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W H E A T S T U D I E S

OF THE FOOD RESEARCH INSTITUTE

VOL. III, NO. 4

FEBRUARY 1927

THE McNARY-HAUGEN PLAN AS APPLIED TO WHEAT

OPERATING PROBLEMS AND ECONOMIC CONSEQUENCES

A NEW departure in our national agricultural policy is embodied in farm relief measures latest represented by two bills now before Congress. The central features of the plan, as applied to wheat, are the operations of a federal Board, seeking to maintain domestic prices at enhanced levels behind the tariff wall, to segregate the surplus over domestic requirements and sell it for what it will bring, and to distribute operating costs and losses among the growers by means of an equalization fee on each bushel sold. How could this plan be expected to work if the Board should undertake, with the aid of necessary tariff changes, to maintain domestic wheat prices 50 cents a bushel over the Winnipeg price?

The Board would face complicated administrative problems, in part analogous to those experienced under war-controls, but more difficult to solve in time of peace. Several possibilities of breakdown cannot be ignored. Nevertheless, under certain conditions the plan might be found administratively workable, and consumers would probably bear the added costs of living without materially reducing consumption of wheat products. But the evidence indicates that the predicated enhancement of wheat prices would stimulate the expansion of wheat acreage; that the resulting increase in our wheat surplus would depress world prices; that, within a few years, the net price to growers would be no higher with the plan than without it; and that a new and painful readjustment of acreage would then be required. The greater the early administrative success, the greater would be the prospect of ultimate failure to advance the growers' interests.

STANFORD UNIVERSITY, CALIFORNIA

February 1927

W H E A T S T U D I E S

OF THE

FOOD RESEARCH INSTITUTE

The central feature of the series is a periodic analysis of the world wheat situation, with special reference to the outlook for supplies, requirements, trade, and prices. Each volume includes a comprehensive review of the preceding crop year, and three surveys of current developments at intervals of about four months. These issues contain a careful selection of relevant statistical material, presented in detail in appendix tables for reference purposes, and in summary form in text tables and charts.

Each volume also includes six special studies bearing on the interpretation of the wheat situation and outlook or upon important problems of national policy. Typical subjects are listed on the fourth cover page of this issue.

The series is designed to serve the needs of all serious students of the wheat market, in business, government, and academic circles, by summarizing and interpreting basic facts and presenting current developments in due perspective.

The ten issues of Volume III will be published monthly from November, 1926, to September, 1927, except in April, 1927. Ordinarily each issue will reach subscribers in North America early in the month designated. The subscription price for the volume, including a temporary binder, is \$10.00. Individual issues may also be purchased separately. Address: Food Research Institute, Stanford University P.O., California. European subscriptions, at £2 2s., will be accepted by the Northern Publishing Co., Ltd., 16, Fenwick Street, Liverpool, England.

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The Food Research Institute was established at Stanford University in 1921 jointly by the Carnegie Corporation of New York and the Trustees of Leland Stanford Junior University, for research in the production, distribution, and consumption of food.

THE McNARY-HAUGEN PLAN AS APPLIED TO WHEAT

OPERATING PROBLEMS AND ECONOMIC CONSEQUENCES

Leading proposals for farm relief rest on the assumption that American farmers are unprosperous because the prices of their products are too low—in large part because they produce, over and above domestic requirements, a surplus that must be sold abroad at a price which depresses the price of the entire crop.

The favorite remedy proposed is to segregate the exportable surplus, sell it abroad for what it will bring, and maintain domestic prices, behind the tariff wall, on a level substantially higher than they would otherwise be. Most advocates of this measure urge that costs of administration and the losses on export sales be assessed back upon the growers, by a device commonly called an equalization fee collected on each unit of product sold. It is proposed to entrust the administration of such a measure to a Farm Board.

Though several products have been considered as suitable for the application of this procedure, the discussion has centered chiefly upon wheat, as the outstanding example of a major product regularly exported and requiring price support, and yet free from certain complications that would appear in the cases of corn, hogs, cattle, and cotton. The double standard of marketing, the equalization fee, the Farm Board—these are the cardinal features of the proposals embodied in a series of farm relief bills that have been before the country for several years.

The proposals represent a far-reaching departure in American agricultural policy. Neither advocates nor opponents seem to have given adequate consideration to the implications of the scheme, even as applied

to wheat; or to the way in which it would operate, not for a single season alone, but as a persisting if not a permanent policy. There has been too much disposition to assume that if Congress merely passes a bill, a Farm Board would readily solve the numerous problems of detail. Before embarking on such an experiment, it is important to inquire whether the scheme is workable, what it involves, whither it leads, and whether its prospects for success are such as to justify so large an undertaking.

We propose here to examine, not the controversial matters and assumptions underlying the proposed measures of this type, nor the constitutionality of the equalization fee in any form, but rather the way in which such a measure, if adopted and adjudged lawful, might be expected to work with respect to wheat. Starting with a fair statement of the broad proposition, proceeding on the assumption that intelligent and earnest efforts will be made to carry it into effect, predicated a tariff set high enough to afford free scope for action, we undertake to consider what the proposed board would have to do, what its operation would mean for the grain trade and the milling industry, what would be the effects upon consumers of wheaten products, and what would be the consequences for wheat growers and agriculture in general. We seek to learn whether the procedure holds reasonable promise of accomplishing the objectives sought, in what manner it will influence the trend of our agricultural development, and the probable effects upon other commodities and services.

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I. PROPOSED MEASURES AND WAR-TIME PRECEDENTS

So numerous have been the variations in the successive bills,¹ and so diverse have been the positions taken, at different times and by different advocates, that it is difficult to outline the proposed measure in such a way as fairly to represent the consensus of its advocates. In the following statement, however, we attempt to express the central features of the proposal, with certain variations in detail, as an essential point of departure for considering how it would work with respect to wheat. In formulating this statement we have relied not merely upon our interpretation of the pending bills, which have been worded so as to increase their chances of enactment, but upon the statements of their framers and the published views of leading advocates of the proposal in various forms. The divergences, while by no means inconsequential, are not sufficient to prevent a reasonable consideration of the working of the broad scheme.

STATEMENT OF THE PROPOSITION

Congress is to pass an act stating the objectives, providing for the creation of administrative machinery, and broadly defining the procedures. A Farm Board (which, for convenience, we shall term the Wheat Board) is created under this act, with broad powers and functions. Specifically the Board is instructed to undertake operations in wheat whenever a Wheat Advisory Council and a substantial number of organizations representing wheat growers favor its full co-operation; and to continue its operations until it sees fit to terminate them.² With the aid of co-operative organizations and other agencies, the Board is to remove the surplus from the domestic market, and to dispose of it by sale abroad, by holding it, or otherwise, in such a manner as to raise domestic prices.

There is considerable confusion about the definition of surplus; the word is used in many different senses. Wheat growers apparently conceive of surplus as that amount of wheat for which, during the season of its production, there is no market at a price regarded as remunerative. From

the standpoint of the operations of a Board engaged in raising the domestic price, the surplus of wheat is that amount of the crop necessary to be removed from the open market in order to equate demand and supply at a stated price. A literal reading of the pending bills (Section 6, *d*, *e*) would suggest that the operations conducted by or under the Board would touch only the surplus. But in practice the Board would have to control as much wheat as the maintenance of its price standards required, regardless of its advance estimates of the surplus or its calculation thereof after the end of the crop year. The authority of the Board would presumably be construed, therefore, as extending over the fraction destined for domestic consumption and that destined for export, so far as necessary to remove the influence of the surplus on price and to raise the domestic price to the level contemplated.

The wording of the pending bills must be appraised in the light of previous bills and of the outspoken purposes of the proposed legislation. In the Senate, on December 22, 1926, Senator McNary made the following statement for printing in the *Congressional Record*, as applied to his bill:

All reference to price levels and price standards are omitted. The sole authority granted by the bill is to stabilize markets against undue and excessive fluctuations and to preserve advantageous domestic markets by "withholding or removing or disposing" of the surplus. No standard of stabilization and no price level are mentioned in the new bill. The aim is to provide funds drawn from each commodity to be employed in stabiliz-

¹ Of the various bills, we shall make most frequent reference to the *McNary-Haugen Bill*, H.R. 5563, January 16, 1924, S. 3091, April 10, 1924, 68th Congress, First Session; the *Haugen Bill*, H.R. 11603, April 26, 1926, 69th Congress, First Session; and the pending *McNary and Haugen Bills*, S. 4808, December 14, 1926, H.R. 15474, January 1927, 69th Congress, Second Session. The dates given are those on which the various bills were introduced.

² In the latest bills, as introduced, operations may be undertaken in a commodity only with the assent of members representing federal land bank districts which in the preceding crop year produced over 50 per cent of the commodity. Another limiting clause, "whenever the board finds . . . that there is or may be during the ensuing year . . . a surplus above the domestic requirements for wheat, . . ." would in fact interpose no limitation.

ing the market for that commodity by sound commercial methods.

This statement might be interpreted to mean that the primary objective is merely stabilization of the price of wheat against undue and excessive fluctuations. But certainly this is a misapprehension. The Canadian Pool undertakes to do this now; the purpose of the pending bills is certainly not confined to a duplication in the United States of the function of the Canadian Wheat Pool. A considerable degree of price stabilization was clearly sought by the ratio-price feature of the McNary-Haugen bill (1924), though no absolute fixity of price was contemplated. The Haugen bill (1926) contemplated a highly variable domestic price—moving with, but above, the world price, or, more specifically, the Winnipeg price of wheat. The pending bills are silent as to the nature and degree of stabilization.

The major purpose is not to stabilize but to raise prices. Perhaps this is implied in the expression "to preserve advantageous domestic markets by 'withholding or removing or disposing' of the surplus." In his analysis of the McNary bill, printed for the use of the Senate Committee on Agriculture and Forestry, Senator McNary states: "Within limits dictated by business sense, it enables wheat farmers to adjust the supply of wheat to the needs of the domestic market *at an American price.*" The emphasis (*italics are ours*) belongs on the last four words. It is of course the intention of the proponents of the legislation to have wheat sold on the domestic market at a higher price than abroad, at least as far above the Canadian price as the tariff will permit. Any other policy would be inconsistent with the demand for so-called equality for agriculture. The price-raising purpose of the proposal remains fundamental despite the softening of the phraseology.

The Board directly or indirectly undertakes to buy, store, and sell wheat; to enter into contracts with wheat co-operatives or organizations created by them, with elevator companies, with millers and other converters, and with exporters; and to make loans at low rates and on easy terms to co-operative associations assisting in its

operations. The pending bills provide, not for direct operation by the Board or its controlled agencies, but only for a round-about administration whereby the Board is in a position, through agreements, to do indirectly everything that under previous bills could be done directly. The modification was apparently made in order to keep the government out of business and also to encourage agricultural co-operation. The change in formulation does not materially affect the discussion below, for we employ the term "Board" to cover the function, and our reasoning applies to a board which operates through agencies or contracts as well as to a board operating directly.

The operating capital of the Wheat Board is to be provided initially by a revolving fund appropriated from the national treasury, and in part through direct or indirect borrowings of the Board on the security of wheat owned, but fundamentally by a stabilization or equalization fund created, directly or indirectly, by assessments upon wheat growers. On each bushel of wheat sold, a stated "equalization fee" is to be levied and collected, "as a regulation of such commerce." It is also provided in the pending bills (e.g., S. 4808, Sec. 6, *e*) that the second parties to agreements with the Board shall pay their profits (presumably excess profits), under these agreements, into the stabilization fund that stands exclusively under the control of the Board: this obviously implies working agreements with elevator companies, flour millers, and exporters on some agreed scales of charges. The fund thus created is to cover losses on export sales and other losses, costs, and charges arising out of the operation in wheat. It is assumed that the growers will gain much more, through enhanced prices for their wheat, than they will lose by payment of equalization fees.

The equalization fee may be regarded as a law-imposed device for compelling individual growers to participate collectively in a semi-monopolistic control of the crop and its marketing in segregated fractions.¹ A national wheat growers' co-operative, if

¹ What amounts to compulsory co-operative marketing is under discussion in South Africa, Australia, and British Columbia.

sufficiently inclusive and powerful, might conceivably inaugurate and carry through the double standard of marketing, assessing its costs of operation upon its members in any one of various possible ways. But there exists no such organization, and there is no early prospect of its establishment. Saving this, there seems no effective way to apportion operating costs and losses among the prospective beneficiaries except by invoking government aid in assessing and collecting the equalization fees—some-what after the fashion of an excise or sales tax, or the check-off collected by coal-mine operators for the miners' union—and in administering the resulting fund to attain the stated objectives.¹

To illustrate the wide latitude of undertakings open to the Board under the powers provided in the pending bill, one has but to quote from the report of Chairman Haugen, on submitting his bill to the House, January 18, 1927.

1. The purchase of specified amounts of the surplus of a basic agricultural commodity, or the purchase of the commodity (subject perhaps to a maximum amount of purchases) so long as unsatisfactory market conditions remain.

2. The withholding of the commodity until a specified time or until satisfactory market conditions prevail.

3. The sale of the commodity at a specified price if a willing buyer can be found.

4. The sale of the commodity in a designated domestic or foreign market.

5. The processing of the commodity and its sale in a processed condition.

6. The financing by the board of the above undertakings by advances from the stabilization funds.

7. The payment by the board from the stabilization funds of the charges of the private agencies for the services rendered.

8. The payment by the board from the stabilization funds of the losses incurred in the purchase, withholding, and sale.

9. The payment by the private agencies into the stabilization funds of the profits arising from the purchase, withholding, and sale.

The above list is merely illustrative of the many possible undertakings. The precise nature of the agreements to be entered into by the board will depend upon marketing conditions.

¹“The purpose of the equalization fee is to effect a 100 per cent pool, so that all producers may share ratably in the cost of operation and in the benefits.” Chairman Haugen, in *Hearings before the Committee on Agriculture, House of Representatives, . . . on H.R. 7392, January 10, 1927, Serial U, Part 4, p. 148.*

This furnishes ample warrant for the scope of the discussion that is to follow and makes it immaterial to the discussion of procedures whether these are carried out by the Board or by a co-operative association assisted by the Board.

The McNary-Haugen bill (1924) proposed the collection of the equalization fee on the merchandised crop at the point of initial sale, i.e., at the elevator or local mill. The Haugen bill (1926) proposed its collection from the miller, and thus only on the fraction milled domestically. The pending bills are not specific on this point, and merely provide for its collection from “any person engaged in the transportation, processing, or acquisition by sale” of wheat—in other words, from the elevator, the railway, the miller, or other intermediary.

Conceivably each year might be treated as a distinct operating period, and the equalization fee placed high enough to absorb all possible costs and losses of the year and admit of a variable refund on the closing of accounts. Conceivably lower fees might be charged, and errors in calculations in one year adjusted in assessing fees in later years. Conceivably a working fund might be accumulated, out of equalization fees in early years, sufficient to take care of unexpected variations in losses on exports and provide an independent working fund.

The pending bills, unlike their most prominent predecessors, leave to the Board full discretion as to the domestic price which they would seek to insure to domestic producers. The dominant view among the advocates of the measure, for wheat at least, is that the price should be raised at least as high as possible with the present tariff of 42 cents a bushel; and the prevailing notion of a proper standard is that American prices should be maintained at 50 cents a bushel (roughly duty plus shipment costs) above the Winnipeg price. The latter position we accept for purposes of the following discussion.

For purposes of specific analysis, we must therefore predicate a basic price. The average price for No. 1 Manitoba Northern wheat paid by the Pool at the head of the lakes was \$1.66 per bushel for the crop of 1924 and \$1.45 per bushel for the crop of

1925. For the entire crop of all grades, the average price was somewhat lower. In recent months prices of wheat futures in Winnipeg have ranged largely between \$1.30 and \$1.50. As the basic Canadian price, in the consideration that follows, we shall use the figure of \$1.30. In the light of prices during the past few years, this is neither very high nor very low; it is better to employ a moderate figure to avoid unwarranted inferences and implications. Using \$1.30 as the hypothetical basic Canadian terminal price, the addition of 50 cents would make the contemplated American basic terminal price \$1.80 per bushel. The average weighted terminal price of wheat east of the Rocky Mountains, according to an unpublished computation of the Food Research Institute, was \$1.47 for the crop of 1924 and \$1.64 for the crop of 1925.¹

That an increase of 50 cents, or more, over the Canadian price is contemplated by the proponents of the pending legislation, is supported by the figures recently used by Representative Haugen to indicate the gains that might have been secured under the Haugen bill defeated at the last session of Congress.² According to this estimate, the total gain on the 1925 crop would have been \$450,500,000. The amount of wheat merchandised during the year (sum of grindings, export of domestic wheat, and wheat sold for feed) must have been in the neighborhood of 600 million bushels. Dividing this into the figure advanced to represent the gross profit on wheat gives 75 cents a bushel, to represent the assumed increase in price under the operations of the equalization fee. How these figures were secured, Chairman Haugen did not state, and we are not able to infer. The gains suggested could not have been secured without the assistance of the embargo clause originally contained in the Haugen bill. A terminal price of \$1.80 also appears very conservative in view of the calculations of the Cost Committee of the Corn Belt Committee, which

led to an average of \$2.43 for the cost of producing wheat in the states of Minnesota, North Dakota, and Nebraska.

Table 1 (p. 182) is prepared to illustrate the theory of the application of the double standard of marketing and the operation of the equalization fee, on certain more or less arbitrary predications and assumptions. Costs other than losses on the export fraction are disregarded. The equalization fee is assumed to be collected on the entire merchandised crop (rather than on flour), exclusive of seed and farm feed and waste. Crops of various sizes, from 700 to 1,100 million bushels in 50 million bushel intervals, are considered. It is assumed that farm retention for seed and feed will vary roughly with the crop; that domestic consumption will be constant at 550 million bushels, regardless of the size of crop; and that the export surplus will vary directly with the crop. It is assumed that the Winnipeg price will be \$1.30, regardless of the size of the American crop; that a domestic price of \$1.80 is contemplated; and that the export fraction can be sold at the Winnipeg price. It is assumed that the equalization fee will be set at a figure, in even cents per bushel on the merchandised crop, that will yield an equalization fund slightly exceeding the loss on exports. Differences among wheats, by regions, types, and grades, are disregarded; variations in carryover are ignored; the operation is assumed to be completed annually.

The table, prepared for illustrative purposes under the stated assumptions, shows the gross value of the merchandised crop at the stated price of \$1.80, the required equalization fund, the net value of the merchandised crop after subtraction of the losses on exports, the net price per bushel of the merchandised crop, and the apparent net gain per bushel over what would have been received had the predicated export price determined the price of the entire crop. It shows clearly that the larger the crop, the higher must be the losses on exports and the equalization fee per bushel, and the lower will be the net gain per bushel. But it implies that, even with a crop of 1,100 million bushels, net gains would be substantial.

¹The United States Department of Agriculture reports the average farm price of wheat as \$1.278 for the crop of 1924 and \$1.459 for the crop of 1925.

²*Hearings before the Committee on Agriculture, House of Representatives, 69th Congress, Second Session, on H.R. 15963, January 6 and 8, 1927, Serial U, Part 3, p. 111.*

Such a table, we believe, roughly represents the operation of the equalization fee as it lies in the minds of the proponents. With some of its implications, notably that the Winnipeg price and the export price are independent of the volume of American wheat exported, we shall deal below. Also it must not be assumed that, without the

In the discussion that follows we proceed upon the assumption that the Wheat Board would operate, not under the present tariff of 42 cents per bushel, but under a tariff set at a figure, itself not named, high enough to afford the Board free scope for activity in driving up the price to the contemplated increase of 50 cents over the Canadian

TABLE 1.—HYPOTHETICAL ILLUSTRATION OF THE OPERATION OF THE PRINCIPLE OF SEGREGATED EXPORTS AND THE EQUALIZATION FEE, WITH CROPS OF DIFFERENT SIZE, ON CERTAIN ASSUMPTIONS*

Wheat crop (Million bushels)	Seed, farm feed (Million bushels)	Merchandised crop (Million bushels)	Domestic consumption (Million bushels)	Export surplus (Million bushels)	Gross value of merchandised crop (at \$1.80) (Million dollars)	Loss on exports (assumed export price \$1.30) (Million dollars)	Net value of merchandised crop (Million dollars)	Equalization fund (Million dollars)	Equalization fee on merchandised crop (Cents per bu.)	Net price per merchandised bushel (Cents per bu.)	Gain over \$1.30 (Cents per bu.)
700	100	600	550	50	1080	25.0	1055.0	30.0	5	175.8	45.8
750	105	645	550	95	1161	47.5	1113.5	51.6	8	172.6	42.6
800	110	690	550	140	1242	70.0	1172.0	75.9	11	169.9	39.9
850	115	735	550	185	1323	92.5	1230.5	95.55	13	167.4	37.4
900	120	780	550	230	1404	115.0	1289.0	117.0	15	165.3	35.3
950	125	825	550	275	1485	137.5	1347.5	140.25	17	163.3	33.3
1000	130	870	550	320	1566	160.0	1406.0	165.3	19	161.6	31.6
1050	135	915	550	365	1647	182.5	1464.5	183.0	20	160.1	30.1
1100	140	960	550	410	1728	205.0	1523.0	211.2	22	158.6	28.6

* The assumptions and predications, more fully set forth in the text, include the predication of a domestic price of \$1.80 and an export price of \$1.30.

proposed measures, American and Canadian prices are identical; in fact, owing to the tariff, American prices are higher. The proponents would not all agree as to the measure of difference to be maintained between the Winnipeg and the American price. All would admit that no uniform price for all American wheat could be contemplated. None would expect variations in carryover to be negligible. Nevertheless, some such tabulation is essential for envisaging certain fundamental problems and relationships, and we shall find it necessary to make frequent reference to it below.

We repeat, we are here concerned not with secondary differences in the various bills introduced in Congress but with the essential questions involved in (a) the collection of equalization fees to provide an equalization fund, (b) the segregation of the surplus for export or carryover into another year or other disposition, (c) the payment of losses on export, and (d) the raising, behind the tariff wall, of the price of the domestic fraction of the crop.

price. In a separate study we shall consider the outcome to be expected from operations behind the existing tariff of 42 cents.¹

WAR-TIME PRECEDENTS

When one seeks to visualize the Wheat Board in operation, it is natural to cast about for experiences, analogies, and precedents. The export bounties on sugar, maintained by Germany and other countries in modern times prior to the war, were designed to build up a domestic industry by a device of simple application, and not to protect a highly developed domestic industry from the economic consequences attributed to the production of an export surplus. Coffee valorization in Brazil affords an analogy to the case of cotton (of which the United States produces the major part of the world supply) but not to the case of wheat. The recent experiment of British restrictions on exports of rubber

¹ WHEAT STUDIES, March 1927, III, No. 5.

represents the case of a partial monopoly of a natural resource, rather than the segregation of exports in order to maintain a high domestic price. The experience of the Canadian and Australian wheat pools is of some pertinence, but these have chiefly attempted to organize the marketing of the crop in the interest of the grower, without maintaining a double standard of marketing. The Australian experiment with promoting exports of butter and other dairy products is too recent to afford material of current value. In short, in pre-war or post-war experience, one looks in vain for significant aid in provisioning the working of the proposed measures.

Of experience in war-time, including the transition to peace conditions, we possess an abundance, both in the United States and abroad; and no commodity was more commonly controlled than wheat. True, a powerful objective of many of these controls was to restrain advances in wheat prices, not to enhance them; and the conditions were peculiar to war times. Nevertheless, the work involved a governmental agency, co-operating with private concerns, and exerting a major influence on prices and marketing; and the experience revealed many of the problems which a Wheat Board would have to face in time of peace.

Reviewing briefly the wheat controls of the war, one observes three types of procedures: (1) price fixing or price orders; (2) allocations; and (3) operations on public markets.

Control by price order was accomplished by specifying prices for wheat, flour, and bread. European experience with price orders was fairly satisfactory in effect, but was attended with an enormous detail of administration. We had no such system in this country during the war, except that licensed grain dealers were notified of the prices for which wheats of various grades were to be sold to mills, and licensed millers were notified of the prices that were to be paid—and this only between August 1917 and January 1919. We had a guaranteed minimum wheat price, on a stated basis with stated differentials. There were agreed buying margins for grain elevators, and an agreed conversion charge and rate of profit

for mills. We had a so-called fair price for bread, enforced by public opinion and trade patrol rather than by penalties, but no fixed price for either flour or bread.

Wherever compulsory reports of licensed country elevators quoted the prices of wheat paid to growers and received from mills; wherever compulsory reports of licensed millers quoted the prices paid for wheat and received for flour; wherever retail prices of flour and bread were subject to police control and licensed bakers reported the prices paid for flour: in these circumstances this form of price fixing was effective except for a limited amount of illicit trade.

Allocations of wheat and flour to mills and bakers, by official agencies, were employed to make price orders effective and to relieve the controlling administration of part of the details of supervision. Allocation of wheat to mills is inherently limited to the manufacture of straight flour and was thus appropriate in war-time. Allocation was employed by the United States Grain Administration for the grinding of both American and Canadian grain and distribution of flour and for the routing of exports, and had direct effect in aiding the maintenance of price.

In many countries, both importing and exporting, the wheat executives employed buying and selling operations, in conjunction with possession and allocation of wheat, in order to promote stabilization of prices. When the price tended to soar, wheat would be released. With the board in known possession of the bulk of the supply, a slight market operation was usually effective. This type of operation was of greater importance internationally than nationally. The British Royal Commission on Wheat Supplies made extensive use of its world-wide facilities in the purchase and sale of wheat, at once to safeguard its supply and to exercise a restraint upon prices. The United States Grain Corporation operated on this plan also in the handling of the crop of 1919, but only in one direction; whenever necessary, the Grain Corporation made purchases in order to prevent the price from falling below the guaranteed figure, but made no sales to

prevent the price from rising above that, and indeed disposed of low-grade flours abroad in order to prevent them from depressing domestic prices.¹

A Wheat Board administering an equalization fee applied to wheat would presumably employ the third procedure rather than either of the first two. It would not undertake specifically to dictate prices for wheat or flour. Allocation of wheat has never been specifically included among the powers of the Wheat Board in any of the bills introduced into Congress, though possibly it might be implied. The proposed powers are, indeed, very wide; but they are substantially narrower (especially as police powers) than those possessed by the United States Grain Corporation. We take it for granted that a Wheat Board would not undertake flour milling, but it would need to enter into warehousing of wheat. Apart from this, it would have the functions of a merchant in wheat and wheaten products, a competitive trader; in financial resources a super-trader, indeed, but nevertheless only a trader. The Wheat Board or its agents would face grain merchants and flour millers as competitors, except as they might become partners through agreements.

It is necessary to visualize the reactions of society to artificial controls. Whenever a commodity is placed under control, this disturbs the customary operations of producers, distributors, converters, and consumers. Their reactions are determined by personal as well as class incentives of self-interest. The self-interest may be conservative or radical, shortsighted or farsighted, enlightened or benighted, legal or illegal; but it will be self-interest. Inevitably confronted with such a situation, a board administering control over a commodity may elect either to secure the co-operation of the trades or to impose rigid formulas upon them. There can be no question that the former is the course of expediency, and we take it for granted it would be followed by the Wheat Board. A certain price will need to be paid to the trades for their effective

co-operation. It would be less a question of the net gain to the trade than of the net loss to the administrative board. It would be found cheaper to pay a small price for co-operation than to suffer a larger loss through opposition.

Co-operation implies working agreements, with division of functions between administrative board and the trades and such clarity of policy and relations that the units in the trades understand where they stand under all circumstances. For the larger and more effective factors in the trade such agreements imply the continuation of autogenous commercial life; for lesser factors in the trade, the agreements may imply subordination under the administrative board on the basis of stated commissions for agreed services. In the administration of every control board will be found certain functions that the board can best do through its own forces; other functions best left to private initiative; still other functions best carried out through engagements with private traders on the basis of stated commissions. The various bills proposed for the handling of agricultural surpluses through the equalization fee have either implied or directly recognized the necessity of such working agreements, and we are able to visualize no successful application of such a system except through intelligent co-ordination with the trade.

The war-time experiences with governmental control of price and trade indicate that procedures turn out to be workable when, as in the case of certain commodities, the objectives are clear-cut, the circumstances moderately simple, the forces unconflicting or capable of being harmonized. But when, as in the case of other commodities, the circumstances are highly complicated and the forces are irreconcilably conflicting, the procedures become lost in ramifications, the administration becomes topheavy, and the structure collapses.

So far as wheat is concerned, the war-time experience showed that a high degree of control is inherently practicable under war conditions. The Grain Corporation had behind it a unified grain trade and milling industry. Before it stood the spectre of hunger. An almost limitless demand sought

¹ Cf. *The Story of the United States Grain Corporation*, U.S. Grain Corporation, April 1920, and Frank M. Surface, *The Stabilization of the Price of Wheat During the War and its Effect upon the Returns to the Producer*, U.S. Grain Corporation, May 1925.

wheat on credit, directly or indirectly. Growers, traders, and millers operated under a guaranty of price. The control organizations had funds adequate to support all projected operations, to deal with any contingency that might arise, and to carry the stocks for the producer class; and they were in a legal and political position effectively to deal with opposition from the consumer class.

In general, except in a state of war, no effective public opinion stands behind governmental control of prices and trade. Evasion is regarded as a form of competition rather than criminal infraction, and the ingenuity of the private trader usually proves itself superior to the regulations of the bureaucrat. The administrative difficulties are thereby immeasurably increased. At the best, the solidarity of one class is opposed to that of another; at the worst, solidarity breaks down within the class. In the broad sense, the self-interest of wheat growers, grain traders, and millers might seem to be closely related; in fact, under conditions of control, it is difficult to bring them into co-operation. Nowhere has the attempt been made to exercise so large a measure of control in time of peace over so far-flung a wheat industry and trade—in a large

country comprising regions so divergent in varieties and in the practices of wheat growers—as is now proposed for the United States. Despite war-time precedents, therefore, the new policy would involve a vast amount of trial and error.

To certain aspects of the war experience—notably the influence of attractive prices in stimulating expansion of acreage and production and the post-war difficulties in reversing this expansion—we must subsequently return, because of their bearing on the ultimate outcome of measures designed to raise wheat prices to levels attractive to growers. Suffice it to say at this point that several nations accepted, as part of the economic régime of war, a high degree of active control of the wheat trade, that the control proved workable in practice, at a cost, and that at several points the proposed Wheat Board would need to study diligently the detailed experiences of the United States Grain Corporation. Purely from the standpoint of administration, the operation of the Grain Corporation, on fixed prices with differentials, was much simpler than would be the operation of the proposed Wheat Board with a moving price at lake ports, to which regional differentials would have to be adjusted.

II. PRICE PROBLEMS AND POLICIES

In undertaking to put the proposed plan into operation, the Wheat Board would encounter the necessity of formulating certain basic policies with respect to wheat prices, either in the full exercise of its discretion or in elaboration of instructions laid down by act of Congress. In carrying these policies into effect it would have continuously to deal with complicated and difficult price problems. This phase of its operations deserves first consideration.

THE STANDARD FOR DOMESTIC PRICE

A primary and fundamental problem of the Wheat Board would be to determine what standard for domestic price it should set up. Its decision on this point would affect the judgment as to whether operations in wheat should be entered upon, and, if so, how intensive they should be.

The pending bills, as we have seen, are silent on this point, and leave to the Board great latitude in determining this basic policy. The McNary-Haugen bill (1924) embodied the standard of the ratio-price, i.e., a price for wheat that bears the same relation to the prices of commodities in general as the average relation in pre-war years. Some would propose that the Board undertake to maintain a "fair and reasonable price," presumably based on costs of production. The prevailing view of many advocates of the Haugen bill (1926) was that domestic prices should be driven up behind the tariff wall to a level roughly 50 cents a bushel above the world price as reflected in Winnipeg,¹ and this may be regarded as the dominant view at present.

¹ The so-called "tariff yardstick," duty plus freight.

If the ratio-price standard were imposed upon it by law, the Board would still have the task of adopting a method for ascertaining the ratio-price and the extent to which current wheat prices were above or below the ratio-price. This would immediately open up the question of the appropriateness of index numbers to be used—about which there are differences of opinion among experts; and also the problem of price differences among different types and grades of wheat, and different regions—of which more must be said below. Moreover, it would not be sufficient to secure a method of measuring past and current prices by the ratio-price standard; it would be necessary also to develop methods of forecasting, as well as possible, the levels of domestic wheat prices in relation to prices in general over several months to a year in advance, assuming no operations were attempted; for this outlook would be a major factor in decisions to begin, to continue, or to cease operations.

The ratio-price proposal still has adherents, but has fallen into disfavor because, among other things, it savors of price-fixing—against which there has developed a prejudice—and it has come to be appreciated that it might involve unusual difficulties in a year of bumper crops. If, however, Congress left this matter to the Wheat Board, it might decide to employ the ratio-price method as an aid in determining its price policy in any particular year, without indefinite commitment to it.

The commonest interpretation of the term "fair and reasonable price" is that it means a figure based on cost of production including a reasonable profit. But costs of production vary tremendously from farm to farm, from region to region, from year to year. It would be impossible to vary prices paid according to variations in costs, even if such a policy were deemed fair and reasonable. Even the determination of average costs, or costs of a portion of the crop produced at what is sometimes called the bulk-line, is beset with many difficulties. Any attempt to use costs as a basis for standard prices would lead to continuously rising figures. An important element in farm costs as they have been computed is a land charge

varying roughly with land values. Any effective assurance that domestic prices of wheat would be maintained above the levels fixed by free competition, regardless of the crop, would make for higher land values, increased land charges, and increased total costs. Despite all the effort that has been expended in ascertaining farm costs, we have no reason to suppose that a Wheat Board could use farm costs in any helpful fashion in fixing upon a current standard for wheat prices. A "fair and reasonable" price is a political, not an economic concept. A Wheat Board would hope that the price it would maintain would be generally regarded as fair and reasonable, but it could not use this concept in determining upon a standard for any particular year.

The really tangible proposal is to have the Wheat Board, by purchase of wheat in different regions of the country, force the price as high as can be done behind the tariff wall, with a series of natural differentials for varieties, grades, and qualities and for varying distances of haul to milling centers, allowing the wheats of the different regions to adapt themselves to each other at the higher price level quite as they do normally. If, as we believe, the present tariff would not permit the Board to drive up domestic prices to secure a sufficiently high level, the Board would have to fix upon a desired differential and secure such increase of the duty as would make possible the maintenance of this differential. In either case, the datum-line would be Winnipeg; the lowest threshold of entrance is Buffalo; import price parity of Canadian wheat at Buffalo would be the upward limit of price influence.¹ If an artificial price is to be sought, this procedure would have many arguments in its favor, and we accept it as the basis for our analysis.

This proposal implies a much more variable domestic price than would be indicated by a ratio-price standard. Quite conceivably it would mean a more variable price

¹ For transportation reasons, it is difficult to contemplate importation of wheat, in any appreciable volume, from Russia, Australia, or Argentina to the United States, either direct or via Liverpool. Canada is, and seems destined to remain, our principal competitor in wheat and flour markets abroad and our only economical source of wheat imports.

than prevails at times under uncontrolled conditions; though the degree of variation would depend materially upon the export and carryover policy of the Wheat Board. If the Board regarded as a major function the reduction of instability in wheat prices, it might, like the Canadian Wheat Pool, exert considerable influence in this direction—at what risk and cost it is hard to say.

This proposal has apparently been favored for three principal reasons. It is regarded as likely to give the wheat growers a more favorable price than they would secure under a ratio-price standard, as less likely to create insuperable difficulties in case of large world crops, and as free from the charge of price-fixing. Not a fixed price, even for a season, is contemplated; but rather a system of purchase and sale by the Wheat Board or at its direction, whereby an enhanced but moving price would obtain in domestic markets. World market conditions would continue to influence American prices, through the Winnipeg price and also through influence on the export and carryover policy of the Wheat Board.

THE QUESTION OF PRICE-FIXING

The phrase "price-fixing" has called forth a great deal of special pleading on both sides. The proponents of the favored measure seem to feel that if they can acquit their proposition of the charge of "price-fixing," they will have given to it a position of regularity as "sound" in economic thought. The opponents of the measure seem to feel that if they can convict it of "price-fixing," that will forthwith condemn it as "unsound." Witness the highly prized statement of Sir Josiah Stamp to Vice-President Dawes: "The scheme is thus not a price-fixing one, for it merely creates an addition to a moving world price. This, on the assumption given above, is economically feasible and not fallacious."¹

Price-fixing has for the most part come to mean price-naming. The government, in effect, fixes the price of railway transportation when the Interstate Commerce Commission approves the proposed rates. Minimum prices for wheat were fixed for

the 1917, 1918, and 1919 crops by proclamation of the President acting under Congressional authorization. The original McNary-Haugen bill was regarded as a price-fixing bill because it set up a ratio-price standard, even though it did not direct the Board to maintain a fixed price. In this verbal sense the later Haugen bill was even less a price-fixing bill. But price-fixing, in the direct sense of price-naming, is only a narrow part of price-influencing. The different methods by which prices are artificially influenced through governmental action are to be regarded as qualitatively identical, in so far as they modify the equation of supply and demand in price or influence the practices or bargaining powers of traders.

Some price-influencing enactments may be termed price-enabling or price-restraining. During the marketing of the 1919 wheat crop the United States Grain Corporation prevented wheat from falling below the set price, but permitted it to rise freely above that point. The Grain Corporation restrained the price of wheat from falling by making purchases whenever there was pressure of marketing. The inter-allied Wheat Executive restrained the price of wheat generally during the war by constant readiness to sell wheat out of huge stores under its control. The Haugen bill was a price-enabling bill, since the purpose of the measure was to secure a price as close as possible to the world price plus the tariff; it was a price-restraining act in the same sense. Some war enactments tended to effect a balance between enabling and restraining influences, so that price movements were confined within a relatively narrow range; the prices of many industrial materials were thus stabilized during the war, partly also by allocation.

To argue that price-raising and price-restraining devices are inherently different from price-fixing devices, so far as the law of supply and demand is concerned, is splitting hairs. Their common object is essentially to interject a fresh influence upon supply and demand, and thereby to establish a desired level of price, either moving or fixed. The price-fixing devices imply indeed a greater rigidity in the price ele-

¹ *Congressional Record*, May 25, 1926, p. 9916.

ment, and therefore impose greater limitations upon the controlling agency; but the soundness or unsoundness of proposed measures cannot be determined by any such touchstone. Interested essentially in the workability of the proposed measure, its effects on trade practices, on consumers, and on production, the American public may well regard the controversy as to just what is "price-fixing" as irrelevant.

Whatever the policy adopted by the Wheat Board with respect to the standard for domestic prices—whether absolutely fixed, varying with a general index number, varying with Winnipeg prices, or otherwise—it would be essential for the Board to formulate clearly in advance its policy for a season, and to adhere to this policy during the season. In what detail it could be expected to announce this policy to the public is an open question, though certainly as experience accumulates it would be important to have the public thoroughly aware of the policy. In the meantime, the policy would be inferred from actions taken; but absence of a policy, or vacillations in adhering to one, might create disturbances of great magnitude and would probably be fatal to the operation of the scheme.

PRICE DIFFERENTIALS

Whatever the standard adopted for domestic price, it would be quite inadequate to establish a standard price for a single grade at a given market, or a standard relationship between such a price and a world price. The Wheat Board would have to establish numerous differentials among regions, varieties, and grades, much as the Canadian Wheat Pool does for various grades at present.

Discussions of the relation of American to world wheat prices are frequently conducted on the assumption that wheat is a unity, that wheats are homogeneous at home and abroad. This is both untrue and misleading. Even the Liverpool price, often taken as representative of the world price, is a range of prices for the different wheats entering the European market. This range may be surprisingly wide at times and is susceptible of notable variations; it is not

uncommon to find the wheat of one country selling in Liverpool for 10 cents above or below the wheat of another country. The great bulk of Canadian wheat is hard spring wheat of fairly uniform type, but there are important differences in prices among the various grades, and between normal and tough wheat of a common grade.

In the United States, with many types and varieties of wheats, and with a high degree of particularity in millers' preferences, extreme price variations appear among different types, grades, and qualities. There is no close parallelism of prices of hard red spring, hard red winter, soft red winter, Pacific, and durum wheats—to mention the leading types. No. 1 wheats of different varieties frequently sell 10 or more cents per bushel apart; the range between No. 1 and No. 5 of any variety (protein-content disregarded) may be 10 or more cents per bushel; within a single grade of a single variety, prices based on protein-content may vary 20 or more cents a bushel.

The comparison between world prices and domestic prices thus involves a comparison between a moderate range of prices at Liverpool or in Winnipeg and a very wide range of prices in the United States.¹

Apart from these variations in prices attributable to differences in variety and quality, there exist price differences due to distribution by regions, as related to population and milling centers and involving different lengths of freight haul. These are not unchanging differences from season to season or within a season. Some regions consistently produce a surplus over their consumption requirements; some are consistently deficiency regions. But others are at times surplus regions and at other times deficiency regions, and the degree of surplus or deficiency is regularly a price factor of no mean importance.

In short, there is no single domestic price of wheat, no simple structure of wheat prices with unchanging relationships within the structure. Rather there is a complex and constantly shifting system of domestic prices. It is a movement rather than a

¹ Some indication of this is given in the Appendix to "American Importation of Canadian Wheat," *WHEAT STUDIES*, November 1926, III, 35-75.

structure. The Wheat Board would be subject to severe criticism if it seemed to favor certain types, grades, or regions at the expense of others. In the hearings and debates on bills introduced in Congress, it seems often to have been assumed that a domestic price for wheat could be set at a point. This, however, is incompatible with the buying practices and quality requirements of American mills. A *system* of prices would have to be established, and no unchanging system would meet the requirements.

ADMINISTRATIVE METHOD OF RAISING THE DOMESTIC PRICE

Let us assume that the Wheat Board is constituted, that a decision to undertake operations in wheat has been reached, and that a policy in respect to the standard for domestic price, and appropriate differentials, has been formulated and adopted. What administrative procedure for raising the price would be required?

Presumably it would be difficult or impossible to inaugurate operations in the middle of a crop year. Much of the wheat would already have left farmers' hands, and a policy of price raising would benefit chiefly the intermediate holders of wheat, including indeed some wheat co-operatives but chiefly grain dealers, speculators, millers, and others who had purchased grain at lower price levels. The Board could hardly afford to make its *début* by adopting a policy that would benefit these groups, to draw heavily upon the national treasury to cover losses on exports for their benefit, or for such a purpose establish claims upon an equalization fund to be built up by collection of equalization fees on subsequent sales from the farm.¹ In effect, operations could be initiated only with a new crop year. In the considerable interval between enactment into law and beginning of definitive operations, heavy imports of wheat might be expected under lure of profits to be gained from the contemplated increase in price. This could be prevented only by some provision in the act to make effective an *ad interim* embargo.

The preliminary decisions would presumably have to be made no later than May, so

that operations could be undertaken as soon as the earliest winter wheat was harvested in the Southwest. At this time the Board would have some basis for a guess as to the crop of winter wheat, though experience has shown that the final estimate of the winter-wheat crop is often radically different from the forecast as of May 1.² It would also have some basis for forecasting European crops of winter wheat, though by no means sufficient evidence to ascertain the strength of European demand for import wheat. But it would have no reliable estimate of even the acreage of spring-sown wheat in this country,³ in Canada, and in Russia, or of the sowings in Argentina and Australia; and it could have no reliable basis for forecasting the yield in these important producing areas, whose export contributions are so powerful a factor in determining world prices.

Even on very incomplete evidence, however, the Board would have to determine how strongly it should intervene as a purchaser of new wheat (and perhaps of old wheat as well), how far it should seek to raise the domestic price, and how rapidly it should push its exports. As fast as the winter wheats came to market, the Board would need to make purchases both of representative wheats desired by mills and of wheats destined for export. These purchases would probably need to be made in considerable volume, though in amounts that would vary from season to season. The purchased wheats would be stored at points strategic in relation to producing districts, transportation, and location of mills, bearing in mind that country storage is cheaper

¹ Probably the Board could not hope to escape some criticism of this character, for in all probability the certainty of inauguration of operations for a new crop year would make for an increase of the carryover into that year, in and out of farmers' hands. But it would seek to reduce to a minimum the ground for such criticism.

² Over a period of sixteen years, 1911-26, the May 1 and June 1 forecasts of the winter-wheat crop have deviated from the final revised estimates, on the average, by about 44 million bushels. Though deviations are frequently smaller, they are often much larger.

³ The June 1 estimate of spring-wheat acreage sometimes differs considerably from the final revised estimate; and the June 1 forecasts of spring-wheat production in the fifteen years 1911-25 showed an average deviation of over 56 million bushels from the final revised estimates.

than terminal storage. Early exports via gulf ports would be found advantageous in most years.

As the harvesting of wheat extended northward, purchases by the Wheat Board would be expanded. With the advent of the spring-wheat crop, the Wheat Board would buy and store supplies of milling grades all the way from Montana country points eastward through Duluth and upper lake points to Buffalo and other lower lake points. By this time, the mills would have arrived at clearer programs. In August, when the American spring wheat was harvested, the Board would have a fairly good basis for estimating American crops of both winter and spring wheats; but it would still be in the dark as to the outturn in Canada, Argentina, and Australia. Past experience shows that the July 31 forecasts of the Canadian spring-wheat crop are quite unreliable, though the forecasts of August 31 are much closer to the final estimates. In September and October the Canadian prospects become increasingly definite, but it is not until December that approximate estimates of the Southern Hemisphere crops can be made.

A basic difficulty of the Board would lie in the fact that our winter-wheat crops come in first, while Canadian wheat is the point of foreign contact; the problems would be much simpler if the spring-wheat crops came in first. Just where the contacts would impinge and what would be the marketing tactics of the Wheat Board between the first purchases of hard winter wheat in northern Texas and the purchases of American spring wheat prior to the appearance of new Canadian spring wheat, would at first be matters of trial and error. A great deal would be learned in the first season of operation, but considerable variation from season to season would occur in any case.

Certain difficulties would be unavoidable. Consider specifically the dilemma of the Wheat Board when the winter-wheat crop first comes to market. Kansas City is distant from Buffalo, but considerable Kansas wheat is milled in Buffalo. If the Board sought to drive the price as high as possible, it would buy up the obviously surplus export wheat of the Southwest and make ad-

ditional purchases of representative wheat to force up the price until mills in Great Lakes cities, all the way from Chicago to Buffalo, would find it as cheap to import old-crop Canadian wheat as to buy Kansas wheat, quality and type considered. The interests of millers would be two-sided: on the one hand, flour sales in July and August are active and the mills like to lay in heavy stocks of selected wheats. On the other hand, the September option is often at a discount under the July option and the cash price in July. Therefore, mills bidding against each other and against the Wheat Board might face the purchase of cash wheat under reversed carrying charges, which would be attractive if flour sales were heavy but hazardous if flour sales were light. Mid-summer is the time of relatively highest price for Canadian wheat because it is old wheat, since the country contains only remnants of its exportable surplus and the carryover. On paper, therefore, when the hard winter crop comes in, the Board would have the best opportunity for driving up the price of domestic wheat against Canadian wheat, because at this time the winter-wheat price is relatively low and the Canadian price relatively high. But mills would hesitate to participate in an active buying campaign, competitive with the Wheat Board, on account of the uncertainty of the spring-wheat crop, the position of the July cash to later futures, and the knowledge that Canadian prices (plus duty) and American prices tend to be closer together in October-December than they are in July-August.¹ Very likely the mills would make modest purchases of hard winter wheat with the advent of a new crop and allow the Wheat Board to make the heavy purchases and carry the stocks, with responsibility to keep the wheat available to mills.

In general, the buying incentive of mills lies in selections of wheats and sales of flour. The Wheat Board could not offer freedom of selection equal to the open market because it could hardly practice separate binning of wheats on the scale required. Much Board wheat would be mixed wheat.

¹ This point is more fully discussed in the following issue of *WHEAT STUDIES*, March 1927, III, No. 5, Sec. II.

Mills accumulating stocks desire selected wheats, and would have no incentive to bid up mixed wheat, since the Board would always have it freely available. The experiences of the Grain Corporation yield no guidance in these directions, since during the war it arbitrarily allocated wheat to mills and all mills ground a straight gray flour, while the first year of unallocated trade (1919-20) was a season of resumption by mills of trade-mark merchandising.

PRICE DIFFERENTIALS IN PRACTICE

The problem of differentials, in respect to different regions and to differences of types, grades, and qualities, would require unremitting attention.¹

The subject of regional relations and reactions is one of unusual complexity, and a solution appropriate to one crop year could not be expected to hold for another crop year. It would be necessary to set up a system of regional price differentials if the flour mills of different regions were to continue to compete as usual and at the same time co-operate with the Wheat Board. Dislocation of regional relations, and arbitrary changes in price of different varieties and grades, would make it difficult for mills to practice effective blending of wheats and maintain the standards of trade-mark brands. Regional differentials, such as were maintained during the war by the Grain Corporation and the Milling Division of the Food Administration, in part designed to allow for differences in transportation charges, would have to be established through conferences and by agreements with the mills, and the export of wheat and flour from the several regions would demand appropriate consideration. The Pacific region, with its special problem of exports to ex-Europe, would require particular attention. The freight rate structure, with respect to wheat and flour, is regarded at present in an unbalanced position, owing to the horizontal elevation of rates since the war, to the advantage of the hard winter-wheat belt. This structure, and possible modifications in it, would have to be taken

into account. It would be necessary for the Wheat Board to acquire and hold in each region such stocks of wheat as might be necessary to guarantee the price differentials established, and keep mills supplied with wheat.

The obvious mode of application of the price-advancing tactics, after all the crops are in, would be to drive up the price of No. 1 Dark Northern Spring until checked by imports of Manitoba Northern wheat at Great Lakes ports. For other wheats and at other points, the Board would have less definite information to guide it. The supplies and milling relations of the three principal types of flour wheats are not constant, but vary from season to season. Early tentative and later definite differentials would need to be established between hard spring, hard winter, and soft red winter wheats, in accordance with availabilities and qualities. Millers naturally would not buy heavily at tentative differentials. Engaged in export of wheat, the Board would have to buy, at prices which it would determine, all wheats of which there appeared to be an export surplus, in sufficient quantities to maintain prices of these wheats, relative to others, at a point favorable to domestic consumption. The Board would itself need to determine the appropriate differentials, whether or not it followed the policy of setting prices at fixed premiums over quotations in the Winnipeg market. In part, regional characteristics of wheat, costs of milling, standards of flour, and freight rates would determine naturally these differentials; in part, they would be modified by the merchandising practices of the Wheat Board itself. The price range, within which the tactics of the selling Board and the buying mills would be displayed, might run in different years from 20 to 30 cents a bushel.

Unquestionably, the Wheat Board would have to base prices in part on protein-content. If the Wheat Board undertook to drive the price of federal-grade No. 1 Dark Northern Spring upward, sample wheats carrying the customary premium for high protein would touch the level of import-price parity of Canadian wheat before the price of the federal-grade wheat could be near that price. Should the Wheat Board,

¹On this whole subject, see also the following study: WHEAT STUDIES, March 1927, III, No. 5, Sec. III.

however, select high-protein premium wheats as the driving point in the price campaign, this might provide too narrow a basis for dealings, in order to be effective even over the range. In each year it would be necessary to set up differentials on protein-content and contract grades. During the war premiums on protein were not in evidence and in any event could have had little importance, because all mills turned out a straight flour of high extraction. There are good judges of the problem who see in premiums for high protein, and their behavior under the proposed equalization fee, highly difficult and dangerous points in the administration of the proposed law.

In fixing price differentials, the Board would have to decide whether it would merely seek to maintain the differentials that would exist without control, or strive for the maximum increase of price all along the line. The latter policy, though it would seem more in consonance with the views of many advocates of the scheme, would be less susceptible of formulation and would lay the Board open to charges of discrimination and arbitrary action. The former policy would seem to be most feasible, but it would not be easy of application, for the operation of control would remove the basis for determining the usual differentials. Certainly it would be difficult to confine the price-raising tactics to limited types of wheat and to rely upon competitive action to establish appropriate differentials for other types. Several questions concerning this are more easily raised than answered.

If soft red winter wheat were at a natural premium over the hard wheats, would bidding the price of hard spring wheat up to the point of import of Canadian hard spring wheat drive up the price of soft red winter wheat proportionally, maintaining the margin of premium, or would the premium on soft red winter wheat tend to decline as the price level was elevated? If hard spring wheat were at a natural premium over hard winter wheat, would driving the price of hard spring wheat up to the point of importation of Canadian hard spring wheat drag up the price of hard winter wheat proportionally? If hard spring wheat stood at a premium over hard winter wheat for rea-

sons of intrinsic quality, bidding up the price of hard spring wheat to import parity of Canadian wheat would hardly tend to obliterate this differential, since the imported Canadian wheat would have the same intrinsic superiority. But if hard winter wheat stood at a premium over hard spring wheat for reasons of intrinsic quality, this premium might tend to be obliterated with a Wheat Board driving up prices, because the imported Canadian wheat would be of higher quality than the American hard spring wheat standing at a discount. If hard winter wheat were at a natural premium, bidding that up at Kansas City might encourage southbound shipment of hard spring wheat and substitution with soft red winter wheat; if it stood at a natural discount, it would be difficult to get mills to bid it up.

In 1923-24 the average price of No. 1 Dark Northern Spring at Minneapolis was \$1.24, of No. 2 Red Winter at St. Louis \$1.07, and of No. 2 Hard Winter at Kansas City \$1.05.¹ If the price of hard spring had been driven up to \$1.44, would the prices of the other two naturally have risen to \$1.27 and \$1.25, or to higher or lower points? We simply have no assured basis for answering such questions for any one year, much less over a series of different years.

Much would depend upon the relations of the prices of the different wheats to the freight rates on shipments of these wheats and their flours. At present the lower Lake Erie milling district and the Kansas district hold rate advantages over the Minnesota milling district. Buffalo is the principal point in the Great Lakes line where the domestic price could primarily be bid up. It is difficult to foresee how price advances would behave in the face of existing rates for wheat and flour and the defensive tactics of mills in the several regions. On the whole, we are tentatively disposed to infer that, if the Board sought to confine its price-raising tactics to the hard spring wheats, over the entire crop year the largest effect of the bidding-up policy would be on this wheat and that the weighted effect on the crop would be less than the effect on price of hard spring wheats. But it might still

¹ *Agriculture Yearbook, 1925*, pp. 765-66.

happen that the farm price of winter wheats might rise more, relatively, than the farm price of spring wheats, and that the natural price advantages possessed by mills located in heavy surplus-producing areas, such as Kansas, might be lowered.¹

In view of the necessity for buying heavily in the surplus-producing regions, at times when seasonal factors cause prices to be lowest there, it would seem inevitable that the Board could not rely upon bidding up prices at Buffalo and other points of natural contact with Canadian import wheat; but that it would have to purchase heavily in the Southwest and other surplus areas to such an extent as to establish calculated differentials between prices at pri-

mary markets in these areas and prices at import thresholds such as Buffalo. Under these circumstances the policy of the Board, and the conditions obtaining in the crop year as a whole and at a particular season, would determine which groups of producers would benefit most largely by price increases. It would seem most likely that the potentialities for increased profits would be largest, first, for wheat of types and qualities for which there was little domestic demand, and second, for wheats of surplus-producing areas. And it would require the utmost care on the part of the Board to avoid stimulating production of the very wheats that create the situation which it is designed to alleviate.²

III. OPERATING FUNDS AND THE EQUALIZATION FEE

The plan contemplates, as we have seen, the provision of operating funds, initially entirely but later only in part, out of a revolving fund in the national treasury, supplemented by loans on the security of the wheat itself; and the covering of costs of operation and losses on export sales from an equalization fund constituted from an equalization fee assessed on each merchandised bushel. We take it that the equalization fund, when available, would constitute part of current operating funds as well as the fund against which net operating losses would be charged.

SOURCES AND DISPOSITION OF OPERATING FUNDS

The distinction between the operating funds, their sources and utilization, on the one hand, and the operating losses, their sources and covering, on the other, can best be made clear by the aid of hypothetical balance sheets and operating accounts.

Assuming the operations well under way, the condensed balance sheet would appear somewhat as follows:

ASSETS	
Wheat on hand.....	000
Advances to co-operatives, etc.....	000
Equalization fees receivable.....	000
Bills and accounts receivable.....	000
Cash	000

¹ See WHEAT STUDIES, March 1927, III, No. 5, Sec. III.

² See below, p. 199.

LIABILITIES

Due to revolving fund.....	000
Due to banks	000
Equalization fund, gross.....	000
Equalization fund, net.....	000
Reserve from preceding season.....	000

If the Board operated only by indirection, there would of course be no item of wheat on hand, but the item of advances to co-operatives, etc., would be the larger. Equalization fees receivable would represent fees reported collected but not yet remitted. Bills and accounts receivable would represent sales made but not yet settled for in cash, and would exist only if the Board operated directly or through its own agencies. The entire assets would represent the operating capital employed. The liability items indicate the sources of this capital. At the beginning of operations, the large item would be the advances from the revolving fund. This would presumably be supplemented, if the Board operated directly or through its own agencies, by advances from banks on the security of wheat owned; if the Board operated only indirectly, this item would not appear. The equalization fund (gross) would represent total receipts from the equalization fees collected, whether or not they had been remitted in full; and the net figure would indicate the gross amount less costs and losses charged against it. A reserve from

preceding seasons might exist if the Board adopted the policy of building up its own operating fund, or apart from this, if the Board carried forward a net balance from equalization fees collected over and above costs and losses, from one operating season to another. This item of course might be negative, and if so would appear on the other side of the balance sheet as a deficit from preceding seasons.

The operating account for a season would be very different according as the Board operated directly or indirectly. If indirectly, it would run, in condensed form, somewhat as follows:

Profit on domestic transactions.....	000
Loss on domestic transactions.....	000
Loss on export transactions.....	000
Reserve for unadjusted losses.....	000
Costs of operation.....	000
Total costs and losses.....	000
Net operating loss.....	000
Reserve (or deficit) brought forward	000
Equalization fees.....	000
Total	000
Net operating loss.....	000
Reserve (or deficit) carried forward.....	000

If, on the other hand, the Board operated directly or through its own agencies, an additional account such as the following would be necessary:

	Bushels	Cost
Stock on hand at beginning.....	000	000
Purchases	000	000
Total	000	000
Sales—domestic	000	000
Sales—export	000	000
Stock on hand at end.....	000	000
Total	000	000

With these relationships clarified, we may proceed to consider the volume of operating funds that would be required, the method of assessing and collecting equalization fees, and certain related matters.

PURCHASES, OPERATING FUNDS, AND LOSSES

The major factors in determining the size of the operating fund would be the volume

of purchases necessary to maintain domestic prices at the desired level, the price paid, the rate of disposition of the stocks acquired, at home and abroad, and the price received. The operating fund would be drawn upon for purchases and replenished as sales were effected.

What volume of purchases by the Wheat Board, or at its direction, would be necessary? With a small crop, such as that of 1925, limited purchases would suffice. With a large crop and a large export surplus, the required purchases might be much greater than the increase in size of crop. As rapidly as possible, the Board would need to remove from the market the wheats destined for export. But merely to purchase the amount of the exportable surplus would not suffice to raise the price to the desired level. It would be necessary to have the domestic supply on open markets reduced to an apparent deficiency in all kinds of wheat in terms of mill requirements. In each region and of each variety, the Board would need to purchase sufficient wheat to be the controlling factor in the market. Seventy per cent of the crop is usually marketed before December 1; if traders thought the price too high, the Board would have to be prepared to buy it all, though if it were so prepared, by no means the whole amount would need to be purchased. Other things being equal, more would have to be purchased in the earlier years than in the later years, when the procedures were better understood and established.

This point deserves emphasis because it is sometimes assumed that the mere existence of a Wheat Board, with a policy to buy up the exportable surplus and the capital to carry it through if required, would in itself suffice to bring about the contemplated price increase through stimulation of competitive bidding of buyers. This is illustrated in a colloquy to be found in the report of a recent hearing on the Crisp bill.¹

MR. CRISP. . . . I believe firmly that if this bill is made a law the Government won't have to furnish any money to buy any cotton. Now why do I say that? If a board organized under the au-

¹Hearings before the Committee on Agriculture, House of Representatives, 69th Congress, Second Session, on H.R. 15963, January 6 and 8, 1927, Serial U, Part 3, p. 118.

thority of the United States Government says to the world we have unlimited money and we are going to finance the proposition and take off the market a sufficient amount of the cotton until the price will produce a reasonable profit over the cost of efficient production, then just as sure as the night follows the day, the American spinners and the world would rush right in and begin to buy that product. The price would then go up.

MR. JONES. I agree with that.

MR. CRISP. There can be no question about it, and I think that the same thing would apply to other agricultural products.

MR. TINCHER. It would apply to wheat easier than it would to cotton.

This view cannot be reconciled with trade practices and war-time experiences. In the first place, the exportable surplus of wheat would not be definable when the winter-wheat crop comes to market. But beyond that, we are convinced that actual transactions, not potential transactions, would be necessary; the contemplated rise in price could not be counted on and made effective unless the Board were to create, by purchases, a deficiency in the market of milling wheats.

The Board must hold a quasi-monopoly; it would need to take all wheat offered whenever the price tended to sag below the figure regarded as appropriate for the region, variety, and grade. It would need to be prepared to supply to mills such wheats as they sought at the Board's price; premium wheats would need to be carried in stock. In short, acting both as buyer of country and terminal wheat and as seller to mills, the Board would need to accumulate such holdings as continuously to impart to the exchanges the complexion of a sellers' market. Possibly the best method of maintaining the price of American spring wheat would be to have a small continuous trickle of duty-paid Canadian wheat come across the border; but the fact that the Wheat Board held heavy domestic stocks would tend to discourage imports.

The war experiences of wheat control point to the necessity of large funds and extensive purchases and stocks. Table 2 shows the volume and cost of wheat and flour purchased by the United States Grain Corporation in 1917-20. Striking are the divergences in the different seasons. The smallest volume of purchases in any one

year was 300 million dollars, after the short crop of 1917; the largest was 884 million, after the large crop of 1918. For the larger crop of 1919 it was expected that a very large working fund would be necessary, on account of the expected heavy competition from Argentine and Australian wheat. Accordingly the capital of the Corporation was increased to 500 million dollars and Congress, by an act approved March 4, 1919, made an appropriation effective up to one billion dollars to be used if necessary in maintaining the guaranteed price. Contrary to expectations, less money was required to handle the crop of 1919 than to handle the smaller crop of 1918, because of bullish developments in world markets.

TABLE 2.—WHEAT AND FLOUR PURCHASES BY THE UNITED STATES GRAIN CORPORATION, FISCAL YEARS 1917-18 TO 1919-20*

Year Sept.-Aug.	Wheat crop	Wheat purchases			Flour purchases		Total
		(Mil- lion bush- els)	(Mil- lion bush- els)	(Mil- lion dol- lars)	(Mil- lion bar- rels)	(Mil- lion dol- lars)	
1917-18	636.7	48.4	102.9	19.1	196.8	299.7	
1918-19	921.4	269.6	624.7	24.6	259.7	884.4	
1919-20	968.0	138.4	314.7	12.9	134.2	448.9	

* Figures for crop from *Agricultural Yearbook, 1925*; figures on wheat and flour purchases from United States Grain Corporation, *Report on Commodity Purchases and Sales Reconciled with Monthly Reports to the Senate of the United States, September 1917 to January 31, 1921.*

Both in 1918-19 and in 1919-20, however, very extensive purchases by the Grain Corporation were necessary to maintain a price not materially above the Canadian price, at a time when North American wheat was peculiarly in demand abroad and our exports to Europe were largely financed by loans from the national treasury, and when the Grain Corporation possessed extraordinary powers—it had all elevators and mills under its control, and possessed the full co-operation of the trade in a period of relatively uncommercial trade practices. Noteworthy is the large volume of flour purchased, most of it going into export. The proportions shown by these figures cannot be relied upon to indicate the relative purchases of wheat and flour by a Wheat Board in time of peace, since the

policy of the Grain Corporation was to force European countries, to a considerable extent, to purchase flour instead of wheat. Yet it might be necessary for the Wheat Board, by arrangement with mills or in defense of the domestic price of flour, to purchase several million barrels of flour.

Clearly circumstances might arise, with crops no larger than those of 1918 or 1919, under which larger purchases, of wheat at least, might be necessary for a Wheat Board operating in a competitive world and seeking to maintain a large margin above the Canadian price. True, the guaranteed minimum price under the Grain Corporation control was around \$2.26 per bushel. This is considerably higher than the illustrative figure we have used (\$1.80) and probably higher than the Board would seek to maintain. Other things being equal, the lower the price standard, the smaller would be the operating fund required. But certainly the Board would need to prepare for extensive transactions. The success of the operation would depend not only upon what the Wheat Board actually did or was prepared to do under certain circumstances, but upon what it was in position to do under all circumstances. If an emergency were to develop in which a question as to the financial capacity of the Wheat Board were publicly to arise, this might easily lead to a panic on the grain exchanges, in milling circles, and throughout terminal and country elevators.

The sums of money directly employed by the Grain Corporation during the crop year in purchases of wheat and flour were not at any one time invested in these commodities, since resales were made with all practicable rapidity. It is difficult to secure an estimate for the maximum sum of money invested in wheat and flour at any one time. It is, however, significant that with a capital of 150 million dollars, the total borrowings of the Grain Corporation, at the end of October 1918, amounted to 385 million dollars. The rapidity of turnover of the Wheat Board would likewise vary greatly from year to year, depending on market conditions and the activities of the trade; but an effort to maintain a fairly constant margin over the world price would create a much

heavier obligation than merely to keep prices from falling below a guaranteed minimum. The rather prevalent idea that the Wheat Board could get along on a hundred million dollars, operating capital and loans,¹ we regard as illusory; in an occasional year it might be well over a half a billion dollars.

If, as contemplated by the pending bills, the Board were to operate by assisting a co-operative or co-operatives, it would be expected to require larger working capital than if it operated directly. A wheat growers' co-operative association could operate according to one of three methods: (a) without taking over the crop, it could buy and sell amounts required to effectuate the contemplated elevation in price, just as a Wheat Board would do; (b) acting as an "exchange," it could handle the crop on the basis of pre-payments on delivery, with individual accounting, as is done in many co-operatives; (c) acting as a pool, it would have possession of the crop, as in the case of the Canadian Pool. Under no circumstances could a co-operative association carry through the operation with less capital than required by a Wheat Board, and under formulations (b) and (c) the capital required would be substantially greater. As between a Board buying a varying amount of wheat in order to sustain prices and a pool carrying all the wheat, the latter would involve heavier transactions and require larger capital than the former, though presumably a larger amount could be borrowed from banks. It will suffice here to consider the financial requirements of the lesser problem.

The unrepresentative and low-grade wheats vary from crop to crop. Including Pacific and durum wheats, the exports out of the short crop of 1925 were 63 million bushels. With a larger crop, the figure might be three or four times as much. This wheat would need to be purchased by the Board, but not necessarily at one time, since the rate of export movement would depend in part upon the rate of farm marketing. The purchases of representative and pre-

¹ The Board, if it operated directly, would need to make special borrowing arrangements, since commercial banks do not loan on unhedged grain.

mium wheats in the different regions would vary from year to year in accordance with the size, quality, and distribution of the crop. The Board would need to concentrate wheats in the several milling regions. A purchase in the autumn of 1925 of 50 million bushels of representative wheats might have sufficed to maintain keen competition between millers with prices at the desired level; but for the crop of 1924 or 1926, much larger purchases would have been required.

It is impossible to foresee how the operations of the Board would affect the course of farm sales or the course of mill purchases. Under circumstances most favorable to success and smoothness of operation, the movement from the farms would be restrained, or at least adapted by farmers to their own convenience, and the mills would build up substantial stocks. If, however, the Board's prices were regarded by farmers and millers as high, farm shipments would be greatly accelerated and mill purchases curtailed, so that the Board would have to purchase very heavily and carry huge stocks. The Board could not easily exercise pressure upon either party to maintain such an orderly flow as would best suit its convenience. The more cordial the spirit of co-operation which the Board could cultivate, the smaller would be its difficulties, but the maintenance of this spirit might put the Board under heavy obligations.

One may venture a guess at the minimal magnitude of purchases of wheat—namely, that the Wheat Board would annually need to buy all of the exportable surplus and of representative wheats an amount corresponding to mill stocks on the first of January. Perhaps a maximum amount might be 70 per cent of the merchandised crop, though presumably this maximum would seldom be approached, especially after the earlier years, unless the Board operated through a co-operative which handled the entire crop. The holdings of the Board would be much heavier during the fall than in the spring, except in the event of an unusual carryover. Purchases by the Board would tend to be lightened if active trading in futures were maintained; if the grain exchanges were to close, the Board would

face the situation of becoming the repository for the entire merchandised crop.

No one is in position, even with the accounts of the United States Grain Corporation, to suggest a figure for operative costs in handling of wheat that might be found applicable to a central board in time of peace. The profits of the Grain Corporation were in the neighborhood of 59 million dollars, on purchases aggregating over 3,764 million dollars. Part of the profits were derived from transactions outside of wheat and flour. A considerable part was secured through a sales policy of war reprisal: neutral countries were holding us up on tonnage rates, and we retaliated by holding them up on the prices of wheat, flour, and other products. No corresponding sources of profit would be available to the Board. It would be rash to assume that the proposed Wheat Board could operate as cheaply as did the Grain Corporation, apart from the lower level of monetary costs in general. Certainly the profits of the Grain Corporation afford no guide to the returns under peace-time operation. The Wheat Board would not face a semi-starving, war-stricken world buying wheat on credit from the United States, but would be selling wheat for export at prices considerably below the purchase price.

The plan clearly contemplates that losses would be sustained on exports of both wheat and flour. These would vary from year to year, per bushel and per barrel, and in the aggregate, depending upon price movements in world markets, upon expertness in price judgment and the skill displayed in merchandising, and upon good or ill fortune of many sources. With respect to domestic operations, moreover, profits or losses would occur from time to time, or even from day to day. Assuming that the desired effect on domestic price could not be secured merely by taking the export surplus off the market but would involve a market deficiency created by Board purchases of wheat for domestic use, the Board would be both a buyer and a seller of wheats for domestic use. We take it that the Board (operating for itself or assisting a co-operative) would need to be in position at the price of the day to supply mills with

wheats previously purchased; with a moving price system, such sales would involve profits or losses. Also, we infer that the Board might have to offer an "up-set price" for old-crop wheat at the end of the crop year. If the Board were able to hedge part of its purchases, it might restrict its trading gains or losses. If it did not hedge, the Board would in effect be engaged in speculation in cash wheat; the result would be unforeseeable profits or losses at the close of each season, precisely as is the case with the Canadian Pool. Such profits and losses on domestic transactions, incurred directly or indirectly, might amount to considerable sums in any one year.

FIXING THE EQUALIZATION FEE

The plan contemplates the assessment and collection of an equalization fee, directly or indirectly, on each bushel of wheat merchandised, except if applied indirectly to flour, sufficient to cover costs of operation and losses sustained. The fixing of this fee would be a serious responsibility of the Wheat Board.

We assume that the amount of the fee would be uniform for each crop year, regardless of the type, grade, or quality of wheat, and regardless of the date of marketing. To alter the rate during a crop year, or with different kinds of wheat, would vastly multiply administrative difficulties. It would be necessary to fix the fee before the earliest wheat moved to market, certainly not later than June 15. At this time it would be impossible to estimate, within a very wide margin, either the volume of the exportable surplus or the loss its sale would involve. If, as some proponents of the bill contend, the operation of the plan should be self-supporting, it would be desirable for the Board to play safe, and to fix the rate that promised to be ample to cover a liberal estimate of costs and losses. On the other hand, seeking popularity with the growers, the Board would endeavor not to fix the fee at a figure which would give it a very wide margin.

The size of the prospective crop and the prospective losses on exports would constitute the major factors determining the size of the fee. As suggested by Table 1 (p. 182),

the larger the crop, the larger the prospective surplus, the higher the fee would need to be in order to cover costs and losses.

Another important factor would be the policy in regard to operating periods. If it were desired to close the transaction each year, and to assess the growers year by year only enough to cover operating costs and losses incurred in that year's operations, the fee would be fixed conservatively—as low as possible without causing a deficit. Considerations of fairness to the different producers would seem to favor this procedure, for it would mean that, so far as possible, the costs would be distributed among the growers in proportion to the benefits received. In practice, however, this policy would be extremely difficult to carry out. Surpluses or deficits in the equalization fund would be inevitable. Probably the Board would find it impracticable to devise a workable system of returning to growers their fair share in such surpluses or of assessing them afresh to cover a deficit. Moderate surpluses or deficits might readily be carried forward, to be absorbed in the next year's operations, and taken into account in fixing the fee for that year. Conceivably surpluses might be retained by the co-operatives and deficits taken out of the operating fund, but this procedure would seem inconsistent with the philosophy underlying the proposals.

Alternatively the Board might decide on the policy of assessing a liberal fee in the early years, with a view to accumulating an operating reserve to absorb unanticipated losses in any one year, or even, eventually, a sufficient operating fund to enable the Board to dispense, largely or entirely, with drafts upon the revolving fund. This would seem to be especially appropriate if the Board had as a main objective the development of a wheat growers' co-operative to which in time the operation of the scheme might be entrusted. Such a policy would be financially conservative, but it might be subject to severe attacks by the growers.

Again, the policy might be adopted of assessing a liberal fee in years when the world price of wheat promised to be on a high level, and when the domestic price, as raised by the Board's operations, was ex-

ceptionally remunerative to the growers; and to assess it conservatively in years when reverse conditions obtained.¹ In this way the aggregate losses would presumably be most easily borne, but the distribution of losses and benefits would not be as fair as under the first policy suggested.

One must also consider the equalization fee from the individual standpoint of the grower. The fee would be levied on the bushel of wheat, bearing no relation to the yield per acre or cost of production. While growers everywhere would contribute the same sum per bushel, growers could not infer that they would share the benefits in any such comparable relation. The growers in some regions would be benefited more than in others; we take it that growers in the Pacific and the Southwest winter-wheat regions would receive larger benefits than would accrue to those in the hard spring- and soft red winter-wheat belts. As to varieties, soft white, durums and the durum hybrids, and wheats grown under irrigation would probably receive the greatest benefits. In particular, one cannot expect that the benefits would be most prominently conferred on wheat growers who have been under the greatest distress. Indeed, it is not outside of the bounds of possibility that under the operation of the equalization fee, the distress of some wheat-growing areas might remain unmitigated or indeed be intensified, while new areas reaped the predominant benefits of the system.

The Board's policy in fixing the equalization fee would probably not be determined once for all. Much would depend upon the views of the appointees upon their appointment and as matured after experience in operations. Much also would depend upon the temper of the growers, as it changed

from year to year, in respect both to their satisfaction with their net returns and to their attitude toward the Board itself. Politico-economic expediency, and not merely administrative wisdom or financial considerations, would doubtless be important factors in practice, whatever the terms imposed by law. The preliminary adjustment of the equalization fee would represent a neat piece of technical judgment. The fixing of the equalization fee would be less controversial if operations were continuous, in particular if it were designed to accumulate an enduring working fund.

COLLECTION OF EQUALIZATION FEES

Either the law, or the Wheat Board in the exercise of discretion given it by law, would have to determine the method of collecting the equalization fees. Most obviously the fee might be collected either at the country elevator or country mill, from the railroad, or at the mill. These remittances would be transmitted directly to the Board.

The original McNary-Haugen bill provided for collection at the country elevator (or country mill), i.e., at the first point in the merchandising process. Under this scheme, the local elevator or mill would be responsible for reporting its purchases and remitting the appropriate sum to the Wheat Board, regardless of the purchasers of the wheat. The later Haugen bill provided for collection from the flour miller, as the processor; in such case the fee would be collected only on the fraction milled for domestic flour consumption, and not on the wheat exported or sold for feed. If so collected, the fee would presumably be fixed at so much per bushel of wheat, or per barrel of flour according to an agreed ratio of wheat to flour, and remitted by millers to the Wheat Board. As finally amended, the Haugen bill left it to the Board to determine whether to collect the fee from producers or converters. In the pending McNary and Haugen bills, it is provided that the fee shall be paid upon "the transportation, processing, or sale of such unit." This introduces the possibility of collecting the fee from the railroad or other transportation agency, and leaves to the Board a wide latitude. The trend has

¹ It has even been suggested that the equalization fee to cover losses on one crop be collected on the next. This has been done with the view of eliminating the almost insuperable difficulty of collecting a high equalization fee in a year of bumper crop with low price. For example, it would be impossible to collect an equalization fee of 2 cents a pound levied against the present crop of cotton at the present price. In addition to avoiding an impasse in collection, to spread the equalization fees over a term of years would tend to lighten the burden of the heavy surplus years. Such a plan obviously presupposes a continuous, rather than a closed-season operation, but seems to us utterly impracticable.

been away from levying the fee at the source, apparently in part because of a desire to avoid the direct levying upon wheat growers of what they might regard as a tax and what might be legally interpreted as a sales tax.

If the equalization fee were levied at the source of wheat, this would imply placing under license for regular report to the Wheat Board every grain elevator and mill in the United States—over thirty thousand. The experiences of the United States Grain Corporation in the control of country elevators do not lend encouragement to the idea of licensing country elevators for the specific purpose of collecting equalization fees. The administrative details would be enormous and there would be obvious possibilities of circumvention.

On the other hand, from the standpoint of the purposes of proposed legislation, the equalization fee ought to be levied on growers as directly as possible, rather than through carriers or converters. The purpose of the proposed legislation is to increase the price of wheat for the benefit of wheat growers; it is not done to benefit railroads or flour millers. In equity, the administrative burden should fall upon the profit-receiving class. Merely because there are fewer mills than elevators and because, through the possession of better accounting methods, it would be easier to collect the fees from carriers or millers, there is no reason for imposing on them the burden of administration of which the profits accrue to growers.

Furthermore, one of the ostensible purposes of the equalization fee would be largely nullified by collection at the mills instead of at country elevators. Proponents of the measure rest their hopes of restraining expansion of acreage upon the effect of a higher fee in warning against increase of production. With a large crop and a heavier burden on the Wheat Board, the equalization fee would be higher and growers would presumably observe directly a causal relationship between larger crop and heavier equalization fee. The restraining influence on acreage to be expected from the equalization fee has been exaggerated, as will be explained below; but whatever the effect,

psychologically it would be best manifested if the grower saw the equalization fee deducted from his elevator price. If it were paid by the mills, it would not come to his attention in the same direct and impressive way.

Collection in transit would be simpler than collection at country elevators, since railroad agents, acting as agents for the Wheat Board, could merely add the fee to the freight rate, and could be co-ordinated in a manner impossible with country elevators. Between the carriers and the Wheat Board, the assessments would be checked by concordance between reported collections and shipments of wheat. Upon what theory of equity, however, this burden should be placed upon the carriers, it is hard to see. It is difficult to imagine railroad agents empowered with anything resembling police powers in order to administer the collections. If equalization fees were to be collected by railroads, wheat passing to mills over highways would attain substantial dimensions in some regions; under such circumstances, there can be little doubt of the development of a substantial amount of evasion of the fee through trucking to mills in Kansas, Nebraska, southern Minnesota, and the soft red winter-wheat region.

The simplest administrative procedure would be to have the equalization fee collected from flour millers, in one of several possible ways. If the fee were collected at the mills, seed wheat and feed wheat as well as export wheat would be exempt; if collected at the source or during transportation, varying fractions of seed wheat and feed wheat, and all export wheat, would be subject to the fee. Millers might pay the equalization fee per bushel on wheat as purchased; but this would impose interest charges on the mill account. Or, millers might pay the equalization fee per bushel at the expiration of a set term, 60–90 days, long enough to allow the wheat to be milled and the flour matured ready for sale. Finally, millers might pay the equalization fee in terms of the unit of flour, remitting so many cents per barrel of flour manufactured and ready for sale, or flour sold.

The accounting practices of mills are not uniform, though efforts are now being

made by the Millers' National Federation to introduce a uniform system of accounting. There is, however, little doubt, from the experiences of the Milling Division of the United States Food Administration, that the accounting practices of mills could be readily adapted to a reliable system of collection of the equalization fee without excessive clerical burden to the mills. In any event the costs of collection should properly be borne by the Wheat Board.

It seems clear that the merchandising practices of millers might be disturbed if the fee were levied upon flour. Assessed in a manner corresponding to a sales tax on flour, this might disturb the price relations between the flours in an unforeseeable manner. Let us assume an equalization fee of 10 cents a bushel and that 4.7 bushels of wheat corresponded to the average barrel of flour; the equalization fee, therefore,

would be 47 cents a barrel. Prices of clear flour would be thrown out of line if it paid an equalization fee of 47 cents a barrel; on short patent flour 47 cents would represent relatively a much lower imposition. Unless the Board could devise some method of varying distribution of the equalization fee upon different grades of flour, the result might be to increase the present difficulties of disposing of low-grade flour.

In short, the difficulties of collection from growers are largely a matter of clerical costs and policing detail. Collection through the railroads would encounter serious evasion in certain areas. The difficulties of collection at the flour mills largely relate to possible disturbances in price relations, which, however, might be avoided if the policy of operation were to include arrangements covering the different kinds of flour manufactured.

IV. PROBLEMS OF FUTURES TRADING, EXPORTS, AND CARRYOVER

Apart from the price problems and the questions relating to the levy and collection of the equalization fee, the Wheat Board would face important problems of policy and practice of vital importance to trade interests and to the success of its operations as a whole. Here we may consider the question of the maintenance of future trading, the handling of exports of wheat and flour, and problems of carryover.

CONTINUATION OF TRADING IN WHEAT FUTURES

It is commonly accepted, or implied, by advocates of the scheme under consideration, that its operation is compatible with the continuation of the present system of trading in wheat futures. We go further and make the inference that the feasibility of operations would be contingent on the continuation of futures trading.

On the assumptions that we have made, the Wheat Board would be maintaining not an unfluctuating price, but a series of margins between the moving American price system and the moving Canadian price. If operators in charge of country and line elevators, terminal elevators, and flour mills were convinced that the Wheat Board intended to maintain the price of wheat as

high as possible behind the tariff wall, had the funds to make the necessary purchases to execute this policy, was in position to guarantee such a level of price of wheat, and had the financial resources to "hold the bag" under all circumstances even in the event of bumper crop and carryover, then they would be in the position of continuing their operations at the higher price level, protecting their transactions by hedges just as they do now. The only difference would be that the Wheat Board would be in the market as a super-merchant, just as the Canadian Pool is now in the market as a super-merchant. Under these circumstances, much as at present, merchants would store hedged wheat in elevators, for the profit over the carrying charges; mills would buy advance stocks of wheat, proceed with flour sales, and hedge both; speculators would continue their activities in accordance with the frequency and degree of price fluctuations. Hedging of exports would be eliminated, so far as exports lay in the hands of the Wheat Board; but if the Wheat Board should prefer to operate through existing exporters, these could not dispense with hedging, unless they were to act on commission.

One of the functions of grain exchanges is to serve as geographical places for the registration of wheat prices. If the supply of wheat were virtually in the control of a Board and were merchandised in such a way as to keep the price of wheat up near the point of imports from Canada, this sustained price would rise and fall with the world price, qualities considered. But even under these circumstances, places of registration in public American markets could not be dispensed with. To have grain exchanges effective, the factors determining price must meet at common points; this, however, might still be the case with a well-managed quasi-monopoly of the supply. If the Canadian price happened to be unusually steady and the efforts of the Wheat Board to keep up the American price resulted in unusual stabilization, the volume of speculative trading would be small and might be insufficient to absorb the hedging transactions of grain merchants and millers. This has been the case under normal circumstances and might easily transpire again. Under most conditions, however, if the Wheat Board were competently managed and had adequate financial resources, if the permanency of the system were recognized and accepted, it ought to be possible to secure the continuation of speculative trading in futures on such a plane as to preserve hedging advantages to grain merchants and millers.

If, however, for any reason, through inexperience in management, through shortage of funds, or through vacillation or reversal of policy by the Wheat Board in the course of a crop year, the system of trading in wheat futures should break down, country and terminal grain merchants would decline to carry wheat and mills would be afraid to accumulate stocks. Everything would go from hand to mouth. The burden of the crop would fall on the Wheat Board; it would become the sole repository of wheat, to which the mills would turn precariously for daily supplies. The Board would need to be prepared, if emergency developed, to be the sole holder of wheat, just as the United States Grain Corporation during the war was in effect in possession of the entire crop. A great deal

would depend on the effectiveness and policy of the organization.

Much also would depend upon whether growers, millers, grain traders, and bankers were co-operative or not co-operative. The confident view of the proponents of the scheme is that the commercial interests of millers, grain dealers, and exporters are not necessarily involved, that they could and would adapt themselves (so far as their own business and profits are concerned) to the new system quite as well as to the old, and that the changes would be in appearance and in terminology rather than in fact, the plane of identical operations being merely raised to a higher price level but otherwise unchanged. This optimistic view is not supported by a survey of war control of wheat. The idea that the proposed scheme can be imposed upon or inserted into the present system without far-reaching adaptations rests upon an assumption of rigidity in stratification that is not in harmony with trade experience. The wheat trade from producer to consumer is not a structure, it is a movement; it must be judged and investigated from the standpoint of hydraulics, so to speak, rather than from the standpoint of stress of solid materials. We are not disposed to urge that the co-operation of the interests involved would be impossible to secure; but certainly the operations during the first year would be a gigantic experiment.

Under these circumstances, it would seem imperative for the Wheat Board to secure and maintain such relations with the trade and establish such clarity of purpose and continuity of policy as would insure the continuation of present merchandising practices, including trading in futures on grain exchanges. This co-operation of the trade might have to be paid for, but it would represent a valuable and dependable insurance to the Wheat Board.

Opinions of millers and grain traders are unusually divergent on this point. Many millers, basing their views on war experiences, feel that there is no halfway station; either they must continue to have completely competitive trading on established grain exchanges or operate under extensive agreements with the Wheat Board without

hedging. They cannot contemplate working with semi-competitive prices for wheat, precarious hedging, and fully competitive prices for flour. The mills in the northern tier of states feel particularly apprehensive, because they are so thoroughly committed to the hedging of both wheat and flour transactions. The mills in the hard winter-wheat regions and in the Pacific region, with some notable exceptions, practice hedging only sporadically, or not at all, and are much less disturbed at the prospect of doing business without the customary operations of the grain exchanges. Mills that grind one variety of wheat predominately are less concerned than those which blend extensively, since unforeseeable changes in regional prices might introduce disturbing complications.

Grain merchants seem divided into two groups. In the one group the view is held that exchange trading would cease under the operations of a Wheat Board because in the very nature of the appointment of the members of this Board it would be impossible to secure technical competence and requisite managerial talent. Neither political control nor farmer control recommends itself to them for efficiency. These merchants do not believe that it is possible for a Board of twelve members—one from each of the federal land bank districts, appointed by the President from lists of eligibles submitted by nominating committees of which the members are elected by farm organizations and co-operative associations, and assisted by an advisory council of seven for each agricultural staple drawn from the producers of the particular commodity—to possess such technical ability as to establish in the trade the necessary confidence in soundness of procedure and continuity of policy required for the undertaking. It is urged that unless the trade is convinced of the technical competency and non-political administration of the Board, speculators of all kinds (with the possible exception of scalpers) would withdraw from the markets, and wheat merchants and flour millers would find themselves restricted to cash operations without insurance by hedging. The speculators would direct their attentions to other commodities or transfer their opera-

tions with wheat to the Winnipeg Exchange; the wheat merchants and millers would restrict themselves to hand-to-mouth transactions, unless they could establish working agreements with the Board, and these would necessarily be conducted with the assumption of risks by the Board. The trading in wheat futures, whether by scalpers, small but innumerable so-called investment traders, or large operators, springs from a host of individual opinions as to prospects of movement of price. The professionals alone cannot make a trading market. Nearly 90 per cent of speculative trading in wheat futures is done on the Chicago Board of Trade, but the traders live in every state. If the general public does not participate, the trading in futures fails of its customary function. The general public, however, is both diffident and capricious and would be prone to withdraw from speculations unless it was generally understood that grain merchants and millers had confidence in the policies of the Wheat Board.

These views are held particularly by traders who have wide experience in dealing on the grain exchanges of New York, Chicago, Minneapolis, and Winnipeg, and who are thus in position to appreciate at once the indispensability of futures trading and the mobility of speculative traders.

Against this stand the views of other grain merchants who are convinced that, even with the political complexion of the Board, it could be assumed that the Board would employ competent managerial talent and that the continuation of workable trading on grain exchanges would be possible under the proposed system, provided that the operations were conducted, under comprehensive arrangements with the trades, from the standpoint of the established business philosophy of American grain trading and milling. The adherents of this view are convinced that the Board, in the interests of a technically successful operation, would see the necessity of continuing trading incentives for merchants and millers, would appreciate the necessity of volume of speculation large enough to absorb hedges, and would both broadly and specifically adapt the operations of the Board to the current

practices of the business, just as the management of the Canadian Pool has endeavored to do. They think that speculators, finding it inconvenient to concentrate their operations on the Winnipeg Exchange, would endeavor to make the best of the new circumstances and would be able to continue their operations if the Board should establish objective and equitable working agreements with elevators and mills.

On this matter war-time experience is lacking, for futures trading was suspended during the period of control. We had a minimum fixed price for wheat, above which, however, the price was movable and fluctuating. Under the Lever Act, the President was authorized to prescribe regulations governing or partly prohibiting operations, practices, and transactions at, on, or under the rules of any exchange or boards of trade. The grain exchanges volunteered to cease futures trading in wheat. Following the close of the war, futures trading in wheat was not resumed for the guaranteed-price crop of 1919. With the close of operations on the part of the Grain Corporation in 1920, the grain exchanges faced no considerable technical difficulties in resumption of trading. In order to permit of a period of orientation, it was decided not to use July and September for delivery months; therefore trading in futures was resumed on the exchanges on July 15, 1920, for December delivery.

The type of trading judgment that influenced these decisions would obviously be skeptical of the maintenance of futures trading under a Wheat Board administering the proposed scheme. The wide and erratic fluctuations in prices during the following period were regarded as abnormal; and it was a common expression in the trade that speculation had got out of stride and that time would be required to recover its customary function.

In our judgment, the continuance of speculation would be well-nigh essential to the success of operations. If speculation should decline to such an extent as no longer to absorb hedges, hedging transactions, instead of constituting an insurance for dealers and millers, would tend in themselves to provoke price fluctuation. With

registry of price no longer secured through trading operations on exchanges in the United States, the Wheat Board could do little else than accept the closing price on foreign exchanges, presumably Winnipeg, and stabilize the market prices daily at fixed differentials. The next step would be to take over, or at least by contract to control, transactions of grain merchants, elevators, and millers, just as was the case during the war. The dropping out of speculation on American exchanges would not necessarily mean the disappearance of these transactions. It might instead mean the transfer of the speculative transactions of Americans to foreign exchanges, notably Winnipeg. With American speculators operating on the Winnipeg Exchange, and elsewhere abroad, with the Canadian Pool practicing trading in futures but presumably not the hedging of receipts and sales, and an American Wheat Board accepting the closing Canadian price as the basis for American prices, international speculators would occasionally be in position to lead a Wheat Board a merry chase.

A number of intriguing inquiries present themselves collaterally. With maintenance of trading in wheat futures, would the Wheat Board hedge its purchases (receipts) and sales? The Canadian Pool did not do so during its first three years; during the present season it is our understanding that the Pool has placed hedges against receipts to some extent. Heavy unhedged purchases early in the crop year might tend to provoke reversed carrying charges and put the option of the near month at a premium over that of the distant month. Like the Canadian Pool, the Wheat Board might have to take over the options of its customers at home and abroad. Would the Wheat Board, like the Canadian Pool, feel itself forced under certain circumstances, to buy wheat futures in the attempt to maintain the price? Such a Board, with its capital and holdings of wheat, could be a very powerful factor on the grain exchanges, especially during transitions from one trading month to another and when competition in cash trading tended to lag. Unmoved by the example of the Canadian Pool, we take it that an American Wheat Board would not

hedge receipts or sales and would not buy or sell futures primarily. It might decide to accept for liquidation the options of its customers; but it might, on the contrary, decide to decline such options and to make this a condition of sales at home and abroad. Continuity of policy on the part of the Board would be essential, since the trades could not operate without it. It would need to be known specifically exactly what would be the policy of the Board in respect both of hedging receipts and sales and of trading in futures. Merchants and millers could not face the risks of forward transactions if there were a possibility that the Board at any time might determine to shift its position from non-hedging to hedging, from non-trading in futures to trading, or vice versa, since the Board with its resources in money and wheat would constitute a potential juggernaut. These considerations would apply to transactions by co-operatives precisely as to a Wheat Board.

THE PROBLEM OF WHEAT EXPORTS

The scheme under consideration implies, as we have seen, the segregation of the exportable surplus and its sale abroad for what it will bring, at prices considerably below the level of domestic prices. The plan would require the Wheat Board, not to take over the entire export business in wheat and flour, but to intervene at numerous points in the process.

It is frequently assumed, in discussions of the proposal, that the exportable surplus is a definable entity and can be ascertained early in the crop year. This is far from the truth. Reasonably constant requirements for domestic flour consumption can perhaps be safely assumed. Seed requirements can be forecast within a small margin of error. But the inaccuracies in early forecasts and estimates of the crop, and variations in feed and waste from year to year, render it impossible even for experts to arrive at estimates of the exportable surplus except within a wide range.¹ If this is true of the

crop as a whole, it is much more true of distinguishable fractions of the crop—hard winter, soft winter, durum, and Pacific wheats. Fortunately, the success of the Board would not depend solely upon the accuracy of its advance estimates of the exportable surplus, but it would need to be constantly improving these estimates, in the aggregate and in the separable fractions, as the season progressed, and to regulate its export policy accordingly. Otherwise, for this reason, it might fail to purchase this wheat fast enough, or might push it out so fast that a special shortage of certain types, grades, or qualities would arise. It must be borne in mind that we raise durum wheat primarily for export.

The first function of the Wheat Board would be to get possession of the surplus wheats naturally destined for export, whether because of quality or of quantity, in amounts that would vary from region to region in different years. This would require expert judgment, both in sizing up the positions of crops and in the early appraisal of millers' requirements. The necessity of securing possession of the exportable surplus as early as possible would not necessarily imply early shipment into export markets; this would vary from season to season, in accordance with conditions in world trade in wheat.

An efficient Wheat Board would recognize that a considerable fraction of the non-descript and lower-grade wheats ought not to be exported, but ought to be disposed of on the domestic feed market. Collecting the equalization fee on all wheat sold would in itself encourage farm feeding of low-grade wheat. To some extent in every year, these wheats, properly merchandised, could be sold for feed for lower losses, from the standpoint of the total operation, than would be incurred if they were exported. In order to do this, the Wheat Board would need to maintain a feed division in close touch with coarse grains and manufactured concentrates. Such selling of low-grade wheat would, of course, tend to depress the price of mill-feed and other concentrates and fix on flour the increase in the cost of wheat; but this, we assume, would be a desired result.

¹ During the current year, for example, the Department of Agriculture has maintained for several months an estimate of probable exports at 180-220 million bushels.

We take it that the Wheat Board would organize an export division or corporation, or, if it operated by indirection, would promote the organization of such an agency by growers' co-operatives. Some earlier bills specifically bestowed this power, and it is clearly implied in the pending bills. The export problem of the Board, in possession or control of practically the entire exportable surplus, and seeking to minimize losses on its sale, would be somewhat analogous to that of the Canadian Wheat Pool, but quite different, in several respects, from the problem of commercial exporters, who usually buy and sell almost simultaneously and carry no large stocks. Among other things, the Board's export agency would search out special markets for white Pacific and durum wheats, and low-grade exportable wheats of all varieties. By keeping close contact with the markets for these special wheats, it might minimize the reaction of foreign prices on domestic prices.

The organization of an export corporation would not mean, however, that transactions through commercial exporters would cease. The war experiences with wheat control indicated the advisability of having private traders and official boards work side by side, in both exporting and importing countries. Arrangements would need to be perfected whereby losses on exports made by commercial exporters, up to certain amounts per bushel, could be refunded by the Wheat Board. Commercial export houses would then purchase wheat on the open market in competition with American mills and with the Board itself. Their experience and foreign contacts would often make it possible for them to carry through, at a profit to themselves, transactions that might not be practicable for the Board. The export of wheat is a highly specialized business; other things being equal, a Wheat Board ought to take advantage of expert trading talents, making use of them for the general good of the situation in return for reasonable profits accruing to exporters. It might, indeed, prove practicable and advantageous to have some export of wheat done on agreed terms through commercial houses, amounting to a commission business. In some years the export problem

would be relatively easy, as was the case during 1925-26; in other years it would be very difficult. A Wheat Board might have to decide between the undesirability of a huge carryover of export wheats and a forced sale abroad at collapsed prices that would involve unanticipated inroads on the equalization fund. Under such circumstances, it would be a disadvantage to have the export of wheat completely centralized.

The export program of the Wheat Board would be necessarily related to the exporting periods of competing surplus-producing countries. The Board could not be governed by wheat growers' predilections for "orderly" marketing. As a rule, it would be the wisest policy to get the exports from the hard winter-wheat belt out of the country before the spring wheats are ready for market. This would often give the best price, as well as reduce costs, clear the markets, and simplify the later domestic situation. Whenever the course of collection of export wheat was not identical with the course of export, storage charges would of course be involved. In order to take advantage of transient opportunities that arise in world markets, it would be necessary to have some export wheat lying in positions adjacent to ports. Storage on farm and in country elevators is cheap, while storage in terminal ports is expensive; but a saving by use of country storage might be overbalanced by loss of an export opportunity. The more the export of wheat were centralized in one organization, the more complex the problem would become.¹

The Pacific region (Idaho, Washington, Oregon, California, Utah, Nevada, and Arizona) stands geographically detached, yet the Wheat Board could not handle the surplus problem of this region without coming into contact with the operations east of the Rocky Mountains. This region regularly imports premium hard wheat from Kansas and Montana and considerable flour as well. Nevertheless, it exports a much larger proportion of its wheat crop than does the rest

¹ Cf. U.S. Department of Commerce, "Methods of Merchandising American Wheat in the Export Trade" and "Seasonal Aspects of Wheat Exporting" by Theo. D. Hammatt, *Trade Information Bulletins Nos. 183, 185, and 350*, February 1924 and May 1925, respectively.

of the country, considered as a unit. The exports of wheat and flour go predominantly to users of soft wheat, especially in the Orient. Under present conditions, the terminal price of wheat in the Pacific region tends to stand relatively below terminal prices in the rest of the country. A Board could bid up the price of wheat to the point at which Canadian wheat would enter via Vancouver or elevator-run eastern wheat and flour would flow across the Rocky Mountains. There would ordinarily be a wide margin between the point to which the domestic price could be driven and the world price at which the surplus wheat and flour could be sold. Export losses, therefore, would be disproportionately heavy. If these were merged in those for the entire country and the same equalization fee were levied, a powerful stimulus to expansion of wheat acreage in this region would be given. On the other hand, if the Board could and did distribute these losses among the growers of the Pacific region alone by an equalization fee peculiar to this region, the growers would gain but moderately.

Since there is practically no hedging of wheat or flour in the Pacific region, trading operations there would not be greatly affected. The Pacific region would be an ideal place to set up export corporations, for wheat and flour. The real problem of the Board would be to decide whether the region should be merged with the entire country or given separate treatment.

Whether the Wheat Board functioned directly or through a representative wheat growers' co-operative or group of co-operatives, it is natural to assume that it would endeavor to establish intimate working relations with the Canadian Pool. The latter has already undertaken to establish contacts with the wheat pools of the United States and Australia, and, we understand, has also endeavored to come into touch with wheat exporters in Argentina. The broad objective is to co-ordinate the export programs of the several countries in order that they shall be operated with a view to stabilizing and supporting the world price.

While the Canadian Pool might regard it as advantageous to have a working understanding with an American wheat grow-

ers' co-operative association, under existing conditions, it is not certain that it would be eager to have a working agreement with a governmental Wheat Board under the conditions in contemplation. The crux of the situation would lie in the tendency toward increased acreage. Within the Dominion, the Canadian Pool faces a tendency to expansion of wheat acreage and production—with sequential depression of world prices—and a rise of land values involving higher land charges. This tendency is strengthened, as in Argentina and Australia, by the fact that national interests seem to require expansion of population, production, and exports, in order to balance the international account and provide new foreign capital for domestic development. Though the Pool has made no attempt to control wheat acreage, its interests (i.e., the direct interests of present members) are clearly opposed to any substantial stimulus to domestic wheat production. Much more contrary to its interests, and to those of the Canadian wheat grower, would be the rapid expansion of wheat production and exports in other countries.

Now, while it would not be the intention of the Wheat Board to expand the exports of the United States, it does not seem to us open to question that expansion would be the inevitable result of an administratively successful application of the equalization fee. (See below, pp. 220–231.) If so, the proposed scheme would involve a stimulated competition with Canadian wheat in world markets on an artificial basis, for our exports would admittedly be sold for what they would bring. Quality considered, the remnant of the American crop competes with the bulk of the Canadian crop; the larger the remnant, the heavier the competition. While, therefore, the Canadian Pool would like to see a wheat growers' organization succeed in the United States, it is doubtful how far it could go in subordinating its export policy, designed to increase the price of Canadian wheat, to co-ordination with an American policy of which the successful outcome would tend to be to lower the world price of wheat and sequentially the Canadian price. In other words, class solidarity and current merchandising

interests would tend to bring two organizations together; but national competition and long-run considerations would tend to keep them apart.

In any event, there is no early prospect of a high degree of co-ordination of the exporting interests of the great wheat-exporting countries—Canada, the United States, Argentina, Australia, and Russia—such as would constitute a virtual monopoly of world export trade in wheat on behalf of the growers. Even the approach of such a consummation would provoke the defensive organization of co-ordinated import monopolies such as were created during the war and as are contemplated in the program of the British Labour Party. In the near future, at least, the export problems of the Wheat Board would be simplified by the development of the Canadian and Australian pools, but they would not necessarily be easier to solve.

In pre-war years it was customary for European importing countries to import wheat in advance of their needs and to carry large stocks. This enabled these countries not only to secure, by suitable blending, the most effective use of their domestic wheats, but also to play the surplus-producing countries off against one another. In years of short world crops, the international market tended to be a sellers' market, and in years of normal or large crops, to be a buyers' market; but in the majority of years the trading advantage lay with the importing countries. Since the war this condition has been altered, partly because of financial stringency, high interest rates, and high carrying charges in Europe, and partly because of a succession of years in which the world market favored wheat buyers.

The present tendency is for the importing countries to carry moderate or low stocks, and for the exporting countries to hold the great bulk of trading surpluses. If these surpluses are moderate, and are effectively handled, this means that competition between European importing countries is stimulated, and that they must, throughout the season, seek out particular imports in order to make the best use of their domestic wheats. The Wheat Board, like the

Canadian Pool, would naturally be interested in maintaining this situation, by feeding out the shipments and restraining the building up of stocks in importing countries. But this would require the skilful formulation and the judicious and temperate execution of an export policy, with close knowledge of import requirements, Russian export probabilities, and crops in the Southern Hemisphere; otherwise the Board would find itself holding back wheat while other countries were selling out. If, however, export surpluses were large and carryovers tended to accumulate in export countries, the importing countries could easily afford to follow a waiting policy, and count upon the competition of even great exporters such as the Wheat Board and the Canadian Pool to keep down wheat prices.

Would the proposed double standard of marketing be construed abroad as a "dumping," such as is made subject to reprisal under our law? It requires little stretch of the imagination to infer that some foreign governments would regard the operations of the Wheat Board under the scheme as inconsistent with the spirit and possibly the letter of Section 303 of the Fordney-McCumber Act and of Sections 201 and 202 of the Emergency Tariff Act of 1921 that were not repealed when the Fordney-McCumber bill was enacted. If the results of the operation were to raise domestic prices, not to lower export prices but to leave them where they would have been without the enactment of the measure, protesting foreign countries would find difficulty in making out a case for complaint on the score of dumping. Indeed, the Board might make the rejoinder that through centralized export control the prices of American wheats on world markets would be advanced, rather than reduced, under the operations of the scheme. In view of the complexities and technicalities, however, protesting countries might contend that what appears to us to be a raising of domestic prices over export prices might be construed as a lowering of export prices under domestic prices. Foreign governments might feel themselves provoked into the establishment of countervailing duties against what they could profess to regard

as dumping; indeed, other restricting or penalizing devices might be contrived, more probably applied to flour and flour products than to wheat. Such retaliations would have the effect of increasing the loss on exports per unit, or diminishing the volume of exports, or both. Would such legislation provoke Dominion preference in the British Empire? Would it lead to preferential treaties—for example, between Italy and Argentina? Naturally the interests of importing foreign countries would be opposed to those of exporting foreign countries, in their interpretation of the workings of such marketing control upon the part of the United States. In each importing country the agrarian interests, opposed to stimulating exports from exporting countries, would be in conflict with the industrial classes seeking food imports at the lowest costs. The outcome of such political agitations, varying from country to country, is impossible to predict. The political and commercial reactions of European countries might be intensified by the fact that we are a creditor country. Some countries would not confine themselves to the question of direct injury; they would seek to establish the inconsistency of the position for future use as a precedent. If we can maintain two price levels for wheat, why should not another country have two price levels for steel? These are some of the larger questions involved in the export problems that would be created by the proposed measure.

THE PROBLEM OF FLOUR EXPORTS

The export of flour would involve numerous and varied problems, among the most difficult confronting a Wheat Board. To a considerable extent, importing countries desire both wheat and flour; beyond this, however, there are special markets for each. Wheats are in a certain sense more fluid than flour in channels of export, but some countries regularly tend to import flour rather than wheat. There are more or less continuous difficulties in securing proportional ocean freight rates for wheat and flour, since flour is shipped in parcels while wheat shipments may be parcels or cargoes. To some extent, export flours come from different wheats than are milled at home

for domestic consumption; but broadly considered, part of the flour ground from each bushel of wheat in many large merchant mills goes to export. The exports of flour are largely confined to certain regions—to certain countries of Europe, the Levant, Central America, South America, the West Indies, and the Orient. To some extent, demand in these markets is influenced by quality considerations; but to a substantial degree volume of trade is dependent on merchandising practices as well as on price.

During the war it was governmental policy to favor export of flour over wheat, and probably the same policy would also appeal to a Wheat Board operating under the plan proposed. In favor of the export of flour are urged the retention of mill feed, the importance of the added value of manufacture in the international account, and the employment of labor and capital in flour mills and in the industries contributing accessories, though all of these advantages may be secured at invisible costs overbalancing the obvious gains. Moreover, American flour mills have established markets abroad that ought to be maintained in the interests of wheat growers themselves, since a wheat and flour export market is broader than a wheat export market. On the other hand, it is safe to say that in time of peace the promotion of flour exports would meet with much more resistance from European importing countries, through tariffs and reprisals, than the promotion of wheat exports. It is a common practice of importing countries to maintain relatively heavier duties on flour than on wheat. Peace conditions would be far different from war-time conditions, and measures adopted to protect domestic milling industries abroad would, in many countries, effectually checkmate efforts of the Wheat Board to promote exports of flour rather than of wheat.

Whenever domestic wheat prices rise out of line with Canadian wheat prices, the cost of American flour rises above the cost of Canadian flour and makes export difficult or impossible. Under such circumstances, mills in position so to do would grind Canadian wheat in bond for export of flour, and this might be stimulated under the

operation of an equalization fee. Under the proposed operations of a Wheat Board, the domestic price would be driven so far above the Canadian price as to make impossible the export of flour from domestic wheat, in competition with Canadian flours or with American flours milled in bond from Canadian wheat. In order to correct this situation, the equalization fee, if paid at the mills, should be automatically refunded without loss to mills, on proof of export of flour. Beyond this, however, it would be necessary for the mills to receive a rebate of at least such an amount as would offset the disadvantage to them, as competitive flour exporters, caused by raising domestic wheat prices.

The computation of this remission would be an inherently difficult problem, both from the standpoint of equity to growers and millers and because of difficulties in administration. By what accounting is to be determined the loss, as related to export price, suffered by mills by reason of the elevated domestic price? If the Wheat Board were to export wheat on its own account, the books would show the loss; if a merchant were to export wheat, his books would show the margin between price of purchase and price of domestic sale, though the question of proper expenses and profits would need to be settled by agreement. But with the export of flour, in consideration of the demonstrable fact that conversion charge, overhead, relation to capacity output, expenses of management and sale, and profits vary from mill to mill and from region to region, the adjudication of the losses on export of varying fractions of flour in actual transactions would be a very difficult matter. Yet upon such adjudication, upon advance agreements governing such transactions, would depend the success of the Board in maintaining minimal flour exports, to say nothing of expanding flour exports. We have some export trade in macaroni, biscuit, and other manufactured wheaten goods; this trade also would claim exemption from loss on the basis of adjustment for wheat flour content.

The simplest procedure would be for the Board to undertake no export of flour directly, but merely to assist millers and ex-

porters through agreements whereby some equitable procedures were established for lifting from the mills all costs and liabilities directly and indirectly arising out of the elevation of domestic price above Canadian price, leaving mills relatively in the same position in respect of competition with Canadian mills in foreign markets that they occupied prior to the legislation. Once such an equitable working agreement were established, the volume of export of American flour would depend upon regional availability of wheats, freight rates, manufacturing efficiency, and merchandising ability, as is the case at present. Probably flour millers as a class would prefer this type of procedure, since it would avoid the largest number of incalculable elements.

Surveying war experiences at home and abroad, one observes two supplemental procedures that might seem to be applicable, if desired, under certain safeguards. The Grain Corporation accepted all flour offered to it on the basis of an agreed conversion charge and accounting, and these flours were largely disposed of in foreign markets, in the main on long-term credits. A Wheat Board could also offer this option to the mills, though it would have to sell for prime commercial paper. Such an arrangement would enable flour mills in certain regions to export flour virtually on a commission basis, and to find through the Wheat Board avenues for export which they could not develop and maintain competitively. Some mills would prefer a riskless operation for export trade on small profit to grinding at low capacity in a riskful competitive struggle. Unless carefully safeguarded, however, this would lead to inequities. These flours would appear in export trade in competition with the flours of other mills exported under private initiative, not on a commission basis, but merely with adjustment for remission of equalization fee and losses on higher domestic wheat price. Depending upon the agreement, this competition might become inequitable to the mills which were carrying the merchandising responsibility of their own exports. In particular, it might lead to the supplanting of trade-mark brands, in certain established markets, by flours manu-

factured on a commission basis and delivered to the Wheat Board. If, however, this practice were confined to flours ground from unrepresentative and mediocre wheats in themselves destined to export as wheat or flour, it would have less effect upon the status of standard American flours abroad.

Secondly, the Wheat Board might make contracts with mills to grind for export markets low-grade flours out of mediocre wheats destined for export, these to be employed for penetration into new countries. If 50 million bushels of wheat, even if mediocre wheat, could annually be taken from the world market, this would relieve pressure on the world price. If, now, the flour from this wheat could be sold in out-of-the-way places where it would exert little or no pressure on the world flour price, a net gain in terms of price might be achieved and, in addition, new markets might be created. These advantages might overbalance the direct loss on the flour sold. Moreover, in Central and South America and in the Orient there are consumption outlets whose absorptive power depends directly on price. Flour consumption there might be expanded if flour were aggressively merchandised at a low price. This would represent in part a promotional venture by the Wheat Board, for which the sole justification would lie in the removal of the wheat as a depressing influence on the world price. If such an arrangement were carefully devised and executed, it could be carried through with minimal competition with existing flour exports.

In some regions and for some kinds of wheat it might be wiser policy to cut the price of wheat to American millers for export of flour than to dump the wheat on importing foreign countries. It is precisely for flours from lower-grade wheats that it might be possible to develop new markets in backward countries, which might produce higher net prices than could be achieved in selling those wheats for the lowest prices in Europe. Desirous of encouraging the export of flour, the Wheat Board would need to be careful in dumping inferior wheats abroad not to accept such prices as would constitute cutting the price of American flours. Under all circumstances, a Wheat

Board would naturally endeavor to cooperate with flour mills in maintaining, if not expanding, the export of flour.

The policies of the Wheat Board in this direction, as at other points, would naturally be determined from the standpoint of the weighted price for the crop, fairness to the milling interests, and the reduction of carryover of wheat and flour to the lowest practicable dimensions. Any participation by the Board directly or indirectly in the export of flour, and particularly in procedures designed to enlarge the volume of wheat exported in the state of flour, would face the danger of creating regional disparities. It would be proper to contemplate giving priority to export of flour over export of wheat only with the reasonable prospect of increasing thereby the weighted price for the crop of wheat. Even under the most favorable circumstances, it would be difficult to avoid the appearance of regional inequity, both as to wheat and flour.

THE PROBLEM OF CARRYOVER

We have seen that the Wheat Board, acting directly or indirectly, would at times own or control substantial stocks of wheat, and indeed of flour. The volume carried would vary, of course, with the size of crop, the rate of marketing, the rapidity of mill purchases, the rate of export, and various other considerations including the policy of the Board itself in respect to stocks, exports, and carryover. We have already intimated that the possession of control of considerable stocks during the course of the crop year would be in part an inevitable consequence of the policy of segregating the export surplus and driving up the domestic price. But how large the stocks should be at any time would depend upon whether the Board chose to magnify or to minimize its administrative problems. The larger the stocks, the larger would be the carrying charges and the risks to be faced, in particular the risks of radical declines in world prices; on the other hand, the easier it would be to operate smoothly and to restrict price fluctuations at home and even, through export sales, in world markets. The temper of the Board would

determine in which direction it would lean. We take it that the Board would seek to avoid huge accumulations but would be forced to build up large administrative stocks, during the period of rapid marketing, which it could work down to moderate dimensions as the season progressed.

But what should be the Board's policy in regard to the carryover from one crop year to the next? Should it seek to clean up its stocks in each crop year, or count regularly upon holding large stocks at the close of each season, or undertake to carry over small stocks in certain years and large stocks in others? The first policy would be practically necessary if each season's operations were to be kept quite distinct; it would involve the smallest administrative risk; but it would often involve heavier obvious losses. The second policy would involve the largest carrying charges and administrative risks, and cause a different distribution of operating costs and losses between successive crop years; but it would tend to smoothness of operations. The third policy is the one most commonly contemplated, as conducive to stability of prices at the highest weighted level over a period of years; but it implies the highest degree of administrative genius and involves a huge speculation in cash wheat.

It is frequently argued or assumed, not only by the advocates of the proposals under consideration but also by those who favor alternative measures, that the so-called farm surplus problems could be largely solved, and price stabilization achieved, merely by the process of varying the carryover. Throughout the hearings and debates on the subject of the agricultural surplus, emphasis has been placed on the fact that carryovers of grains are not additive, that successive surpluses do not accumulate but instead disappear. From the fact of the disappearance of surpluses the inference is sometimes drawn that, if surpluses were regularly under centralized control, the disappearance would occur at a notably higher weighted price level. It is sometimes implied that the net return per bushel of a large-surplus crop could be brought up to the level of the net return per bushel of a small-surplus crop.¹

The inferences are not well founded. Large surpluses indeed disappear, under uncontrolled conditions, but only at a lower price and through various avenues. In the case of wheat, it is an established experience, both in surplus-producing and deficiency-importing countries, that disappearance (meaning total disposition) rises with larger crops and declines with smaller crops. In Europe the increased disappearance of the larger crop of wheat occurs both in city and country, but predominately in the country. This expanded disposition consists of three fractions: (1) increased milling of wheat and use of flour; (2) increased feeding of wheat to domesticated animals and use in industries; and (3) increased waste.

In several countries of Europe, in Central America and parts of South America, and in the Orient, to a substantial extent the consumption of wheaten flour rises with lower price and declines with higher price. Elsewhere this tendency is of minor importance. The increased use of wheat for animal feed that is associated with large crops and heavy surpluses is a common farm fact. More wheat is fed out of a large crop not only because of low price, but also merely because the supply is large. In addition, large crops often have a heavy percentage of lower grades, and with large crops these lower grades carry disproportionate discounts, which directs them toward the channels of animal feed. At a lower price more wheat is used in distillation and in other industries. The increased waste of a large yield begins in the act of harvesting and extends throughout the course of marketing; the stand of wheat is less efficiently and completely cut and garnered, the threshing is less carefully done, and the wastes and losses in storage are increased. The larger the carryover on farms and in country elevators, the heavier the losses due to vermin and deterioration.

In a word, much of a large crop disappears in unremunerative directions. If, now, the Wheat Board should attempt to take this wheat and export it as flour-wheat or

¹The undertaking to make a large-surplus crop worth as much per unit as a small-surplus crop seems also to be implied in the Curtis and Crisp bills.

flour, this would lead to reduction in the price of flour abroad and expose flour to competition with cheaper cereals in many countries. Rather the Board might find it sounder policy in part to discourage the marketing of this wheat by means of adverse price differentials, in part to keep such wheat off the mill market by disposing of it on the domestic feed market, and in part to employ it in developing new markets in backward countries where price considerations are primary. These measures might easily result in a higher weighted price than if the entire crop were sold to millers at home and abroad. In any event, it is clear that, except with a favorable conjuncture of a large domestic crop and a small world crop, the net returns per bushel of a large crop could not be expected to be brought up to the level of net returns per bushel of a small crop.

There remains, however, the question whether the average returns over a decade might be enhanced by radical variations in carryovers. Behind this view lies the theory that a given volume of wheat, carried over from a year of large crop to a year of small crop, would not only be marketable at a higher price but would depress the enhanced price of the short crop by less than it would improve the depressed price of the large crop.¹ The truth or falsehood of this attractive theory, in its various ramifications, has not yet been convincingly demonstrated. Certain facts, however, must be borne in mind. In the first place, carrying wheat is not costless but expensive. Even at current prices the carrying charges for a year would not be less than 12-13 cents a

bushel, and if shrinkage and deterioration were allowed for or insured against, the figure might easily run to 15 cents.² In the second place, large crops and short crops do not alternate; there may be a succession of large crops or small ones. Operation on this theory would often require carrying huge and perhaps increasing stocks for two, three, or more years. Hence even if the operation resulted in higher weighted prices for the wheat of a decade, it would not necessarily mean higher net returns. Moreover, the very existence of large stocks tends to operate as a price-depressant. The price of a new crop would not be the same in the face of a small carryover as in the face of a large one, even if the wheat were in strong hands. The carryover is often below average in quality and tends to be predominantly of two or three varieties. Clearly a heavy carryover of representative milling wheats, such as Europe always needs for blending with domestic wheats, would involve much less risk than would be encountered with a heavy carryover of soft white or durum wheats. Such tendencies as these would exist even under controlled marketing, and would complicate the disposition of the carryover and its effect on price. Finally, the carrying of large stocks for more than a brief period would be a gigantic speculation, and it is safe to say that the Board would lose more confidence and prestige from speculative losses than it would acquire from speculative gains; and this would hold also for co-operatives.

It is clear that the Wheat Board would be under considerable pressure to attempt to secure a higher level of prices by manipulation of carryovers; but we venture to assert that the hopes of radical improvement by this device would in the long run prove illusory. It might well be the soundest as well as the safest policy for the Board continuously to endeavor to hold carryovers down to the smallest practicable dimensions. Under the Board's operations, as under present circumstances, it would presumably be wisest for the Board, as a rule, to export the great bulk of the winter-wheat surplus (east of the Rocky Mountains) before the new European crops are available for use, before the Canadian spring-wheat

¹This point of view was implied by Congressman Williamson in a debate in the House of Representatives on May 6, 1926 (*Congressional Record*, p. 8768): "Statistics indicate that through a series of years production closely approximates consumption. In other words, there is no real surplus if you take it over a period of 5 to 10 years. That being true, the problem is to take the surplus in the long years and put it in storage and hold it until there is a sufficient demand to command a price which will give a reasonable profit to the American farmer." It is to be observed that costs of storage are not considered.

²A policy of storing wheat over more than one season would be practicable only if there were available (as there is not at present) extensive storage space in vermin-proof warehouses in favorable locations at country points.

harvest, and before much is known of the Southern Hemisphere acreage and crops.

There is, of course, another side to the story in certain years. If the carryover were reduced to small dimensions by forced export, that would relieve the price pressure on the domestic incoming crop. But the forcing of exports, through which a low domestic carryover might be attained, would tend to depress current world prices, this to be reflected back to the domestic price via the Canadian price and the grain exchanges. In any year the Wheat Board would be likely to wonder, whatever the course pursued, whether some other course might not have been better. The brief experiences of the Canadian Pool are already instructive. During the crop years 1924-25 and 1925-26, the Canadian carryovers were relatively small; this condition facilitated the operations of the Pool. The carryover out of the present crop promises to be relatively large and the prospect of this carryover acts as a continuous complication in the merchandising program of the Pool. It is particularly in connection with the carryover that the judgment of a central board is in danger of securing an outcome less favorable to growers than one resulting from open trading.

In any case, the Board would have to reckon with a carryover including several somewhat overlapping fractions: wheat on farms; in commercial or co-operative hands—in country mills and elevators, in public and private terminal elevators, in transit, in city mills, and in port warehouses; and in possession of the Wheat Board in all positions from country elevators to terminals. A portion of this carryover would consist of administrative stocks, i.e., stocks sufficient to maintain a continuous flow of wheat and continuous operation by the mills. Part of this would be under the control of the Board; part in other hands. There are circumstances under which it would be advantageous to the Wheat Board if farmers would hold back wheat; but growers would not do this without remuneration, in fact or in prospect, and the Wheat Board could hardly afford to risk the uninsured or insured possession of wheat in farm storage. It is possible that

the Wheat Board could make agreements with country and city mills, upon an agreed basis with reference to prices in the succeeding year, to increase their wheat stocks as of June 30. In any event the Board would need to be prepared to carry considerable wheat in the different regions, in positions selected on the basis of costs and availability for movement. We infer that commercial grain traders would be disposed to let the Wheat Board "hold the bag" of the carryover, because the relations of the May to July and September futures usually hold little promise of profit. The more efficient the merchandising practices of the Wheat Board and the more rigorous the policy against a heavy carryover, the smaller the problem would be.

Finally, the carryover would involve a price problem. If the price for the new crop were higher or lower than for the old crop, this would promise gain or loss on the carryover. If the risk lay with private holders, they would divest themselves of wheat during the spring when the promise of the winter-wheat crop and the preparation of the soil for the spring-wheat crop were favorable. But if the prospects were for shorter crop and higher price, private holders would tend to impound wheat and this might provoke a milling shortage, though the price influence of their actions would favor the succeeding operations of the Board. If the Board should believe it wise to avoid speculation and disturbance in the market connected with the period of transition from one crop year to another, with varying prices in the two years, it might be found advantageous to offer an "up-set price" for the wheat in the carryover, as of June 1, based either on the price of the year or on the costs of holders. Further, it might indeed be found advantageous for the Board to offer a corresponding up-set price for the carryover of flour. However the policy might be determined, the transition from old to new crop would inevitably involve difficulties. The physical storage, the costs, and the effective handling of the carryover in the interest of the weighted price of wheat, for both the outgoing and the incoming crops, would present problems of varying difficulty from season to season.

V. EFFECTS ON FLOUR PRICES AND CONSUMERS

We may now turn to the effects to be anticipated from the operation of the scheme upon prices of flour, feed, and competing commodities, and to the reactions of consumers to the resulting increase in costs of living. As basis for the subsequent calculations, we reason on our previous assumption that the price of wheat would be raised to 50 cents above the Canadian price; we further assume that, apart from the proposed measure, American prices tend to be 10 cents above the Canadian prices. This would mean a net advance of 40 cents, to find expression in increased prices of milled products.

EFFECT ON PRICES OF FLOUR AND FEED

The plan contemplates frankly a substantial increase in domestic prices of wheat products—indeed a greater increase than reaches the grower, because costs of administration and losses on exports are to be covered. The advocates of the measure see in this no injustice, but in part a redress of existing injustice, since it is urged that farmers have not had their fair share of the national income or prosperity; and in part a general benefit, since it is argued that the health, prosperity, and progress of the nation depend upon a radical improvement in the farmers' status. With the soundness of these views we are not here concerned. Rather we seek to learn how the proposed measures, if adopted, would actually work.

Broadly speaking, the price of flour closely follows the price of wheat. Flour milling is sharply competitive. In recent years, at least, with a large excess of milling capacity, the milling industry as a whole has earned no such profits as to give reason to expect that millers would absorb any part of the increase in wheat price. The mill price of flour rises and falls with fractional changes in the price of wheat. To make a barrel of long patent flour requires about five bushels of wheat. If, as we have assumed, the domestic price of wheat is raised 40 cents per bushel, the miller must pay out an extra \$2.00 for wheat for each barrel of standard flour. The figure would be smaller

for straight and clear flours.¹ For illustrative purposes, it will suffice to carry on the argument for long patent flour.

The miller manufactures two things from wheat—flour and mill feed. He gets all he can for the screenings and mill feed; the remainder of the cost he must recover in the price of flour. When the price of feed is high, he is in position to sell the flour for less—assuming that the price of wheat and other costs remain the same. To put it in monetary terms, it usually works out that whenever, with constant wheat price, the price of mill feed advances \$1.00 a ton, the miller can reduce the price of flour about 5 cents per barrel. It is a rough milling rule that a cent a bushel in wheat corresponds to 5 cents a barrel of flour or \$1.00 a ton of mill feed.

In general, the price of mill feed in the northern states follows the price of corn. If corn goes up 10 cents per bushel, mill feeds go up about \$3.00 per ton. If the Wheat Board were to raise the price of wheat 50 cents above the Canadian price, and the price of corn were raised 25 cents above the current price, such an increase in the price of corn would allow the price of mill feed to rise \$7.50 per ton. Since the miller can lower his price of flour 5 cents per barrel for each \$1.00 per ton increase in the price of mill feed, he could cut the price of flour by 35 cents if the price of mill feed went up \$7.50 a ton. Therefore, 35 cents of the extra \$2.00 per barrel which he would have to pay for his wheat, could come back to him in the price of mill feed, if the price of corn were advanced 25 cents; this would leave \$1.65 per barrel to be added to the flour price.

However, there would be additional factors making for increase in the price of flour. The miller's investment in wheat

¹ Clear flours are becoming less of a problem to millers, who are becoming more adept in separation and are able to make a longer extraction and still hold the ash down to bakers' requirements. Bakers, furthermore, are perfecting their methods and now use long patents quite as they used to use short patents and, indeed, employ with success straight flour of not too high extraction.

would be increased, and he would have to borrow more money to do business. The cost of insurance would be raised. Every dollar advance in mill feeds increases the miller's risk. The higher the miller sets on his cost card his anticipated returns from mill feed and the more credit he places against his flour expense, the greater risk he runs of not receiving the anticipated returns when the feed is actually sold. Therefore, when the price of mill feed rises, he must adjust his flour price to compensate for the increased risk in the higher price of feed. To take care of the various additional costs and risks, some 10 cents per barrel might be required. This would mean an addition of \$1.75 to the mill price of flour as a consequence of raising the price of wheat 40 cents and corn 25 cents a bushel.

If the proposed measures were not applied to corn (or to corn-fed animals), raising the price of wheat might tend slightly to pull up the current prices of the coarse grains, except in the event of bumper crops. In any case, with short crops of coarse grains, the mill feed could carry part of the increased price of wheat; with large crops of coarse grains, it would fall largely or entirely on the flour. Mill feed competes also with concentrates from cottonseed and flaxseed, and corresponding reactions might occur in the event of large or small crops of these competitors.

Suppose, however, that no direct raising of the price of corn and other coarse grains were contemplated or effected, but that the tactics were applied to derivative animal products. How much the cash price of the coarse grains might rise, at points competitive with mill feeds and other concentrates, in consequence of driving up the price of dairy products, beef, and pork, is wholly problematical. In each season there would be an exceedingly complex relationship. Initially, the mills would base their calculations on the assumption that the prices of competing coarse grains would rise little or not at all and that the price of flour would need to carry the entire load of increase of the price of wheat. With the experience of several seasons, they would know to what extent, if any, mill feed could carry a part of the load.

In any event flour, and not mill feed, would carry the great burden of the advance in the price of wheat. This apparently accords with the views of wheat growers, to have the added price placed on consumers of flour and not on dairymen, to be added to the price of milk and butter fat. Since it simplifies the proposal and cannot be far wrong, we make the assumption that the increase in the price of wheat would appear quantitatively in the price of flour. Whether on family and bakers' flour in like sums, is another question. Bakers buy flour cheaper than households. Just as now large bakers buy flour at cost, or below, because mills can make good the loss by higher prices to small bakers and the household trade, so at the predicated higher price due to raising the price of wheat 40 cents per bushel, it is possible that the increase in price to householders would be larger than the increase in price to bakers.

When the retailer sets the selling price of flour, he does so on the basis of a mark-up on his cost. If his mark-up is 20 per cent, when the price to the retailer is raised by \$1.75 the price to the consumer would be raised by \$2.10 per barrel.¹ If, now, the full 40 cents per bushel of wheat applied to patent flour with 10 cents added for additional overhead of mills and 20 per cent for retailers' margin on the added price, this would amount to \$2.52 a barrel. Somewhere, then, between \$2.10 and \$2.52 would be the increase in the price of the barrel of patent flour to be expected from the application of an equalization fee contemplating an increase of 40 cents per bushel in the price of wheat, depending on the

¹ The retailer's margin in selling flour is not uniform in the trade. In some places it is 20 per cent of wholesale price, or more; in others it is 10 per cent; some retailers sell flour practically at cost. Twenty per cent margin is regarded as conservative. When prices are advancing, grocers may try to apply the 20 per cent to the replacement price instead of to purchase price; when prices are declining they may try to cling to 20 per cent of purchase price instead of replacement price. When retailers carry low flour stocks, it works out about the same either way. At higher flour price, some retailers would cut their percentage margin—for example, sell a barrel of flour for an operative profit of a dollar, whether the purchase price were \$8.00 or \$10.00. Broadly considered, it will be safe to infer that the retailers will not absorb any of the price increase, but will instead apply their customary percentage to the purchase price.

price of corn and the other coarse grains. Let us take \$2.50 per barrel as the outside figure and use that. At first, millers and dealers would be inclined to exact the widest margin in order to play safe; later, when they were accustomed to the new system, competition might narrow the margin somewhat.

We have several times adverted to the desirability of working agreements between the Wheat Board and flour mills. Regional relations of wheat prices, variations in prices of different varieties, premiums and discounts for protein-content and flour yield, freight rate structures and relations of milling centers to population centers, distribution of increased wheat price between flour and feed—these all, and other considerations, speak in favor of working agreements between the Wheat Board and flour mills. Appropriate agreements would simplify operations, promote continuity of procedures, reduce friction and waste, and clarify trading practices. But these arrangements might easily involve, as they did during the war, more satisfactory milling margins than have prevailed in recent years, with consequent influence on flour prices.

EFFECT ON COST OF LIVING

The operation of the proposed scheme as applied to wheat would have certain effects upon the cost of living, both directly through prices of flour and bakery products, and indirectly through prices of other products and the redistribution of food expenditures. While certain statements may be made with confidence, on stated assumptions, it is impossible to make any predictions that would hold good over a series of years. The results would be different according as the scheme was applied to wheat alone or to corn, hogs, and other products as well; according to the reactions of wheat acreage and the subsequent effects upon world wheat prices; according to the relations between prices of wheat and other cereals, or between prices of cereals and other foodstuffs, on account of other factors; and according to the degree of general prosperity of the country.

In the following discussion we disregard the influence upon the cost of living that would be exerted by the application of the scheme to other products than wheat; and we assume that the domestic price of wheat will be raised by 40 cents a bushel, that this increase would fall entirely on the price of flour, that millers would charge for the added use of capital in doing business at the higher price level, and that wholesalers and retailers would maintain their customary margins. Let us take the added price as \$2.50 per barrel. Whatever outcome to be anticipated at \$2.50 a barrel would hold in general terms for \$2.00 a barrel, if it should transpire that a portion of the price increase would be carried by mill feed and screenings and that the distributive trades would not increase their margins fully to correspond to the higher price level.

So far as flour is purchased directly for final consumption in households, the increased price of flour would find direct expression in a higher cost of living. Per head of population, more flour is purchased for household use on farms than in towns and cities, and flour purchases of farmers constitute a larger proportion of the cost of living than is the case with urban population. Farmers the country over, including wheat growers, would therefore experience, more heavily than the urban population, this direct increase in their living costs. So far as the urban population is concerned, the addition would fall more heavily upon the poorer classes, for these tend to purchase more flour than classes with higher incomes, and even the same flour purchases form a relatively larger fraction of their living costs. How far the laboring classes would bear the increase, and how far they would be able to shift it by securing higher wages on the basis of cost-of-living data, it is impossible to say. Some effort in this direction could be expected, but the opportunity would be confined largely to the better-organized, better-paid wage earners, rather than the economic groups lower in the scale. On the grounds of equity, this method of distributing the burden of benefits to the wheat farmer is open to serious criticism, for the burden would fall most heavily upon those least able to bear it.

The effect of the increase in flour prices on the prices of bakery products would be more complicated. Commercial bakers possess a considerable range of adaptation. They can modify their formulas to take some account of increases in flour prices. They can also reduce the flour content of the unit of sale. The pound loaf of bread must weigh a pound; but when the price of flour rises, by using somewhat stronger flour and adapting his processes, the baker can increase the number of loaves secured from the barrel of flour. The breakfast roll can be made a little smaller, the flour stretched a little in the individual price of pastry. The consumer might receive fewer flour calories, but he would not know it and would pay the same. In bakeries supplying the poorer section of the population, cheaper flours would find larger use.

For other reasons, bread prices do not closely follow the price of flour. The cost of flour is only one of the items in the retail prices of wheaten goods; it is seldom over 35 per cent of the retail price of bread and much less than that with most cakes and pastries. Competition is not effective in maintaining a close correspondence between costs and prices. Bakers rarely change the price of bread except in even cents per loaf: they may put up the price of the loaf one cent when the cost has not risen fully one cent and they may postpone lowering the price one cent until the cost has fallen more than one cent; under stress of competition they may practice the reverse. When the price of flour fell in 1921, the price of bakery products did not fall correspondingly; during the period between the decline in the price of wheat in 1921 and the recovery of the price in 1924, bakers as a class made unusual profits. Since the rise in the price of wheat in the fall of 1924, this has not found corresponding reflection in the retail prices of bakery products.

Nevertheless, while it is true that temporary changes in the price of flour may not be reflected in prices of bakery products, it is safe to infer that a substantial and sustained advance in flour prices would be passed on, though in part in ways not obvious to consumers and not susceptible of statistical measurement. Under present

circumstances there is no secure basis for the common assumption that the advance in flour prices would be absorbed, to any large extent, in the distributive process.

If wholesale prices of flour to bakers were raised to the degree suggested above, the addition of customary margins by bakers and bread retailers would have much the same effect on the consumer as the increase of retail prices of flour by \$2.50 a barrel. Bakeries supplying the middle- and upper-income classes would probably absorb little or none of the increase and would pass it on to consumers. Bakeries supplying the lower-income classes, particularly in certain sections of the country, might absorb a part of the increase in one way or another. The consumer could hardly defend himself from elevated bakers' prices by going back to home baking if retail flour prices carried the increase predicated.

Public eating places, from the cheapest restaurants to the most expensive hotels, consume probably 10 per cent of the flour supply of the country. Part of their wheaten preparations they bake themselves, part they purchase. As a class, sweet baked goods are priced out of all proportion to the cost of flour in them. It is not to be expected that sales prices of wheaten foods in public eating places would be generally increased, per service portion, as a result of the contemplated increase in the price of flour. Rather, some economies in the use of flour might be practiced, the service of bread or rolls could be curtailed, the individual portions of bread, pastry, or other sweet baked goods reduced. The patrons would lose a few calories, to the delight of many of them if they were cognizant of the subtraction. In effect, though not necessarily in appearance, the greater part of the advance in cost of flour and baked goods, possibly all of it, would be passed on.

PROBABLE REACTIONS OF CONSUMERS

Now the average per capita consumption of flour is roughly a barrel a year, rather less than more. A price increase of \$2.50 per barrel would therefore mean an average addition to living costs of about \$12.00 per family, unless there were a material reduction in flour consumption in conse-

quence of the increased price. What reactions of consumers to this increase are to be anticipated?

As we have seen, there might easily be some slight contraction in flour use by commercial bakeries and public eating places, at least temporarily; but we should not expect these to be pronounced or persistent. They would probably merely serve to make the advance in prices to the consumer less abrupt and less obvious. But what of the reactions of private purchasers of flour, bread, rolls, and sweet goods? Would they consume less of these products and more of other foods?

In the present state of prosperity, we believe the reaction would be so small as to be negligible. The level of income is too high, the standard of living too comfortable for this increase to be seriously felt by any large fraction of the population. In certain regions and in certain classes, less wheat flour and wheaten goods would be purchased, but we are skeptical of the development of any considerable degree of restriction so long as prosperity continues.

If prosperity should decline, or hard times appear, the addition of \$12.00 per year to the living cost of the statistical family would attract attention. But this would hardly react against wheat consumption. To some extent cheaper cereals would be substituted. Rye is considerably cheaper; but the consumption of rye appears to be relatively inelastic, particularly since the abolition of beer, and is confined largely to our north-European population. Substitution with oat and barley preparations may be disregarded. In the South there would unquestionably be some replacement of wheaten products with corn products, and this might occur in the North and West, despite unpleasant recollections of war-time corn bread. Potatoes could be substituted in years when they were cheap. But if the prices of other foodstuffs remained at present levels, wheaten foodstuffs would still be relatively cheap, even with the addition of \$2.50 per barrel of flour. The comparable prices of meats, dairy products, and most vegetables are so much higher per calorie, that there would be no economies to be achieved by increasing the use of

these foodstuffs in replacement of wheat at the higher level. Practically speaking, only rye flour and corn meal would be cheaper in terms of calories on the table of the consumer. A naturally cheap food maintains or improves its position when income declines. If hard times should appear, the general effect would be, as always, to increase the consumption of cheaper foods, including cereals; and wheat, even at a higher price, would be expected to obtain a share in the increase.

Should one anticipate indirect effects? If the cost of wheaten foodstuffs were to rise, this might tend to pull up the prices of other foodstuffs—a result that might be expected theoretically, but hardly lends itself to discussion. If the prices of screenings and mill feed were to rise, this would operate in the direction of higher prices for eggs, poultry, and dairy products, again depending on adjustments between wheaten feeds and competing coarse grains and concentrates. Since, however, we incline to the view that the contemplated increase in the price of wheat would fall on flour and not on mill feed and screenings, these indirect effects may be disregarded. Yet others might attain appreciable importance. Expansion of wheat acreage would leave less acreage for coarse grains, leading to smaller crops; this would mean less for export and less for cash marketing off the farm, and consequently higher prices for the grains and their animal products. This would find expression in increase of cost of living indirectly, to be added to that resulting directly from higher prices of wheat.

The effective cost to the nation, and the distribution of it, may therefore be computed on the assumption of increase of outlay of \$2.50 per person per year, and disregarding the question of heavier flour consumption on farms. We have a wheat-growing population of some 10 million. There are some 22 million of farm population who do not grow wheat. Living in country places of not over 2,500 inhabitants are some 14 million people. The remaining urban population counts up to about 70 million. The gross increase in expenditures for higher-priced flour would be as follows, in round figures:

Wheat-growing population.....	\$ 25,000,000
Other agricultural population...	55,000,000
Country-town population.....	35,000,000
Other urban population	175,000,000

Total population.....\$290,000,000

By hypothesis, the wheat-growing population receives the entire increase in the farm price of wheat, from which the 25 million dollars representing their share in the increased price of flour would have to be subtracted to secure the figure for their net gain. If a merchandised crop of 780 million bushels were to yield a net gain of 25 cents per bushel (195 million dollars), this would mean that to secure an added net wheat-income of 170 million dollars (195—25) for 2 million wheat growers, the other agricultural population would pay 55 million dollars, the country-town inhabitants 35 million, and the other urban population 175 million—a total of 265 million dollars. Such calculations are indeed very rough, but the figures are suggestive of the way in which the burden might be distributed.

Advocates of the equalization fee usually argue that the financial costs of the measure would be borne by the growers, and oppose the policy of meeting these costs out of the national treasury. Their position has the merit of political expediency; there is some further justification in the fact that increases in the equalization fee, with larger crops, would operate in some degree to re-

strain increases in acreage. Nevertheless, as we have seen, it is quite untrue that the burden will be borne by the growers. The basic object is to enhance prices to growers. The full burden of the net increase in prices to growers, and a good deal more, is to be borne by domestic consumers, including farmer-consumers. If the burden imposed by the net increase in prices to growers were borne by the national treasury, it would merely entail a less rapid reduction in income taxes, the national debt, or both; and the burden would be smaller and far more easily borne than if it were borne by consumers of flour and bread.

In this discussion we have proceeded on the assumption that the persisting effect of the operation of the proposed measure would be to maintain wheat and flour prices substantially higher than they would otherwise be. In fact, this is not necessarily the way in which the measures would ultimately work out. Before saying our last word on the effects upon consumers, we must consider how wheat growers would react to the advance in price, and what subsequent effects upon wheat and flour prices, in world markets and at home, are to be anticipated. Expansion in wheat acreage, leading to enlargement of wheat surplus and consequent decline in the world price of wheat, would find expression in a lower domestic price of wheat, with corresponding effect on flour prices.

VI. EFFECTS ON ACREAGE, WORLD PRICES, AND THE AMERICAN FARMER

The probable effects of the proposed measures upon wheat acreage and the wheat grower, we consider here on the assumption made heretofore, namely that under the proposed measures domestic prices of wheat will be maintained at a level 50 cents above the Winnipeg price, or, let us say, 40 cents above the level of domestic prices that would otherwise prevail. What this would require in the way of tariff increases, and what the Board might accomplish if the tariff were to remain as at present, we must reserve for subsequent consideration.¹ For the present, it is illuminating to proceed on the assumption stated.

EFFECTS ON ACREAGE

There are grounds for asserting that such a price differential, and the assurance that it would be maintained in years of good crops and poor, even at some counterbalancing cost to wheat growers through the operation of the equalization fee, would stimulate material expansion in wheat acreage, and that this expansion would have important reactions upon wheat prices. The stimulus would be pronounced if the projected measures were applied, as

¹ This is the subject of the following issue of *WHEAT STUDIES*, March 1927, III, No. 5.

is proposed, to corn, hogs, and cotton; if they were applied to wheat alone, the stimulus would be substantially greater. In this connection the experience with high prices of wheat during the war is pertinent, and particularly the experience under guaranteed wheat prices.

Table 3 summarizes the official statistics on wheat acreage planted and harvested, for the crops of 1910-26, and the harvested acreage of other cereals (rye, oats, barley, and corn). Similar data for the wheat acreage of the major wheat regions are given in Table 4 (p. 222). These data do not, of course, enable us to separate price influences from other factors. The acreage sown varies considerably from year to year, regardless of price, because weather and soil conditions at the planting season either prevent the planting of the acreage intended or facilitate planting more than had been intended. The acreage harvested varies much more than the acreage sown, because of marked variations in acreage abandoned in different years. Especially in the Pacific region, the area planted to spring wheat depends partly upon whether conditions were favorable or unfavorable to fall sowing, and whether winter killing was light or severe. Statistical analysis of the factors determining wheat acreage shows that actual prices or prospective prices in any one year are only one among several factors of importance. Nevertheless, it is impossible to obscure or explain away the effects of wheat price advances during the war in stimulating wheat acreage.

The first impetus was given in the first year of the war, when the area sown to wheat increased from 54.7 million acres for the 1914 crop (itself a record figure, and substantially above the 5-year average, 1910-14, of 52.4) to 61.6 million acres for the 1915 crop. So large was the resulting crop, and indeed the world crop of 1915, that price declines largely withdrew the stimulus. Even so the area planted for the crops of 1916 and 1917 was between 56 and 57 million acres—larger than in any pre-war year; and only exceptionally heavy abandonment, in 1917, reduced the harvested acreage of the crop of 1917 below pre-war levels. The guaranteed wheat price,

inaugurated in August 1917, affected the planting of the crops of 1918 and 1919. For the crop of 1918 some 65.2 million acres were planted, and despite heavier abandonment than the average, the harvested

TABLE 3.—TOTAL WHEAT CROP OF THE UNITED STATES, PLANTED AND HARVESTED ACREAGE OF WHEAT, AND HARVESTED ACREAGE OF COARSE GRAINS, 1910-26*

(Crop in million bushels; area in million acres)

Crop of	Total wheat crop	Winter wheat area		Spring wheat area harvested	Total wheat area		Coarse grains har- v'st'd ^c	Sum of two preceding columns
		Sown ^a	Har- v'st'd		Har- v'st'd	Sown ^b		
1910...	635.1	31.7	27.3	18.4	45.7	50.0	151.5	201.5
1911...	621.3	32.6	29.2	20.4	49.5	53.0	153.3	206.3
1912...	730.3	33.2	26.6	19.2	45.8	52.5	154.6	207.1
1913...	763.4	33.3	31.7	18.5	50.2	51.8	154.3	206.1
1914...	891.0	37.2	36.0	17.5	53.5	54.7	152.0	206.7
Average 1910-14	728.2	33.6	30.2	18.8	48.9	52.4	153.1	205.5
1915...	1025.8	42.4	41.3	19.2	60.5	61.6	157.5	219.1
1916...	636.3	39.2	34.7	17.6	52.3	56.9	157.8	214.7
1917...	636.7	38.4	27.3	17.8	45.1	56.2	173.5	229.7
1918...	921.4	43.1	37.1	22.1	59.2	65.2	164.9	230.1
1919...	968.0	51.5	50.5	25.2	75.7	76.7	150.6	227.3
Average 1915-19	837.6	42.9	38.2	20.4	58.6	63.3	160.9	224.2
1920...	833.0	44.9	40.0	21.1	61.1	66.0	156.2	222.2
1921...	814.9	45.6	43.4	20.3	63.7	65.9	161.2	227.1
1922...	867.6	47.9	42.4	20.0	62.3	67.9	157.6	225.5
1923...	797.4	46.1	39.5	20.1	59.7	66.2	158.3	224.5
1924...	864.4	39.7	35.6	16.9	52.5	56.6	154.0	210.6
Average 1920-24	835.5	44.8	40.2	19.7	59.9	64.5	157.5	222.0
1925...	676.4	40.0	31.2	21.0	52.2	61.0	158.3	219.3
1926...	832.3	39.8	36.9	19.6	56.5	59.4	155.6	215.0

* Official data of U.S. Department of Agriculture, from *Agriculture Yearbook, 1925; Crops and Markets, Monthly Supplement*, December 1924, 1925, 1926; and unpublished revised data furnished by the Department.

^a Preceding fall.

^b It is assumed that the amount of spring wheat planted equals the amount harvested.

^c Acreage of rye, oats, barley, and corn.

area was 59.2 million acres, a larger area than in any previous year except 1915, when abandonment was small. For the crop of 1919, the area sown was 76.7 million acres, nearly 50 per cent above the 5-year pre-war average, and the harvested area, after unusually small abandonment, was 75.7 million acres, over 50 per cent above the pre-war average. The great bulk of this expansion was accomplished within two

TABLE 4.—WHEAT ACREAGE SOWN AND HARVESTED IN THE UNITED STATES, BY REGIONS, 1910-26*

(Thousand acres)

Crop of	Winter wheat area		Spring wheat area	Total wheat area		Crop of	Winter wheat area		Spring wheat area	Total wheat area	
	Sown ^a	Harvested	harvested	Harvested	Sown ^b		Sown ^a	Harvested	harvested	Harvested	Sown ^b
SOFT RED WINTER-WHEAT REGION ^c						HARD WINTER-WHEAT REGION ^d					
1910.....	17,019	15,786	449	16,235	17,468	1910...	11,862	8,949	646	9,595	12,508
1911.....	17,466	16,842	469	17,311	17,935	1911...	12,255	9,543	680	10,223	12,935
1912.....	16,966	12,289	455	12,744	17,421	1912...	13,097	11,256	640	11,896	13,737
1913.....	16,312	15,854	452	16,306	16,764	1913...	13,355	12,545	695	13,240	14,050
1914.....	17,251	16,943	403	17,346	17,654	1914...	16,531	15,827	659	16,486	17,190
Average						Average					
1910-14..	17,003	15,543	446	15,988	17,448	1910-14	13,420	11,624	664	12,288	14,084
1915.....	20,196	19,624	410	20,034	20,606	1915...	17,868	17,488	572	18,060	18,440
1916.....	18,203	15,545	333	15,878	18,536	1916...	17,408	16,055	618	16,673	18,026
1917.....	18,496	15,293	513	15,806	19,009	1917...	16,429	9,230	757	9,987	17,186
1918.....	20,130	19,216	1,683	20,899	21,813	1918...	19,549	14,759	1,089	15,848	20,638
1919.....	22,605	22,424	1,917	24,341	24,522	1919...	23,779	23,593	1,038	24,631	24,817
Average						Average					
1915-19..	19,926	18,420	971	19,392	20,897	1915-19	19,007	16,225	815	17,040	19,821
1920.....	19,150	17,445	865	18,310	20,015	1920...	21,187	18,757	693	19,450	21,880
1921.....	17,960	17,561	528	18,089	18,488	1921...	23,057	21,683	651	22,334	23,708
1922.....	18,841	18,205	372	18,577	19,213	1922...	24,064	19,544	663	20,207	24,727
1923.....	18,860	17,897	265	18,162	19,125	1923...	22,432	17,223	774	17,997	23,206
1924.....	15,838	12,779	135	12,914	15,973	1924...	19,104	19,018	484	19,502	19,588
Average						Average					
1920-24..	18,130	16,777	433	17,210	18,563	1920-24.	21,969	19,245	653	19,898	22,622
1925.....	13,611	12,600	188	12,788	13,799	1925...	21,587	16,168	480	16,648	22,067
1926.....	13,185	12,687	265	12,952	13,450	1926...	22,552	20,455	497	20,952	23,049
PACIFIC REGION ^e						HARD SPRING-WHEAT REGION ^f					
1910.....	2,556	2,403	1,692	4,095	4,248	1910...	222	191	15,565	15,756	15,787
1911.....	2,659	2,524	1,787	4,311	4,446	1911...	268	253	17,445	17,698	17,713
1912.....	2,638	2,519	1,786	4,305	4,424	1912...	528	507	16,362	16,869	16,890
1913.....	2,899	2,630	1,563	4,193	4,462	1913...	708	670	15,775	16,445	16,483
1914.....	2,689	2,593	1,302	3,895	3,991	1914...	687	645	15,169	15,814	15,856
Average						Average					
1910-14..	2,688	2,534	1,626	4,160	4,314	1910-14	483	453	16,063	16,516	16,546
1915.....	3,231	3,111	1,314	4,425	4,545	1915...	1,136	1,085	16,865	17,950	18,001
1916.....	2,575	2,274	1,571	3,845	4,146	1916...	1,059	835	15,085	15,920	16,144
1917.....	2,321	1,872	2,347	4,219	4,668	1917...	1,113	862	14,215	15,077	15,328
1918.....	2,399	2,244	2,875	5,119	5,274	1918...	1,048	911	16,404	17,315	17,452
1919.....	3,888	3,700	2,433	6,133	6,321	1919...	1,211	777	19,812	20,589	21,023
Average						Average					
1915-19..	2,883	2,640	2,108	4,748	4,991	1915-19	1,113	894	16,476	17,370	17,590
1920.....	3,658	3,179	2,495	5,674	6,153	1920...	866	635	17,074	17,709	17,940
1921.....	3,823	3,543	2,106	5,649	5,929	1921...	785	627	16,997	17,624	17,782
1922.....	3,870	3,637	2,141	5,778	6,011	1922...	1,155	972	16,783	17,755	17,938
1923.....	3,736	3,549	2,142	5,691	5,878	1923...	1,075	849	16,960	17,809	18,035
1924.....	3,912	2,963	1,228	4,191	5,140	1924...	895	896	15,032	15,928	15,927
Average						Average					
1920-24..	3,800	3,374	2,022	5,397	5,822	1920-24.	955	796	16,569	17,365	17,524
1925.....	3,705	1,912	2,933	4,845	6,638	1925...	1,053	554	17,420	17,974	18,473
1926.....	3,163	3,019	2,104	5,123	5,267	1926...	899	752	16,747	17,499	17,646

* Sources and footnotes a and b as given under Table 3, p. 221.

^c Maine, Vermont, New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa, Missouri, Delaware, Maryland, Virginia, West Virginia, North and South Carolina, Georgia, Kentucky, Tennessee, Alabama, Mississippi, and Arkansas.

^d Nebraska, Kansas, Oklahoma, Texas, Colorado, New Mexico.

^e Idaho, Utah, Arizona, Nevada, Washington, Oregon, California.

^f Minnesota, the Dakotas, Montana, Wyoming.

years of guaranteed wheat price, and when no assurance was given that the policy of a guaranteed price would be maintained indefinitely, or that ordinary economic conditions would hold prices at some such level. The appeal to patriotic motives certainly exerted some supplementary influence, though it is safe to infer that this was secondary to the price guaranty.

The war expansion took place in all regions, and involved a net addition to the acreage devoted to the principal cereals. As shown by the final column in Table 3, the area sown to wheat plus the area harvested in rye, barley, oats, and corn¹ rose from 206-207 million acres in 1911-14 to 230 million in 1917 and 1918. In the years of guaranteed wheat price, the wheat acreage expanded in part at the expense of other cereals. The harvested acreage of coarse grains reached its peak in 1917. In the two following years, when the guaranteed price stimulated wheat acreage, the acreage in coarse grains receded greatly, declining in 1919, when the wheat acreage reached its peak, to the lowest level of the period. In the two following years, when the wheat acreage planted declined by about 11 million acres from the 1919 peak, coarse-grain acreage rose by almost the same amount. Since 1921, the coarse-grain acreage has tended downward, and the sum of wheat acreage sown and coarse-grain acreage harvested has fallen below 220 million acres in the last three years.

In the soft winter-wheat region the war expansion involved in part the utilization of idle land in farms, and in part a temporary diversion from other crops. It is in this region that the most pronounced contraction in wheat acreage has occurred since the war. Doubtless the high level attained in 1919 could not have been maintained without disturbance to established rotations, but the decline since 1920 represents more largely the diversion to other crops and the lapsing of cultivated acreage into pasture. In the past three years the

wheat acreage in the soft winter-wheat belt has been considerably below pre-war levels.

In the hard winter-wheat region there occurred the greatest expansion in wheat acreage during the war, both absolutely and relatively, and the smallest relative contraction since the war. In part this expansion was merely a continuation of pre-war trends. It represented largely the bringing of new lands into cultivation, though in Oklahoma, Texas, eastern Kansas, and Nebraska there was some expansion at the expense of other crops and some subsequent contraction in their favor. But most of the new lands brought under wheat have remained in wheat, and additional range land is annually being plowed for wheat.

In the hard spring-wheat area expansion was moderate, except in 1919, but the acreage has remained on a slightly higher level than before the war, since new lands brought under cultivation in North Dakota and Montana have overbalanced contraction in Minnesota and South Dakota. In the Pacific region a noteworthy expansion occurred in 1918 and 1919, and despite recessions from the high level of 1919, the acreage remains considerably larger than before the war.

In a word, the war experience shows that, given a price stimulus of sufficient weight, wheat acreage can quickly be expanded, in part by utilizing farm land not otherwise in cultivation, in part at the expense of other crops, in part by bringing new acreage under cultivation. The post-war experience shows that, when the price stimulus is removed, contraction of acreage is difficult and painful, except so far as it represents reversion to other crops after one or two years' diversion to wheat; also that the continued cultivation of lands brought under wheat as a result of a high price stimulus operates as a price-depressing factor of major importance. It is not sufficiently realized to what extent the wheat production from these new lands, chiefly in Oklahoma, Texas, Kansas, Colorado, and Montana, is responsible for the magnitude of our wheat-surplus problem.

What now are the present possibilities of expansion of wheat acreage? On this subject one hears extreme statements from

¹This gives a figure somewhat too high for the acreage devoted to these cereals, for part of the abandoned winter-wheat acreage is sown to other cereals. But the harvested acreage would give too low a figure for the acreage devoted to the five cereals.

both sides. Partisan proponents of the equalization fee sometimes argue as though untilled arable soil were no longer to be found and American agriculture were so rigidly diversified that no new acre of wheat could be planted except at the expense of some other crop and with disastrous effect on established rotations. This does not square with war expansion. It is largely east of the Mississippi that wheat growing is set in a system of rotation, but even here expansion occurred during the war. West of the Mississippi, wheat is either one of several cash crops in a loose rotation, or is the cash crop in largely one-crop farming, and there is considerable untilled acreage that could be planted to wheat. On the other hand, partisan opponents of the equalization fee sometimes argue as though we had vast ranges of virgin land that would pass into wheat growing on slight provocation. This is not the case, although, as will be pointed out, there is an important element of truth in it.

Baker and Gray¹ have made it clear that in 1920 there were something like 40 million acres of uncultivated land lying within American farms. Probably the figure is higher now. Some of this land is fallow, some is unadapted to cultivation, some is uncultivated because of lack of price incentive. In all regions there are odd lots of marginal land which would not be marginal land at higher prices. With sufficient price incentive, a good deal of this land would be planted to wheat, as was the case during the war. It might not be good wheat, or yield heavily per acre, but it could easily contribute an appreciable increment to the total crop.

Expansion of acreage at the expense of other crops, some of it also yielding moderate returns of mediocre wheat, might easily attain more substantial proportions. The price position of rye, oats, and barley is relatively unsatisfactory, even under present conditions. Since it is not proposed that the measures under consideration would be applied to these crops, their position would be relatively worse under the procedures in contemplation. A higher

price for wheat, corn, and hogs would doubtless find some reflection in higher prices for rye, oats, and barley, but it would be limited, indirect, and unforeseeable. These three coarse grains together occupy over 55 million acres, and it is not unreasonable to assume that a distinctly improved price of wheat might draw from them some 10 million acres.

With the recovery of rye production in Europe, including Russia, the foreign demand for rye, which was important during the war, has declined heavily, and seems destined to decline still further. Domestic demand for rye, either for food or feed, is not large. We have considerable areas that could readily be devoted to rye, with better yields than wheat, if a price stimulus were present. On the other hand, enhancement of wheat prices could draw considerable acreage from rye.

With the decline in the use of horses, the demand for oats has heavily declined, and prices have been depressed in spite of some tendency to use oats more widely as feed for other animals. Our average export of oats since the war has been only 21 million bushels, and with the recovery of agriculture in Europe the continuance of overseas export is not to be counted upon. The use of oats for human food requires but a small fraction of the crop and calls for selected samples at premium prices; hence, even if the demand for oatmeal were increased in consequence of higher prices for flour, the effect on demand for the crop would be inconsiderable. Oats have retained their place among farm crops, despite low prices, because of their value as a rotation crop, particularly in the Corn Belt. But an increase of existing price disparities could readily lead to expansion of wheat at the expense of oats.

The position of barley is especially difficult and growers are seeking alternative crops. Prohibition deprived barley growers of a large and relatively high-priced domestic market, and apparently it is not regarded as practicable to valorize American malting barley. Barley has made slow headway as an animal feed in this country and the standards and markets are in a state of disorganization. In price, barley

¹ *Agriculture Yearbook, 1920 and 1921.*

now stands practically on an equal footing with corn. Our average export of barley since the war has been only 20 million bushels,¹ which is a continuation of a corresponding pre-war trade; but it is a precarious trade.

There is also substantial possibility for increase in wheat acreage at the expense of corn, notably in Minnesota and the Dakotas (where the corn acreage has been expanding), in Kansas and Nebraska, and even in the corn states east of the Mississippi; but the extent of this influence would depend upon whether or not the proposed measures were effectively applied to corn and hogs. The application to corn itself would mean little, because of the limited cash marketing of corn. Our average export of corn since the war has been 66 million bushels. Part of this goes to Mexico, Cuba, and Canada—semi-domestic markets. In Europe our exports of dent corn are largely competitive with Argentine flint corn, which enjoys a definite preference because of its lower water-content and higher fat-content. Moreover, the production of corn in Europe is increasing, and importing countries are drawing more heavily upon Russia and the Balkan States. Applied to hog products,² the effect of the proposed measures upon the price of corn would be indirect and unforeseeable as compared with wheat, especially in view of the far greater difficulties to be anticipated in the application. We are heavy exporters of hog products, particularly lard. But our domestic and export trade has to face not only the recovery of hog raising in Europe, but a substantial drift, in both domestic and foreign markets, from lard to lard substitutes manufactured largely from vegetal oils.

With an enhanced wheat price, corn would tend to hold its acreage better than rye, oats, and barley, since its relations to hogs and cattle are better established. Dur-

¹ In the case of barley and the other coarse grains, it is necessary to separate shipments to neighboring countries from exports overseas. The former are a form of border trade, in reality semi-domestic, and it is to be expected that such exports would be continued even in the event of decline or disappearance of export overseas.

² In deference to the opinions of cattlemen, the pending bills do not contemplate the application of the measures to cattle.

ing the war, with guaranteed prices of \$15.50 for hogs and \$2.26 for wheat, corn lost acreage to wheat; but one must not infer too much from this. Corn and hog prices have followed a fairly definite cycle. In years of low prices of hogs and cattle, with an increased price of wheat, wheat acreage would gain at the expense of corn. Should the depredations of the corn borer become extensive, this would introduce a new factor, leading presumably to some increase of wheat acreage in place of corn.

Moreover, under present conditions there is a tendency to substitute corn for cotton east of the Mississippi, and of wheat for cotton in Oklahoma and Texas. The pending bills provide for a sort of valorization of cotton, of which the United States produces the bulk of the world's supply. Such valorization could hardly be successful without contraction of cotton acreage. In part directly, in part indirectly, this would favor expansion of wheat acreage.

In short, even disregarding hay and minor crops, one can hardly fail to anticipate substantial increase of wheat acreage by diversion from the crops above considered, even in the event of the application of the measures to corn, hogs, and cotton, if the contemplated price stimulus is given. The net reaction upon acreage of the several crops is unpredictable, but there is strong reason to believe that wheat would hold a preferred position in the minds of growers in a position to choose, because of the direct and obvious manner in which price-raising tactics could be applied.

There remains further the opportunity for bringing in considerable new wheat land. In the Southwest in particular, the prospect of direct sale to an export corporation of the Wheat Board would stimulate wheat growing and bring in new lands. There is a wide area of partly cultivated land lying just eastward of the Rocky Mountains that lends itself to large-scale wheat production with the use of tractor power and summer fallow. It is in this area that post-war contraction of wheat acreage was least, and that the tendency to expansion under present conditions is strongest. The development of this wheat growing rests, for the most part, on large capital in-

vestment, particularly in equipment. With large-scale operations, the production costs are low. If the country were definitely to undertake putting the wheat price at 50 cents above the Canadian price, and western capitalists were convinced that this policy were not exposed to reversal by early repeal of legislation or likely to be nullified by economic developments, a rapid development of wheat growing in these areas would unquestionably take place. The average yields per acre would be fairly high—not far below the present yields on many hard wheat farms; the grain would be clean, the quality superior, the protein-content, flour-yield, and millability high. It seems reasonable to suggest that, so far as agricultural potential is concerned, 50 million bushels of wheat could rapidly be added to our crop by this development, on lands now untilled or unsettled in a scheme of crop rotation. In addition, there is also considerable land in uncompleted reclamation projects in western states, some of which would lend itself to wheat growing under irrigation when these projects are completed in accordance with pending legislation.

On the Pacific Coast, apart from certain sections of Idaho, Washington, and Oregon, there is some tendency to contract wheat acreage. The population of the Pacific region is rapidly increasing and specialized crops and diversified farming are expanding. Nevertheless, high wheat prices would cause expansion of wheat acreage in this region. In many parts of this region lie considerable areas in which large yields of soft wheat can be raised under irrigation. Moreover, since the Pacific Northwest is a surplus-producing region which, for transportation reasons, must sell its surplus abroad, its prices are usually on an export basis. For such an area, as we have seen, the contemplated policy would promise the most substantial advantages and afford the maximum stimulus to expansion.

With respect to varieties of wheat, though the acreage planted to representative milling wheats would be increased, especially in the Southwest, probably the greatest stimulus would be given to soft white wheat, soft red winter wheat, durum,

and durum-hybrids. Some of these varieties, especially the mediocre grades, already occasion pronounced difficulties in exportation, and further enlargement in volume would provoke for the Wheat Board greater difficulties than those that might be expected to attend the exportation of representative wheats. We have assumed that the Board would establish differentials by regions for the varieties and grades of wheat passing into domestic consumption. If the export wheats were purchased on the basis of the same differentials, this would be regarded as parity between growers. But it might turn out to be administratively advantageous for the Board to pay somewhat higher prices for the exportable surplus in order to facilitate its collection. Under these circumstances, the growers of wheats naturally destined for export might be expected to receive some advantage over growers of representative wheats passing into domestic use.

All things considered, we find it impossible to resist the conviction that if the policy were adopted of holding the domestic prices of wheat 50 cents above the Winnipeg level, the wheat acreage might rise within a brief period to the figure attained in 1919, even if similar procedures were applied to corn, hogs, and cotton. If wheat alone were singled out for attention, the expansion would presumably be much greater. The war expansion of planted wheat acreage was roughly from 50-55 million to 77 million. A re-expansion from the present level of 57-61 to 77 million would require a much more moderate stimulus.

Granting the possibility that war expansion under a guaranteed price was due partly to height of the minimum fixed, the assurance of this as a minimum, and supplementary patriotic motives, one must recognize that the new measures, while perhaps weaker in these particulars, would contain substantial assurance of a government policy to support prices. The present measures, unlike the war measures, are urged to meet, not an emergency, but an underlying condition. Confidence in this policy, a fair certainty of some increase in price, and a tendency to count upon very substantial price advantages, would un-

questionably operate to contribute a notable stimulus to expansion of acreage. The only checks would be imposed by fears of a heavy rise of the equalization fee, the breakdown of the system, its nullification by other price developments, or a reversal of the policy. The advance of the equalization fee would indeed reduce the net gain per bushel, as shown in Table 1; but even the net gain contemplated with a crop of 1,100 million bushels would be very substantial. Under such circumstances, appeals by the Wheat Board to restrict acreage could not be expected to meet with much success. It is not unreasonable to infer that most farmers would regard the other contingencies as remote, and the promised advantages as substantial.

How little the equalization fee could be relied upon to repress expansion of acreage is made evident in figures employed by Representative Haugen in a hearing before the Committee on Agriculture of the House of Representatives on January 8, 1927:¹

THE CHAIRMAN. I desire to call your attention to the equalization fee and the net profits to the producers under the Haugen bill defeated in the last session of Congress, one so frequently characterized as "a tax bill."

If the bill had been enacted, and the domestic production for 1925 had been marketed, and the equalization fee, the tax referred to, had been applied as provided in the bill, the total advance in price on wheat, butter, corn, lard, and beef would have been \$1,497,333,600 minus the equalization fee of \$155,068,490, which would have left a net profit to the producer of \$1,342,265,110. The total advance in price of wheat in 1925 would have been \$450,500,000 minus the equalization fee of \$131,750,000, a net profit of \$318,750,000. The total advance in price on corn, beef, lard, and butter for the year 1925 would have been \$1,046,833,500 minus the equalization fee of \$23,318,490, a net profit of \$1,023,515,110.

The equalization fee and total net profit during 1925 on the various commodities would have been as follows:

	Equalization fee	Total net profit
Wheat, 1925.....	\$131,750,000	\$318,750,000
Butter, 1925.....	74,090	123,925,910
Corn, 1925.....	872,500	522,627,500
Lard, 1925.....	21,446,700	44,883,300
Beef, 1925.....	925,200	332,078,400
Total.....	\$155,068,490	\$1,342,265,110

Considering the profits that would have inured to the producers under the operation, I am unable

to see why producers should object to pay the cost of marketing their commodities at a profit of more than one billion dollars a year.

We concur in the view that wheat producers, if they were well advised, should not object to paying equalization fees of 132 million dollars to secure a gross increase in price of 450 million dollars. But why should wheat growers restrain wheat acreage if they could anticipate a net addition to their returns from wheat of 318 million dollars in a single year, or even the smaller addition we have predicated? The payment of equalization fees would merely mean that they would not reap the full gain suggested by the higher price. Rather than contract acreage, they would certainly be impelled to expand it.

One observes a tendency to blow hot and blow cold. When asked if the grower might not object to the equalization fee and regard it as a tax, advocates of the scheme reply: "Why, no; see how much he makes out of it." But when asked if the enlarged returns would not make for increased acreage, the advocates reply: "Why, no; see how much the equalization fee costs him."

There is still widespread belief not merely in the inevitability of surplus production but in the desirability of it. The hearings and debates are replete with illustrations of this view. For example, Representative Haugen stated in Congress on May 4, 1926:² "No; rather than to curtail production we should, as in the past, continue our appropriations to encourage and protect production." Representative Lozier went further, on May 10, 1926, and asserted:³ "In the last analysis the farmer's profit must be on his surplus products. . . . The larger the surplus the greater his profit, and the smaller the surplus the smaller his profit." While there is some truth in both statements, they seem completely to ignore the fact that increasing surpluses could be made remunerative to

¹ *Hearings before the Committee on Agriculture, House of Representatives, 69th Congress, Second Session, on H.R. 15963, January 6 and 8, 1927, Serial U, Part 3, p. 111.*

² *Congressional Record*, p. 8625.

³ *Ibid.*, p. 9075.

growers only at disproportionate costs to consumers.

Advocates of the proposed measure sometimes argue that the effect of higher prices on acreage is the same regardless of the manner in which the high prices are secured; that high prices due to short domestic crop, to reduced domestic acreage, or to crop failure abroad would exert the same influence on domestic wheat acreage as high prices secured through the scheme under consideration. This view we believe to be unfounded. There are indeed many farmers who are influenced primarily by current price, and who do not look behind it at the causes responsible for high or low prices. But to assume this to be characteristic of farmers generally is to attribute to them a much lower order of economic intelligence than we can believe they possess. Certainly farmers are accustomed, from long experience, to variations in prices inverse to the size of the domestic crop, and also, in the case of wheat at least, to favorable or unfavorable reactions upon domestic prices from crop shortages or surpluses abroad. Farmers generally expect variations in returns for their crop, from such causes; they count upon a reasonable average of returns over a period of years; and they are not, as a class, so foolish as to assume that a high price in a particular season will persist in the next except under similar conditions. If, however, a higher price is assured them by governmental action, or even a substantial margin over changing world prices, they will be relieved of their own responsibility for maintaining a moderate acreage as a condition of a satisfactory price. A high-price policy established by a wheat growers' co-operative association, operating with the assistance of a Wheat Board and with capital derived from an equalization fund, would presumably have the same effect on acreage as if conducted by the Wheat Board itself.

To another view frequently urged, exception must be taken. It is argued that a price advance is necessary merely to counteract influences making for reduced acreage. Ignoring the question whether such a reduction would be desirable, this argument can hardly be urged at present. Already,

after one year (1924-25) of distinctly improved wheat prices as a result of a poor world crop, and a year (1925-26) of even higher American prices as a result of a short crop of winter wheat in this country, a tendency to expansion of acreage is noticeable. Despite unfavorable conditions for fall planting, which prevented farmers from sowing the intended fall acreage, the acreage planted for the crop of 1925 was higher than for the crop of 1924; the intentions to plant a still larger acreage for the crop of 1926 were defeated by unfavorable conditions for autumn sowing; and for the crop of 1927, though again the full intentions to increase winter-wheat acreage were not realized, a considerable expansion is reported. If the contraction has run its course, and expansion is already under way, assurance of a domestic price far out of line with world prices can hardly fail to promote further expansion.

Furthermore, in the settled parts of the country, with more or less diversified agriculture and crop rotation, new capital is not required to increase wheat acreage in replacement of other cereals. According to the census of 1920, in the thirteen principal wheat-growing states east of the Rocky Mountains (Michigan, Ohio, Indiana, Illinois, Missouri, Minnesota, North and South Dakota, Montana, Nebraska, Colorado, Kansas, and Oklahoma), only 44 per cent of farmers in possession of full ownership of their farms reported mortgage debt on them. According to the agricultural census of 1925, only 40 per cent of the corresponding class of farmers, reporting on the same basis, reported mortgage debt. Obviously, large borrowings by farmers in these states could be undertaken if they desired. In Texas and Oklahoma, wheat could replace cotton to a considerable extent with little need for fresh capital. The anticipated increase of acreage on the plains east of the Rocky Mountains would indeed require fresh capital; but this for the most part would be a question of large-scale operations, at costs of production known to be relatively low, and experienced operators would have no difficulty in securing capital for such wheat growing. The whole banking and credit system of the country is now

designed to make borrowing easy for farmers. Country banks and town merchants have always been willing to loan on land settlement and expansion, and would presumably do so again in the event of the operations of a Wheat Board, regardless of the bank failures of recent years. A governmental policy of higher prices, and the higher price itself, would tend to supplement operative returns with speculative returns; faith in rising land values would be revived, and fresh capital would flow wherever needed into expansion of wheat acreage.

We do not wish to exaggerate the possibilities or overstate the probabilities of expansion. Indeed, our analysis predicated much more modest advances in price and in total returns to growers than leading advocates of the new measures employ in their illustrations. But we find it impossible, in the light of war experience and the present position of American agriculture, to avoid the conclusion that a notable expansion of wheat acreage could and would be the response to a national policy designed and administered to enhance the returns to wheat growers in the substantial degree in contemplation.

EFFECT OF INCREASED ACREAGE ON WORLD PRICE

Suppose now, the planted wheat acreage were to increase to 77 million acres: what would this mean for the crop? It is impossible to say precisely, first because the crop depends more upon yield than upon acreage, and second because the additional acres might yield more or less per acre than the present acreage. The three smallest crops of recent years (1916, 1917, 1925) were produced from a planted area averaging a yield of only 11.2 bushels per acre planted. The three largest crops of recent years (1915, 1918, 1919) were produced from an area averaging a yield of 14.3 bushels per acre planted. If abandonment were heavy and the yield poor per harvested acre, the crop might easily fall below 800 million bushels; under favorable conditions it might easily exceed 1,100 million bushels. On the average, the increase of merchandised crop, over the average of the past

three years, might be conservatively estimated at 150 million bushels. It involves no exaggeration to suggest that the early effect of the proposed measures would be to expand the production of wheat in this country by something like 100–200 million bushels beyond what would be produced in the absence of these measures.

What would be the price reaction of such an increase of American crops? Granting that the initial effect of the measures would be to enhance the domestic price substantially above the level that would otherwise have prevailed, we must not overlook the secondary and sequential effects. Such an addition to world supplies of wheat would depress prices in world markets. American domestic prices might be kept 50 cents above the Winnipeg prices, but the Winnipeg prices might easily be so much reduced that domestic prices would be little or no higher than if no such measures were adopted.

The normal world crop of wheat at present, including Russia but exclusive of China, is close to 4,000 million bushels. An addition of 100–200 million bushels to 4,000 million seems so small as to be insignificant. But experience shows that it is not the size of the world crop, but the relation of export surpluses to importers' demands that is primarily responsible for the level of world prices. The volume of international trade rarely exceeds 800 million bushels, and averages considerably less. The addition of 150 million bushels to existing exportable surpluses would be a price-depressing factor of major importance.

The so-called world price of wheat is a relatively wide range of prices for wheat of different varieties and grades that find their most prominent registration point at Liverpool. Quite as a block, the range of prices moves up or down or remains stationary in the course of a season and from season to season; within the block, however, there are continuous changes in prices of different varieties and qualities of wheat. Behind the registration of the world price at Liverpool, so to speak, stands the demand of European and ex-European countries for import wheats; in front of it, so to speak, stand the exportable surpluses of India, the

United States, Canada, Argentina, Australia, Russia, and the Danube basin. The export surpluses, not the total world crop, constitute the supply factor in the equation determining world prices. The demand factor is the requirements of importing countries, as determined in part by the size of their crops—of wheat primarily, but secondarily of rye, maize, and potatoes—and in part by trade balances, currency conditions, and other factors affecting purchasing power. Efferent influences proceed to the exporting countries from Liverpool; afferent influences proceed to Liverpool from the exporting countries. Within the range, market influences in different exporting countries may operate in unison or in opposition.

The Canadian price is reflected more or less directly from Europe, but the size of the Canadian export surplus is perhaps the most important single factor on the Liverpool market, and the rate of marketing of Canadian wheat exerts a large influence upon short-time price movements. The world price, as defined above, affects prices in the United States largely in three ways: (1) in the competition at incoming markets between c.i.f. duty-paid imported Canadian wheat and American wheat, (2) through direct competition, in markets of the world, between export wheat of the United States and those of the other exporting countries, reflected back to cash markets in the United States, and (3) through the relations between futures prices in the different contract markets of the world, that are open to traders everywhere.

Now an increase of 150 million bushels in the exportable surplus of the United States not only seems large in a world trade of 700–750 million bushels; it is large. Let one go over the development of the wheat price in any crop year. The first crop in a prominent exporting country is that of the United States and whether it has for export 50 million bushels more, or as much less, is the first fact of importance in the determination of world price. Then comes the Canadian crop; whether this crop has for export 50 million bushels more or that much less is the second important factor in the wheat price of Europe during the autumn. Late

in the year appear the Argentine and Australian crops; whether these countries will offer for export 150 million bushels, or 200, or 250 million, is the third crucial factor in the determination of the wheat price in Europe. These factors—the sizes of the exportable surpluses of the United States, Canada, Russia, Argentina, and Australia upon the background of the European domestic crop—are the dominant factors in the determination of world price. Russia has been less important in recent years, but may be expected to become increasingly important with each year. Everyone conversant with the world price of wheat knows that a variation of 100 million bushels up or down in the easily available exportable surplus is a price factor of first order in the opposite direction.

In the crop year 1925–26 we have a striking instance of the effect of a change in apparent exportable surpluses. European crops were large. Short crops were harvested in India and the United States. But the Canadian and Russian crops were large, and the Argentine and Australian crops promised well. Large exports were expected from Canada, Russia, and the Southern Hemisphere. Within two months, early in the crop year, prices in world markets declined by 20 to 30 cents a bushel. Then it became apparent that Russian exports would be very moderate, and that the Argentine crop had suffered serious damage. Despite enlarged estimates of the Canadian crop, the calculable export surpluses were reduced by around 100–150 million bushels. Within a few weeks prices in world markets rose by some 40 cents a bushel, and the level throughout the rest of the season remained probably 30 cents a bushel higher than it would have been except for these changes in export surpluses. Though one cannot speak with precision, it is not an exaggeration to suggest that a net increase in the export surplus of the United States, of the dimensions suggested, would probably cause world prices to be some 30 cents a bushel lower than they would otherwise be.¹

¹ The degree of depressing influence exerted by this increase would naturally be greater if the world price were high than if it were low.

Because of variations in yield, here and abroad, and by reason of the multitude of other factors affecting the price of wheat, the effect of increases in acreage here would be obscured. In some years, the influence would be much greater, in others less. But it is fallacious to assume that a procedure of maintaining a 50-cent margin between domestic prices and Canadian prices would raise domestic prices 50 cents above what they would otherwise be. In large part—in some years entirely—the decline in world prices in consequence of enlarged acreage, production, and export surplus here, would nullify the advantage derived by maintaining the margin. This reaction would not occur immediately, but it would be felt as the domestic acreage was increased; together with the advance of the equalization fee it would tend to check expansion of wheat acreage. But the check would not operate heavily until acreage had been substantially enlarged.

It may of course be argued that world wheat consumption is increasing, and that increasing world demand will readily absorb our increased exports. There is indeed evidence of increasing per capita consumption of wheat in the Orient, and of recovery of per capita consumption of wheat in certain countries of Europe, including Russia; and the natural increase of population tends to expand wheat requirements. On the other hand, a number of important wheat-consuming countries show a declining trend of wheat consumption per capita. More important, however, is the rising trend of wheat production in Europe, in Russia, in Canada, Argentina, and Australia. Apart from any measures taken by the United States, the danger of overproduction of wheat, at least for the international market, appears greater than the chance of underproduction.

If then, after the expansion of wheat acreage in the United States had been stimulated by the new policy, world prices were depressed by the size of our exportable surplus, the American wheat grower would lose not merely by the advance in the equalization fee, but by the depression of the Winnipeg price. Gradually, perhaps, but none the less surely, the net price ad-

vantage to growers would be largely or wholly wiped out. As this occurred, flour and bread prices would tend to decline from the high levels to which the operation of the scheme had advanced them, but to remain considerably higher than if no such measures had been adopted, and without corresponding net benefit to the producers. The total value of the wheat crop might be larger than that of a smaller crop without the new policy, though this would be partially offset by reductions in other crops. The business of elevators, banks, insurance companies, railways, steamship lines, flour mills, and exporters, would be increased, but this would not benefit the grower.

What, then, would be the position of wheat growers? Acreage would be expanded; wheat would be grown at higher marginal costs; returns would again be depressingly low; contraction in acreage would again be in order. Again, as in post-war years, the process of contraction would be painful; a recurrence of agricultural depression could be expected. Again it would appear that the producers on the new lands brought under cultivation would contract little, so that the major burden of contraction would fall on the older wheat-producing regions. The experiment would have been tried and found wanting. But it would leave a fresh maladjustment of agricultural values and production, a fresh problem of restoring the equilibrium of agriculture. The greater the success of the scheme in the initial operations, the greater would be the resulting maladjustment.

In short, the course of events to be anticipated from the successful operation of the proposed measures, over a period of a few years, would be somewhat as follows: an initial and substantial price advantage to American wheat growers, largely at the expense of consumers; a stimulus to expansion of wheat acreage, at higher costs; a gradual increase in our exportable surplus; a depression of world prices and a rise in the equalization fee; the substantial nullification of the price advantage to growers, with only partial relief to consumers; and a fresh necessity for contraction of wheat acreage and painful readjustment of agriculture.

VII. SUMMARY AND GENERAL CONCLUSIONS

We are now in a position to summarize the principal results of our analysis, and to indicate, along broad lines and on certain stated assumptions and predications, our inferences and conclusions as to how a Board, operating in wheat on the principle of segregated marketing with an equalization fee, could be expected to work.

We interpret the proposed measures as designed primarily to raise the domestic price, and only secondarily to stabilize prices. We assume that only a substantial increase of price would be deemed worthy of attempting. To make the discussion concrete, we have assumed in the present study that the Board would undertake to maintain an American level of wheat prices 50 cents above the moving Winnipeg price. This would mean a substantial enhancement of American prices, but not by as much as 50 cents per bushel, since American wheat prices, under the present tariff and apart from the new measures, range higher than Canadian prices. We predicate a tariff duty high enough to permit the Board to drive up domestic prices to this level behind the tariff wall.

The proposed measures would involve a huge experiment, in some respects analogous to the war-time control of the wheat trade and milling industry. No one can predict just how they would work. There is no certainty that a Board, chosen as the various bills have suggested, would be adequate to the task. At best, the magnitude and complexity of the problem would be such that a breakdown of the machinery, under various kinds of strain, is quite conceivable.

Nevertheless, we are inclined to believe that, under certain conditions, the measure would be found workable from the standpoint of administration. These conditions would include: (1) the appointment of a Board composed of men who would command respect for experience, judgment, vision, and courage, and who would evince ability to work together, to draw upon needed technical skill in various lines, and to enlist and retain the support of the growers and the business interests involved;

(2) reasonable assurance that the policy of Congress and the policies of the Board would not be subject to arbitrary reversal or to vacillating execution; (3) the availability of working capital adequate for all emergencies; (4) the conduct of operations with a minimum of disturbance to current relationships and practices in the grain trade and milling industry, including operations on the grain exchanges; (5) the conclusion of effective working agreements with elevators, mills, and exporters, as well as with co-operative marketing associations; (6) a general disposition on the part of the Board to limit, rather than to magnify, its inescapable responsibilities.

The working capital actually required by the Board would vary greatly from year to year, as well as within the season, and according to the policy of the Board in limiting or magnifying its problems. Other things being equal, the requirements would be larger in the earlier years than after experience had accumulated. They would be smaller if growers would follow the advice of the Board in respect to rate of marketing, larger if growers tended to ship their wheat immediately after harvest, and larger still if the entire crop were pooled. In any case, sufficient grain would have to be purchased, by the Board or at its direction, to maintain the standard margins of domestic prices over the Canadian price. Assuming a conservative policy in respect to purchases, exports, and carryover, operating requirements might easily run into hundreds of millions of dollars. They would commonly be heaviest in the early months of the crop year, when the carryover was supplemented by heavy purchases of winter wheat, and when only a small part of the equalization fees had been collected. Provided advances from government funds could be secured and arrangements for bank loans on the security of wheat could be satisfactorily made, we assume that the Board could carry through its operations without embarrassment for lack of working capital.

We believe the Board would find it impossible rigidly to segregate operations by

crop years. Smoothness of operation would be promoted by continuous rather than intermittent operations, although the transition from one crop year to another would inevitably present difficulties. The fairest distribution of costs of operation among growers would be accomplished by fixing the equalization fee at such a point, for each crop year, as to yield funds just sufficient to cover costs and losses involved in that year's operations. Exact calculations, however, would be impossible. If operations were continuous, procedures would be simplified by the accumulation of operating reserves out of equalization fees, especially by assessing liberal fees in years when conditions promised unusually favorable prices to growers. The further accumulation, out of equalization fees, of a working fund sufficient to make the Board independent of government funds, would be a conservative policy and would facilitate eventual operation by a national growers' co-operative; but it would not promote fairness in distribution of the burden and would involve the Board in heavier responsibilities. Collection of equalization fees at the mills would be administratively easiest, but collection at country elevators and local mills would have important advantages in bringing the equalization fee effectively to the attention of growers.

The disposition of the surplus over domestic requirements would involve the sale of much low-grade wheat on the domestic feed market, a high degree of skill in disposing of the export fraction, and the effective utilization of exporting experience on the part of millers and exporters. The Board would do wisely to hold down the carryover to modest dimensions, rather than incur the costs and risks involved in accumulating huge carryovers in years of large world crops to be disposed of in years of small world crops. The tendency to expansion of wheat growing in other countries, and in the United States under the stimulus of enhanced prices, would increase the dangers of a policy of maintaining heavy carryovers.

In the early years at least, the real burden of the proposed operations, despite the distribution of direct costs and losses to

growers through the equalization fee, would fall upon consumers, predominantly through increased prices of flour. There is small prospect that any material part of the increased cost of wheat would be absorbed by millers, bakers, or dealers. Rather it is to be anticipated that, on the whole, the usual percentage margins would be maintained if they were not increased. A positive addition to the cost of living is to be anticipated, though in various ways it would be obscured. The increase would fall most heavily upon farmers and industrial classes receiving low incomes. Nevertheless, the probable increase would be relatively small. Under conditions of prosperity it would not be seriously felt. Even at the increased price, flour and bread would remain relatively cheap foods. Per capita consumption of these products is already low, and no appreciable contraction of consumption is to be apprehended under the proposed scheme. Indeed, under less prosperous conditions, consumption of these as well as cheaper foods might be expanded rather than curtailed.

We envisage four principal sources of danger of a direct breakdown of the scheme. First, there is the possibility that the Board could not secure the competent technical organization and managerial super-ability, corresponding to the magnitude of the operations which, on account of regional differences in wheat growing, would present peculiar difficulties. Second, there is the possibility that the Board would be swamped with a large and relatively unsalable surplus in a year of coincidence of large domestic crop with large world crop and low wheat prices. Third, there is a possibility that several years of successive large crops and low prices might so magnify the carryover and losses on exports, and so increase the difficulty of collecting adequate equalization fees, as to break the Board under the burden of carrying charges and frozen purchases. Finally, there are the dangers from vacillation in the Board's policy, withdrawal of political support from Congress, and the collapse of growers' confidence in the undertaking.

The effect upon wheat acreage we regard as the crucial point of the entire proposi-

tion. The mere adoption of the policy would afford a profound stimulus to expansion of acreage. The greater the initial success in administration, the less the opposition from consumers, the higher the satisfaction of the grower with the enhanced price, the greater would be the influence upon wheat acreage. In view of the rapid expansion of wheat acreage during the war, from some 55 million acres to 77 millions in 1919, and the tendency to expansion already in evidence, we cannot escape the conclusion that an early increase of planted wheat acreage from 60 to 77 million acres would take place, even if the measures were applied to corn, hogs, rice, and cotton as well as to wheat; and that a much larger expansion would occur if the measure were effectively applied to wheat alone. This expansion would be the direct result of the adoption of a price-raising policy, and of the prospective net price advantage to wheat growers. The same factors would lead to rise in land prices. The rise of the equalization fee, together with appeals of the Wheat Board to restrain acreage, would in our opinion oppose quite inadequate obstacles to the tendency to expansion. As during the war, expansion would occur partly by diversion from other crops, partly by utilization of untilled land now in farms, partly by breaking up new lands for wheat. These increases might be expected to add to our surplus within a few years, on the average, at least 150 million bushels of wheat, some of it produced at higher costs per bushel, and much of it of types and qualities for which there is no advantageous domestic market.

Such an addition to our exportable surplus would be large in proportion to the volume of international trade in wheat, which seldom reaches 800 million bushels. In view of the tendency to expansion of exports from Canada, Argentina, Australia, and Russia, and the recovery of agriculture and wheat production in Europe, we cannot escape the conclusion that such an increase in America's average exports would notably depress world wheat prices. Sequentially, the Canadian price of wheat

would be depressed, and the equalization fee to cover losses on exports would be increased. The result might easily be that, within a few years, the net price received by American wheat growers would be little or no higher, and might even be lower, under the operation of the scheme than if no such measures were adopted.

Such an outcome would be highly prejudicial to the interests of wheat growers. Despite some advantages enjoyed in the intervening years, both in current returns for wheat crops and in improved land prices, they would face anew a condition of increased costs and unremunerative returns, the necessity of painful contracting of wheat acreage, and a decline in land prices. The burden would fall most heavily upon the great body of wheat growers all over the country, not upon the growers who had broken up new land; and it would be heavier because of irretraceable expansion in certain areas.

We have endeavored to state and analyze the proposals fairly, to assume intelligent, able, and earnest efforts to carry them into effect, and to consider how the inherent difficulties might be met. We conclude that, although successful operation cannot be prophesied, the scheme could be made to work; but that its net outcome, within a few years, would be to the serious disadvantage of wheat growers and would create fresh maladjustments in American agriculture. The greater the early success of the measure, the greater would be the prospect for its ultimate failure to achieve the results desired by growers, and the necessity for painful readjustment after the disappointment was recognized and admitted.

In the foregoing discussion we have proceeded on the assumption that the Board would undertake to raise domestic prices to a level 50 cents above the Winnipeg price, and that the tariff barriers would be such as to permit this objective to be attained. In the following study we shall consider the much more limited results that might be accomplished if the scheme were put in operation with the present tariff of 42 cents.

This study is the work of Alonzo E. Taylor and Joseph S. Davis, assisted by Elizabeth M. Brand

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