culled by the American mills) entering export trade that the world price is reflected back upon the domestic price of wheat. The exportable surplus of American wheat is one of the important factors determining the world price of wheat; and the wheat in our exportable surplus (apart from durum and Pacific wheats) is for the most part and in most years sold low in the range of world wheat price. Also, it is the fraction of the crop yielding relatively low returns to growers.¹

Just how the wheat growers' co-operative associations are to restrain the wheat acreage of their members cannot be indicated. The non-member wheat acreage remains entirely independent. We are unable to envisage any plan that would control production automatically. We cannot interpret the relative effects of yield and acreage on outturn as suggesting the possibility of automatic adjustment of production to price. Policy of restraint and of adjustment must become precept; precept become farm program. Producers' organizations have so seldom attempted to restrain production that few precedents exist. But if the necessity of such restraint were adequately realized, it ought to be possible to devise ways and means to bring growers to the conviction

¹ For a suggestive presentation along another line, see F. V. Waugh, *Quality as a Determinant of Vegetable Prices* (New York, Columbia University Press, 1929).

that restraint is necessary if better prices are to be secured. Properly prepared statistics dealing with supply, demand, and prices of wheat must furnish the background for control. If submarginal growers of wheat could be convinced of the futility of hoping for such improvement in price as might make their operations profitable, much would be gained. Also, much would be gained if bankers, country merchants, and realtors could be convinced that wheat growing can never be made profitable on much land now devoted to this grain. A movement for acreage control can never be spectacular; curtailment of operations is unpopular in the aggregate and to the individual. If abandoned or foreclosed wheat land could in some way be withdrawn from the land market and returned to the public domain and withheld from reissue (except perhaps for forestation), this would represent a major alleviation in some regions.¹

One must not undervalue the possibilities of expansion of new wheat acreage in the hard winter-wheat states. For sound agricultural reasons, this expansion is under way and will be stimulated by a policy of price improvement. In western Nebraska, Kansas, and Oklahoma, eastern Colorado and New Mexico, and northern Texas lie many million acres of virgin land adapted to the raising of high-grade hard winter wheat with modern methods. It is essentially one-crop farming; the land is plowed with tractor power, the wheat is cut and threshed at one operation with the combine, and in view of the early date of the harvest the replowing can be so accomplished as to keep down weeds, conserve moisture, and act as a season of fallow. It is essentially large-scale wheat growing, or co-operative plowing, planting, and harvesting of smaller units. Caution must be used in the use of the combine to avoid the effect of moisture in bin-burning, and this will entail to some

extent modification of harvesting practices, cleaning and conditioning of the wheat, and farm storage in ventilating bins. The special adaptations necessary to control the effect of wheat moisture and weed moisture on wheat quality will reduce to some extent the large savings accomplished by tractor plowing and combine harvesting. But with full allowance for adaptations necessary to conserve quality of wheat, the labor costs per acre are low and, for the time being, the interest costs per acre are low, since these lands have thus far escaped inflation of prices. The product is high-grade hard wheat, and it is illogical to expect this development to be postponed because elsewhere in the United States poor farmers with poor methods applied to poor lands raise poor wheat.

Restraint of acreage, i.e., control of quantity of production, is only one part of the control demanded by the cumulative circumstances of our situation. The other part is control of quality. Gradually it is becoming clear to what large extent, and for what reasons, the quality of American wheats has deteriorated. Also, flour standards have been raised. Premium wheats are now required to make the patent flours that two decades ago could be made from country-run or elevator-run wheat. Active wheat improvement associations are now established in both the spring- and winter-wheat belts, directing their energies to careful appraisal of the causes of the continuing deterioration, and the determination and installation of corrective procedures. In part, improvement is to be expected only as result of plant breeding and seed selection. The harvester-thresher combine has created new problems for the wheat breeder and for the distributor. It will be necessary for wheat growers' co-operative associations to take an active part in the work on wheat improvement, to furnish seed to members and in every way to favor the use of selected seed of good varieties, planted and harvested with approved methods, and thus to endeavor to increase the proportion of high-grade wheat and diminish the amount of low-grade wheat raised in the country. The weed problem demands intensive attention. The identical problems have arisen even on the newer wheat lands of the Prairie Provinces of Canada, though in a

¹ It is highly significant that H. C. Taylor, distinguished farm economist and insistent spokesman for agriculture, has recently issued an appeal for a back-to-town movement. "Agencies which tend to hold an excess of farmers on the land should be displaced by agencies to facilitate the movement of the surplus farm population into other occupations in order to maintain a proper balance between rural and urban population." ("The New Farm Economics," *Journal of Farm Economics*, July 1929, XI, 365.) Such a declaration constitutes a striking departure, in the light of the traditional land settlement policy of the country.

less acute form than in this country, and the Canadian pool is putting forth active efforts on behalf of wheat improvement. Parenthetically remarked, compared with the pre-war period, wheat has deteriorated in Russia and in the Danubian region.

In his report on manufactures, published in 1791, Alexander Hamilton raised the question whether an improved agriculture were not preferable to an enlarged agriculture. The question still holds. The objective of wheat growers' associations ought to be an improved and remunerative agriculture, not an overextended and unremunerative agriculture. And this ought to be the objective, irrespective of any concern over the statistical wheat need of the world or of the hypothetical pressure of population on food supply. Just how a policy of acreage control is to be co-ordinated with both the domestic situation and the world supply and price of wheat, is not obvious. We may be sure that this crucially important adjustment will not occur automatically under any plan of surplus control.

How would the Farm Board proceed to suggest adjustment of production to demand? The wheat stabilization corporation would not be involved; the procedures would lie between the Farm Board, the advisory commodity committee, and the regional wheat growers' co-operative associations. If wheat marketing is to be farmer-controlled, it follows that wheat acreage also should be farmer-controlled. Difficulties will obviously arise between regional viewpoints. In particular, wheat growers in the Pacific states, who do not market their grain on the large grain exchanges and who dispose of their exportable surplus largely in the Orient, might object to accepting a program of acreage restraint based on conditions east of the Rocky Mountains and related to the European market for wheat. In each region, low-cost producers will feel like rejecting their proportional share of acreage reduction and high-cost producers will feel that accepting their proportional share of acreage reduction will put them out of business. In each region, producers of high-grade wheats will feel that restriction of acreage ought to apply proportionally more to low-grade wheats than to high-grade wheats. Insurance companies and banks which take over abandoned wheat

lands will wish to know what is to be done with them. To a critical extent a contest between class solidarity and traditional individualism is involved in a program of adjustment of wheat supply to demand. But if wheat farmers have suffered as much as their spokesmen have contended, there should be some prospect of success in such adjustment.

Adjustment of production means co-operative adjustment of acreage. Adjustment of acreage is easy to suggest, difficult to plan, and still more difficult to execute. During the war the government supervised a state-by-state survey of wheat acreage for the purpose of increasing production. The recommendations of acreage to be planted to wheat at that time dealt largely with the marginal acreage, in the direction of increase. The adjustment in acreage called for now would deal largely with the marginal acreage, in the direction of decrease.

It is not difficult to distinguish the marginal elements in wheat growing. A survey in any state where wheat growing is at all prominent will reveal wide variations in costs per acre and still more per bushel. In some regions wheat is practically the only cash crop, the product of one-crop farming, with or without fallowing, and usually attended with rapid deterioration of the land and often with erosion or blowing of soil. In other areas wheat is the important, or one important, cash crop in an established rotation in diversified agriculture. In other areas, wheat is one of the small grains in a scheme of rotation, and scarcely more important than rye, oats, or barley. In some areas wheat deserves to rank no higher than a feed grain, in other areas it produces regularly a premium crop. Despite the realization that the facts are known in each state, it would seem advisable to have a careful survey made to determine the place of wheat growing in the agriculture of each state from the standpoint of a program of adjustment of acreage which would result in less wheat but better wheat. Such an appraisal, state by state, carried out with adequate consideration of the milling qualities of wheats, and careful approximation of costs of production, ought to put the Farm Board in position to enlighten wheat growers as to the commercial value of the crop.

GENERAL CONSIDERATIONS APPLYING TO ADJUSTMENT OF WHEAT PRODUCTION

So far we have dealt with considerations applicable to the individual wheat grower. Two general considerations exist which apply to the question of adjustment of wheat production to demand on a country-wide scale, and by many these will be interpreted not to favor but rather to make questionable a program of gross reduction of the American wheat crop. These are the relation of gross wheat income to the wheat crop and the relation of American wheat acreage to world wheat acreage.

It is a common statement that large crops often bring a smaller gross return than small crops. In this respect each crop must be studied by itself. Small crops of potatoes and of cotton, for example, sell for more money than larger crops.¹ According to the last report of the Secretary of Agriculture, 48 million hogs sold in 1928 for almost 200 million dollars less than the amount received for 41 million hogs in 1926. These examples will suffice to illustrate the inverse relationship between volume and value in some agricultural crops. But this does not hold for wheat. The money value of the wheat crop rises with the volume of the crop. As Black has stated it,² "*As for wheat, crops larger than the present large crops would sell for still more money.*" This would continue until the United States' crop was so large that it overwhelmed the world's markets."

Not only this, but in the case of wheat the same situation holds in respect to the relation of surplus to net farm income. G. M. Peterson³ has computed and charted for a number of farm products the relation of supply to total farm value and costs. In the case of potatoes, cotton, corn, and oats, increase in supply brings losses; in the case of wheat, increase in supply, i.e., in surplus, brings gain. Stated directly for weather surpluses and deficits, the total value and total gain above cost for wheat increase as United States supplies or yields increase with constant acreage. The distinction be-

tween wheat and the other cereals in respect to relation of volume to value is a point of importance too commonly overlooked.

The second consideration is drawn from the relation of American wheat acreage to world wheat acreage. This is an intimate interrelation, supplies reacting on prices in both directions. Here, again, the coarse grains occupy a different position since the war. With allowance for occasional years of heavy export of corn, it is not too much to say that our overseas exports of corn, barley, and oats are casual, there is no close interrelation between American coarse grain acreage and the world coarse grain acreage; the world prices for coarse grain are not continuously and effectively reflected to coarse grain prices in the United States. In the case of wheat, we are seasonally on the export market, the wheat acreages at home and abroad influence each other, and world prices of wheat are to a considerable degree reflected back to American wheat prices. There is a trend of expansion in wheat acreage in the world as a whole; expansion of wheat acreage in this country will only be additive to expansion of wheat acreage occurring outside of the United States, while contraction of wheat acreage in the United States would serve only to moderate the effect of expansion in wheat acreage outside of the United States.

To condense a statement that otherwise would demand elaboration and qualification, let us say that it is the short world crop that tends to make the high domestic price, relatively irrespective of the size of the domestic crop; the bumper world crop tends to make the low domestic price, relatively irrespective of the domestic crop. The full effect on domestic price of restriction of domestic production would only be attained with the crop reduced to something like the domestic basis, leaving a seller's market behind the tariff wall.

Each year, and over a period of years, the Farm Board must accept some tentative basis of price, some forecast of world trend of wheat acreage and endeavor to suggest to American wheat growers the most favorable, or the least unfavorable domestic adjustment in relation to foreign contingencies. With the one hand a Farm Board

¹ Cf. J. D. Black, *Agricultural Reform in the United States* (New York, McGraw-Hill, 1929), pp. 95-112.

² *Op. cit.*, p. 105.

³ G. M. Peterson, "The Relation of Annual Weather Surpluses to Net Farm Incomes," *The Annals of the American Academy of Political and Social Science*, March 1929, CXLII, pp. 391-401.

would endeavor to shape American acreage to fit developments in world acreage; with the other hand, the Board would endeavor to modify carryover and export to fit developments in world supplies.

It is overdrawn to imply that the American exportable surplus plays so secondary a rôle in the world price. With an international trade of 800 or 900 million bushels, for example, there would be a substantial difference between the United States contributing 200 million bushels toward an easy international adjustment between supply and demand and contributing 100 million bushels toward a difficult international adjustment between supply and demand. The reflection of world price to domestic price presumably varies with variations in size of the American exportable surplus. Furthermore, when domestic crops are somewhat shorter, and the exportable surplus correspondingly reduced, the scope of choice of millers is restricted, competition between mills is intensified, higher premiums are secured, and a larger proportion of the crop enjoys behind the tariff wall a price above the world price. Thus, with full recognition of the influence of world price on domestic price of wheat, restriction of domestic production would nevertheless be effective in the direction of raising domestic price. But not until domestic acreage approaches domestic demand will contraction of domestic acreage behind the tariff wall tend to make domestic price independent of world price. This illustrates the peculiar difficulty attending effort at adjustment of production in one country

when the price depends on circumstances in many countries.

There is no purpose in harboring illusions. Disregarding foreign conditions, the most effective influence on wheat price would be secured through lapse of 10 million acres now devoted to low-grade wheats. The next most effective influence on price would be to have every new acre of wheat planted on soils adapted to raising high-grade wheat balanced by the lapse of an acre of wheat now being planted on soils adapted to raising low-grade wheat. What one must fear will happen is that planting on new land adapted to raising high-grade wheat will expand, while the planting of wheat on land not adapted to raising high-grade wheat will not contract. The net result, one must fear, will be gross expansion of wheat acreage, enlargement of crop under favorable conditions, with some improvement in the proportion of high-grade wheat. The adjustment of production to demand in the case of American wheat is unfortunately just as difficult as it is desirable. It involves a sort of guidance of farmers which may reasonably be expected to prove one of the principal tasks of the Farm Board. Says Ezekiel, "Great progress is being made in the job of carrying the gospel of economic facts to farmers, and still more remains to be done. It does seem, though, that further development, localization, extension, and application of facts aimed at the proper direction of production, will in the long run prove to be the most effective means that can be used to 'settle the farm problem.'"¹

VIII. CONCLUDING OBSERVATIONS

The Agricultural Marketing Act is the inauguration of a definitive national policy in agriculture. This policy embodies the reorganization of marketing and rationalization of distribution of agricultural products. In our view, the net gains to producers will become gradually effective. Price stabilization, strictly construed, would promise no result of substantial proportions; price stabilization, as the word is commonly employed, is really a euphemistic synonym for price elevation. Price elevation, in the specific sense of enhancement of domestic price

level over the world price level, a differential price elevation in short, does not lie within the compass of the Act. It is at this point that the Agricultural Marketing Act is basically distinguished from the export debenture and the equalization fee, which were designed to aim at an elevation of the domestic price level over the world price level. Improvement in the price of wheat is

¹ Mordecai Ezekiel, "A Statistical Examination of the Problem of Handling Annual Surpluses of Non-perishable Farm Products," *Journal of Farm Economics*, April 1929, XI, 220.

expected under the Act, especially in the weighted farm price; but improvement in the farm price is a different thing in meaning from differential elevation of the domestic price level, even though the net gains to farmers in dollars were the same in the two cases. In the introduction, applied to wheat, we have sought, in connection with a brief statement of the position of the wheat grower, to indicate the meaning, the limitations, and the qualifications of the term "price stabilization," which we infer would be attached to it by an administrative farm board, vested with the execution of the Agricultural Marketing Act.

We gather it to be the intent of the new legislation that representative wheat growers' organizations should be organized before proceeding with operations in relation to wheat. These, in our view, should be four in number, determined by the regional characteristics of American wheat growing. They will represent more than mergers of existing detached co-operative associations and farm elevator companies. Since circumstances permit of strategic localization, the inclusion of half the crop would promise effective control. One general advisory commodity committee follows next, in order of organization. A wheat-stabilization corporation, so-called, would carry on the major functions of the operation, at once the instrument of the co-operative associations and of the Farm Board. In our view, the coarse grains ought not to be included in the operations of the wheat-stabilization corporation; if operations in respect of coarse grains are thought desirable, these deserve a separate organization. Rye would be included with wheat. In our view, a great deal will depend upon the influence the Farm Board has on the co-operatives, and upon the reflection of representative opinion from the growers up to the Farm Board.

The definition of surplus is so fundamental in the handling of the wheat crop that the Board will need to appraise the surplus from all points of view. The Board will decide between indirect and direct procedures in dealing with the wheat surplus. We have sought to emphasize the practical meaning of "economic" surplus as distinguished from physical surplus. The distinction between acreage surplus and climatic surplus seems to us of less impor-

tance, in part because wheat is not a crop in which large outturn results in lower gross return than lesser outturn.

A number of general considerations emerge regarding the organization of wheat growers' co-operative associations as mergers of producers for the taking over of distributive functions. It seems important to insist that the transition should be accomplished without destruction of capital investment or loss of managerial ability. In our view, the grain exchanges of the country should be conserved and not demobilized. We regard trading in futures as just as important under the new order as at present. Indeed, in our view, a wheat stabilization corporation would be in position to employ the grain exchanges in the commercial interest of the grower to an extent not now possible. We have sought to emphasize the view that the merchandising operations of the stabilization corporation and of the co-operative associations would be continuous, though modified by crop variations; manipulation of the carryover of wheat and export dumping of wheat, on the contrary, we regard as measures involving hazards not lightly to be taken, but rather to be reserved for exceptional circumstances, such as are in the nature of emergencies.

So much has been written of the supposed advantage of carrying and holding wheat, thus modifying the marketing movement through the crop year and from crop year to crop year, that the known costs and prospective gains in carrying wheat become a topic of special importance. Since a strict mathematical treatment of the question is not yet possible, the Farm Board will need to give the subject a realistic appraisal. In our view, the term "orderly marketing" is a misnomer; the seasonal course of wheat marketing rests on sound grounds. The gains to be anticipated will come from profits in operations and increased efficiency in merchandising practice, rather than from drastic alterations in the rate of movement of wheat to market. There is, however, in connection with centralized marketing, a scope for what may be termed "opportunistic tactics," which belong to and can only be exploited by large-scale operations.

The profit and loss accounting will be an

item of outstanding importance to the Farm Board. Despite the wide leeway in powers accorded to the Board in an act that is permissive rather than mandatory, it was clearly the intent of the Congress to guide and to aid agriculture in reorganization, not to salvage the involvements of the past or to pay losses in the future out of public funds. Therefore, correct accounting will be necessary in order to keep all positions clearly revealed. In its relations to the stabilization corporation and the co-operative association as lender to borrower, the Board must aim to make the operations those of a going concern, run for profit. Only with the maintenance of a sound fiscal viewpoint, will soundness in merchandising practices be maintained. One of the objectives of loans to co-operative associations is to enable them so to reorganize and rationalize their affairs as to enable them to become independent of the revolving fund and maintain their operations with commercial credits.

Following this, we have endeavored to indicate the price influences and procedures in trading practices available for wheat. Regarded strictly as merchandising procedures, it is possible to picture them being applied to all wheats, or to representative wheats only, or to substandard wheats only. Precedents and analogies, drawn in part from other commodities, are available for all three schemes. Naturally, the apparent advantage of any one scheme would vary from crop year to crop year.

To secure for growers full premiums for quality, to control the carryover in the merchandising interest of the domestic market, and to control the flow of wheat to export from the standpoint of the domestic market would represent practical problems recurring each year. Control of the carryover from one crop year to the next, and control of the flow of wheat into export, from the standpoint of wheat price level in the United States and in the world, as related to world wheat crop, would represent a different problem, a problem larger and more difficult and attended with serious hazards, one of which would be reprisals by foreign countries. We take it that the Farm Board would enter on massive manipulation of the carryover and massive export dumping only under exceptional circumstances, if it chose to do so at all.

Finally, we have considered in some detail the question of adjustment of wheat supply to demand. We regard expansion in wheat acreage, which we infer is likely to eventuate when the growers first react to the social policy embodied in the Agricultural Marketing Act, as the occurrence most to be feared. An early and continued enlargement of wheat acreage would jeopardize the reorganization of marketing and rationalization of distribution of wheat. It is the necessity of acreage restraint that makes representative co-operative organizations so imperatively necessary. There is much submarginal cultivation of wheat that has no commercial *raison d'être*; we raise large amounts of inferior wheats that find no remunerative market in the world. But desirable as is adjustment of production to demand, there is no purpose in glossing over the difficulties, which we have attempted to sketch in some detail.

What one expects from the Agricultural Marketing Act under the operation of the Federal Farm Board and its subsidiary agencies depends in part upon one's political philosophy, just as this holds true for the Federal Reserve Board, the Federal Trade Commission, and the Interstate Commerce Commission. In part, however, what one expects from the Farm Board in the operations with a particular agricultural commodity depends upon one's familiarity with the commodity in question, its relations of production, distribution, and consumption. The question is perhaps more largely realistic than theoretical. No one can make even a tentative forecast without qualifications; but the qualifications themselves tend to be imponderable.

Much depends upon the objectives envisaged in respect to the wheat price desired and price-influencing measures to be regarded as attainable. Enhancement of wheat price level, improvement of wheat price within the wheat price level, and stabilization of wheat price, while overlapping and to a degree inseparable, are essentially different things when strictly construed. To those who are looking for substantial elevation of the domestic wheat price level over the world wheat price level, or indeed of the latter also, the Act would seem to hold out little promise. A careful reading of the Agricultural Marketing Act does not dis-

close provisions that are to be reasonably interpreted as formulated with the definitive objective of a differential enhancement of the American wheat price level beyond that otherwise attainable behind the tariff wall. We are unable to infer that the marketing of American wheat under the new law will make any sensible influence on the *world* wheat price level in the near future. Nor do we feel that the relation of the position of the *American* wheat price level to the world wheat price level is likely to be notably altered. In precisely this point lies the basic difference between the objectives of the Agricultural Marketing Act and of the equalization fee and the export debenture; the Act projects a reorganization and rationalization of the marketing of agricultural products, whereas the earlier plans aimed at a differential enhancement of the American wheat price level over the world wheat price level.

To those who are looking for conspicuous stabilization of wheat prices it seems to us the Act holds out very modest promise. Many who speak of stabilization of wheat price are thinking of an enhancement of wheat price; they imply stabilization upward, filling up the troughs and leaving the peaks, holding wheat prices steady near the top of the range. Stabilization, strictly construed, is quite different from enhancement. A competently managed centralized marketing of wheat would tend to steady domestic prices. There are two kinds of dealing that make for fluctuations in wheat prices—heavy dealing by professionals and heavy dealing by amateurs. The dealings of professional speculators are likely to be moderated under the Agricultural Marketing Act; but the dealings of the amateurs, the general public, may conceivably be exaggerated, in consequence of misinterpretation of the scope of governmental policy. Stabilization may be expected to improve prices incidentally, varying from type to type, from region to region, and from year to year. It seems likely that control of the marketing flow of member wheat and appropriate purchase of non-member wheat would tend to moderate the otherwise downward price movement following the harvest—not, however, with a demonstrable net gain to producers. But we are unable to feel that stabilization of wheat

prices, strictly construed, is an outstanding objective of the operation or that the net increment reasonably to be attributed to stabilization of price movement will be measurable.

The Agricultural Marketing Act is not an instrument for the delivery of promised solatium. It is instead a forward-looking plan of reconstruction and rationalization of the marketing of agricultural products. The wheat growers in the co-operative associations will come to realize that they are running their own affairs, under guidance. They will come to understand the problems of the distribution of wheat, what is attainable through appropriate marketing tactics, and the relations of prices and price movements to commodity values at home and abroad. In short, wheat growers will learn their own business as they do not now understand it; they will correctly appraise the gains accruing to them. This means a veritable psychological revolution. Wheat growers now regard themselves as an exploited class; when they have become merged into representative co-operative associations, an objective revision of the status of wheat growing will follow. A passive or negative attitude will be transformed into a positive attitude, to the immeasurable gain of the group.

When wheat growers have had enlarged and extended experience in the handling of their marketing operations, they will become more receptive to guidance in matters of farm management. In particular, improvement in wheat culture, the raising of the weighted milling value of the crop through curtailment of substandard wheat and expansion of representative wheat, will become a growing development. Up to the present, for most wheat growers the advices of experts in the national and state Departments of Agriculture and in the extension services sound far-fetched and academic. When conjoined with their own managerial experiences, we believe expert advice will become more effective. Also, the study of production costs and measures for lowering the costs per acre and thus increasing net return per acre will be stimulated and perfected when wheat growers possess an adequate understanding of the limiting factors in the marketing of the wheat crop.

We indicated above how difficult would be the effective adjustment of production to demand. But however difficult the adjustment, it will certainly be less difficult when wheat growers are active in the management of their marketing affairs in the broad sense. At present, expansion or contraction of wheat acreage is a piece of strictly individual tactics in cut-throat competition; under circumstances entirely devoid of class solidarity, one grower attempts to gain at the expense of another. Not only that, but the need for adjustment of production to demand, of whatever extent and import, is not understood. It cannot be brought home as an adaptation essential to the commercial interest of the class. When wheat growers realize, through operations conducted under their own auspices, why certain wheats cannot readily be sold and why certain surpluses have untoward effects on price, influential motives for adjustment of acreage will become disseminated in all wheat-growing regions. When thus appreciated, they will tend to become effective.

We regard the policy incorporated in the

Agricultural Marketing Act as embodying developments within the group of wheat growers and the reorganization of the marketing of wheat upon a long-term and comprehensive basis. Effective administration of the Act will enable wheat growers to make use of the advantages inherent in their business and evade certain disadvantages at least currently inherent in it. But the Agricultural Marketing Act cannot enable a Farm Board by external devices to put into wheat growing something that is not internal to it. It would be idle to pre-judge the initial or subsequent accomplishments; it would be a waste of computation to forecast net increment per bushel or per acre. We look for substantial improvements to accrue. In a sense at once ideal and real, the projected reorganization and rationalization of the marketing of agricultural products is an experiment. It is an experiment that has wider relations than the direct interest of the agricultural class. The outcome may reasonably be expected to exert significant influence upon the character and direction of the current revolution in agriculture.

This study is the work of A. E. Taylor with the aid of criticisms and suggestions from J. S. Davis, Holbrook Working, and M. K. Bennett.