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PRICE SPREADS AND RESTRAINT OF UNITED STATES WHEAT EXPORTS

WHY did the United States, with an exportable surplus of record size, export so little wheat and flour in 1931-32? It was not for lack of wheat. The export surplus was unprecedentedly large, the fraction exported unprecedentedly small. The inward carryover was abnormally heavy, the outward carryover still more so. Restraint of exports and increase of stocks were not desired by the producers, the trade, or the government. The Grain Stabilization Corporation was liquidating, not accumulating. The Corporation, the private trade, and the co-operatives all sought export business. Wheat growers widely recognized that continued heavy stocks constituted a major price-depressing influence. The fact is that wheat prices here, though distressingly low, were too high to permit liberal commercial exports; importing countries got their import supplies cheaper elsewhere.

This phenomenon has appeared frequently in the past, not only in years when our export surplus was small but in other years when world wheat prices were low. It has been much in evidence during the past four years, and strikingly in the present crop year. Here we undertake an inquiry into the forces that are responsible for keeping United States wheat prices above an export basis in a period when our exportable surplus is very large, and particularly in 1931-32, when the Stabilization Corporation was not "taking wheat off the market" but disposing of much of its large stocks.

Commercial exports from the United States, nevertheless, frequently move out with Chicago futures above export parity with Liverpool prices. The conditions permitting such exports are examined in some detail.

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PRICE SPREADS AND RESTRAINT OF UNITED STATES WHEAT EXPORTS

Among the generalized ideas most firmly held in the field of international trade in wheat are these: A world price is determined by conditions of world supply and demand; in countries with a large export surplus, wheat prices tend to stand below those in the major importing markets by the amount of shipment costs; and under such conditions export surpluses pass to importing countries. In various issues of *WHEAT STUDIES* we have pointed out that these broad views are often too crudely expressed or too rigidly interpreted. They require essential refinements and qualifications before being accepted as accurate generalizations from past experience or safe guides in looking to the future. The time is ripe for subjecting the last two of these "principles" to further examination in the light of recent history.

During each of the past four crop years the United States has had, from carryover and new crop, a large exportable surplus of wheat; but each year United States wheat prices were more or less continuously above normal "export parity," exports were restricted, and the carryover increased to successively more abnormal heights. These years were alike in that wheat prices were very low. But they differed greatly in other respects. The first, 1928-29, was a year of widespread "prosperity" and unparalleled volume of world wheat trade, and the Federal Farm Board had not yet been established. The next year, in striking contrast, was one of trade recession and decline of price level, marked by unusually light international trade in wheat; and the new Farm Board undertook some price-supporting measures. The third year was one of deepening depression and liberal world wheat movement, and the Farm Board authorized and

financed so-called "stabilization purchases" on a huge scale. The fourth year, 1931-32, was marked by financial crises at home and abroad and further declines in business, with a somewhat reduced international movement of wheat; but no further stabilization purchases were made and well over half of the heavy stocks of stabilization wheat were liquidated. Yet again, under these sharply contrasting conditions, the experience was repeated: domestic prices, though distressingly low, were too high in relation to foreign markets to permit liberal exports, and the carryover rose to a still more extraordinary peak. Indeed, although the exportable surplus was larger than ever before and governmental purchases in support of prices were discontinued, prices in the United States stood so high relative to prices in import

markets that net exports were no greater percentage of the export surplus than in 1930-31. That exports from the United States should be small, relative to the exportable surplus, in a year of low prices is to be expected. The United States has long manifested a tendency to resist declines in wheat prices and to hold strongly at low prices. In the thirty years before the Agricultural Marketing Act was passed, there were several in which a substantial proportion of the exportable surplus was held back. Prior to 1929-30, however, net exports of wheat and flour never fell much below 50 per cent of the exportable surplus.¹ In 1930-31 net exports fell slightly below 30 per cent of the exportable surplus, similarly computed.² That they were even so high, in the face of the marked resistance to the price

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markets that net exports were no greater percentage of the export surplus than in 1930-31. That exports from the United States should be small, relative to the exportable surplus, in a year of low prices is to be expected. The United States has long manifested a tendency to resist declines in wheat prices and to hold strongly at low prices. In the thirty years before the Agricultural Marketing Act was passed, there were several in which a substantial proportion of the exportable surplus was held back. Prior to 1929-30, however, net exports of wheat and flour never fell much below 50 per cent of the exportable surplus.¹ In 1930-31 net exports fell slightly below 30 per cent of the exportable surplus, similarly computed.² That they were even so high, in the face of the marked resistance to the price

¹ Cf. "The Changing World Wheat Situation," *WHEAT STUDIES*, September 1930, VI, 438-39.

² Computations below, p. 10, are on a slightly different basis.

decline and the fact that pegged prices made ordinary exports virtually impossible during more than half of the year, is to be explained on the ground of Stabilization Corporation exports presumably made at a loss. During 1931-32, however, with governmental purchases in support of prices removed, and with the Grain Stabilization Corporation selling abroad, partly through regular channels at a loss, and partly to governments under conditions more favorable than any available to members of the trade, the combined exports of the regular trade and of the Grain Stabilization Corporation amounted again to slightly below 30 per cent of the surplus. Exports through private channels in 1931-32 amounted to only about 46 million bushels of wheat and of flour as wheat exclusive of flour milled in bond from Canadian wheat. It is difficult to calculate precisely the amount of the surplus available for export through private channels, but it is clear that actual exports by the private trade were less, perhaps much less, than a third of the export surplus not controlled by the Grain Stabilization Corporation.

Neither the government, the trade, nor the producers have sought to restrict exports and to increase the carryover. The very opposite was desired by all interests. The Grain Stabilization Corporation sold nearly all of its cash wheat except that reserved for disposition through the Red Cross. The private and co-operative trade sought export business. Producers generally recognized that liberal exports and a reduction in carryover would promote future price recovery. Yet at the close of the year wheat stocks in farmers' hands, in city mills, and in the hands of private merchants were all at or near record levels, and the total carryover privately owned was larger than ever before.

Nor was the actual outcome commonly anticipated. In June 1931, it was strongly urged that the Grain Stabilization Corporation withhold all its wheat for a sharply higher price, or for a year, lest prices fall drastically further. In the summer of 1931, after the Farm Board announced a policy of restricted sales by the Corporation, there was a general expectation that the price spreads between domestic and foreign markets would necessa-

rily be such as to facilitate liberal if not large exports¹ and a reduction in the carryover. But as an outstanding feature of the crop year there developed during 1931-32 a difference in the opinion on the value of wheat held in this country and abroad; and in the United States neither liberal exports nor a reduction of carryover materialized.

The facts, in the face of accepted doctrine, recognized desiderata, and numerous forecasts, call for explanation. To make this requires an inquiry into the conditions that determine the volume of wheat exports from the United States and the price relationships affecting that export trade. The present discussion will be concerned chiefly with the situation in 1931-32, but involves consideration of more enduring influences which continue to operate in the present crop year. In the main, the discussion will deal with exports of wheat grain, though to some extent its conclusions serve to explain the limited commercial exports of flour milled from United States wheat.

The major question to be answered is not, after all, why United States wheat exports have been so restricted in recent years and why commercial exports were so low in 1931-32. The more fundamental question is, Why were United States wheat prices in 1931-32 so persistently above normal export parity? A secondary question is also important: With price relationships as they were, how could even so much wheat be exported on private commercial account?

By way of background for answering these questions, it is useful to summarize some pertinent facts concerning importation and exportation of wheat, with special reference to United States wheat exports to Europe.

¹ See the Department of Agriculture's monthly reviews of *The Price Situation* and *World Wheat Prospects* in the summer of 1931. Broomhall's forecast of shipments from all sources combined was remarkably accurate for 1931-32, but his forecast of shipments from the United States, maintained from August 19 to February 3, was 224 million bushels; this was around 100 million bushels too high. Our mid-December forecast of United States net exports plus shipments to possessions, 135 million bushels (*WHEAT STUDIES*, January 1932, VIII, 248-60), proved very close to the truth, though our forecast of the world total proved too high.

I. THE EUROPEAN WHEAT IMPORT TRADE

It is customary to classify the wheat-importing countries broadly into Europe and ex-Europe. Demand for wheat (highly inelastic in any large area) is ordinarily more elastic in Europe than in the United States, but less elastic in Europe than in ex-Europe, taking each as a whole. An occasional year may suggest that the wheat demand of Europe is more elastic than that of ex-Europe; but over longer intervals it seems clear that high price reduces import purchases and low price stimulates import purchases relatively more in ex-Europe than in Europe. Protective measures, particularly the flexible ones now common in Europe, serve to modify consumption and stocks, as recent experience has plainly shown. We shall limit this analysis mainly to Europe because of the greater magnitude of its imports and the characteristics of the price material. Importing Europe virtually means western Europe, for comparatively little wheat is imported from overseas by countries lying east of Germany, Switzerland, and Italy.

With all allowances for substitution and adjustments, there is an irreducible minimum of import wheat necessary during any year in western Europe; on the other hand, there is a maximum limit of import wheat determined by commercial advantages. The range is wide. During the five crop years ending with July 1931 the net wheat and flour (as wheat) imports of importing Europe ex-Russia ranged from a high mark of 675 million bushels in 1926-27 to a low mark of 498 million bushels in 1929-30, with an average of 618 million bushels.¹ The wheat imports of Europe are supplementary to the domestic supplies of wheat, rye, coarse grains, and potatoes, in the order stated.

There has long been a tendency, well marked in some countries (e.g., Italy), for imports to run lighter in the months after harvest when domestic wheats are freely available, and heavier as domestic supplies are worked down. This tendency has been greatly accentuated in the past three years by

flexible tariffs and milling regulations which severely restrict the miller's use of foreign wheats early in the season and are gradually relaxed as the season progresses. The best milling practice would be to employ a uniform blend throughout the year, but this is not practicable for most countries.

European wheat importations are further modified by reciprocal considerations of substance and of price. Each year's operation represents a compromise between these two sets of considerations. The net objective is to cover the requirement at the lowest cost with the greatest satisfaction of the consuming population. The most important of the practicable adaptations are the following:

1. The seasonal rate of import may be varied. In one year more wheat may be imported from the Northern Hemisphere during the autumn; in another year more will be imported from the Southern Hemisphere during the winter; or a heavy draft may be made on old-crop Northern Hemisphere wheat during the early summer. Considerable leeway usually exists; hence import demand is rarely imperative within a month or two.

2. A shifting of types of wheat may be practiced. Europe imports hard spring bread wheat, hard winter bread wheat, soft red biscuit wheat, soft white biscuit wheat, and durum wheat for manufacture of alimentary pastes. When price differences between types are wide, mills modify their grinding and blending and shift their imports correspondingly.

3. Shifting among grades is often practicable. In one year No. 1 Manitoba Northern is found necessary, while in another year No. 3 will serve the purpose. The proportions of the various grades of wheat available in the major exporting countries will be taken advantage of by European importers to secure the desired flour quality at minimum cost.

4. A considerable proportion of the wheat imports of Europe are "filler wheats." A mill blend usually contains a "backbone" wheat, a "strengthening" wheat, and a "filler" wheat. Depending on the characteristics of the backbone wheat and the strengthening wheat, the

¹ Cf. WHEAT STUDIES, December 1931, VIII, 117.

filler wheat may be chosen from a wide though varying range. The choice made affects the distribution of imports from the different exporting countries. Such shifts have frequently been to the advantage of Argentina as against the United States.

5. There may be special reasons—highly important during the present financial stringency—affecting the sources from which Europe draws its wheat imports. The wheat importer of Europe is not merely a grain merchant; he is part of a political system and also part of an economic system. Between two fairly competitive prices in the commodity sense, financial or political conditions or sentiment may turn the scale determining the importation of wheat from one country rather than another. For example, if Kansas, Argentina, and Hungary offer comparable wheats at the same price, the importers in Great Britain, Germany, France, and Italy may find, outside of purely commercial considerations, reason for giving first the Hungarian wheat and next the Argentine wheat a preference over the wheat of Kansas. In this regard the United States nowadays stands usually at a disadvantage.

6. Finally, wheat imports into European countries are shifted to conform to internal price policies. Import tariffs are levied to raise farm prices of European wheats. To effectuate such tariff protection, milling regulations are established controlling the proportions of foreign and domestic wheat. If the permissible quota of foreign wheat is low, this will favor imports from one country; if it is high, imports from a different country may become advantageous. For example, if very little imported wheat may be used in the mill mix, the miller presumably tends to import the hardest wheat to strengthen his flour as much as possible. The prevalent policy of seeking self-containment in wheat in European countries operates not merely to restrict the gross volume of imports, but also to bring about shifts in the countries from which these imports are sought.

In each wheat-growing country of Europe are quoted domestic prices of home-grown wheats, often greatly modified by protective measures. In each importing country are

quoted domestic prices of imported wheats, even more grotesquely modified by tariffs. Importers and millers are also cognizant of the prices of domestic wheats in exporting countries, and they follow closely the cash and futures wheat prices on European grain exchanges, especially Liverpool prices. There are thus four sets of prices which European importers use in connection with commodity considerations in determining import operations. It is not too much to say that each bid wired to an exporting country represents, skillfully or faultily, the correlation of these considerations; and the exporter is not usually in position to discern the varying influences of the several considerations that lie behind the bid.

The major exporting regions are Canada, the United States, Argentina, Australia, Russia, and the Danube countries. Some of these countries raise both winter and spring types of wheat; all of them produce different varieties of wheat; and in most countries there are several grades of each variety. In each country outside of Russia there is a range of domestic prices for domestic wheats, expressive of varying relations of quantity and quality in types and varieties. These prices in each of the major exporting countries (outside of Russia) influence wheat prices in Europe and are influenced by wheat prices in Europe. Prices in the major exporting countries react one upon the other. At Liverpool is perhaps to be found the best expression of the net price influences of circumstances in importing Europe reflected outward to the exporting countries, and likewise the best expression of the price influences of circumstances in the exporting countries reflected inward to importing Europe. The traditional view of the Liverpool price as the determiner of world wheat prices exaggerates the influence of the Liverpool price upon the outside price. Prices of futures in Liverpool and Chicago need not move parallel, and each has its own orbit (and penumbra), so to speak, of price fluctuation; but certainly Chicago influences Liverpool as much as Liverpool influences Chicago. The price influences are essentially bilateral, with predominance sometimes on one side and sometimes on the other.

II. TECHNIQUE OF WHEAT EXPORTING

The mechanism of the international wheat market must be understood if the price relations are to be appraised. This mechanism includes technique, tactics, and strategy. The wheat crops are harvested in a well-known sequence, with varying earliness or lateness. Of the major exporting countries, three are in the Northern and two in the Southern Hemisphere. The strength of holding and the elasticity of supply are different in these five countries. The flow (and rate of flow) of wheat is influenced by supply, quality, and price in importing and exporting countries, and by circumstances in transportation. For the most part, individual purchases of wheat in international trade are initiated by the importers. With its carryover from the old crop and estimated harvest of the new crop, each importing country knows approximately what will be required during the season and plans to fill requirements in the most advantageous manner, price and milling circumstances considered. Daily cash prices are quoted in all major exporting countries except Russia, futures in all except Russia and Australia.

The wheat exporter does not appear as a daily buyer on the United States market; exporters may not buy for days or even weeks at a time. The wheat export trade is sometimes portrayed as though there were an export pit in the grain exchanges (like the posts in the stock exchange) where all export transactions receive separate treatment, where buyers stand ready to take all wheat offered at a stated price. In fact, however, the export deals are scattered transactions in the mass of domestic deals. The exporter buys usually to fill an order, when he has accepted a bid. Type, grade, and quality are usually prescribed; the order may be f.o.b. or c.i.f., usually the latter. The bid may be a named flat figure, or more commonly an offer at a premium or discount on a futures price. Time and method of shipment may be prescribed by the buyer or left to the exporter. The exporter accepts the order in the expectation of a net profit of perhaps a quarter of a cent a bushel. In order to secure this, he must be familiar with qualities, prices, and locations

of spot wheat; and skill as a merchant is quite as important as facility in hedging. With the utmost skill in hedging and chartering, it is rarely profitable to buy wheat in the United States and ship it abroad on open consignment, to be sold in European markets for what it will fetch.

The circumstance that importers usually initiate the individual transactions is modified by the fact that the group of American exporters includes members or representatives of European importing houses or their agents. Such exporters may have even less leeway than has the independent exporter. The parent house in Europe may have a policy that applies to all importing and exporting countries in which trade is being carried on. The representative or agent in the United States has then three functions: chartering; the study of the spreading of hedges from market to market and from month to month; and the search for individual lots of wheat which can be purchased for a shade less than their value in an extensive import program of the parent house. According to the working rule of such international grain merchants, a profit is possible at both the importing and the exporting end, and sometimes in the transportation. Under these circumstances, the American representative of the European importing house is frequently able to work a parcel or a cargo into export where and when an independent exporter would not dare to take the risk of the transaction at the same figure.

The technique of export trade is somewhat different for premium wheats, high-protein bread wheats, durumms, soft biscuit wheats, and filler wheats. In recent years most of the exports of wheat grown east of the Rocky Mountains have been filler wheats. The technique of buying wheats for American mills is quite different from that employed in purchasing wheats to meet foreign bids. Frequently, foreign bids sent to an American exporter have counterparts in bids sent to other exporting countries, and the position of the American exporter is made the more difficult because, as a rule, holding is stronger in the United States than in the other exporting coun-

tries having a surplus of comparable filler wheats.

The influence upon exports exerted by the spread between futures prices in exporting countries and in Europe tends to be less for wheats of premium qualities than for ordinary wheats. As a rule a narrow spread between Liverpool and Chicago will check American exports more than a narrow spread between Liverpool and Winnipeg will check Canadian exports. The Canadian future applies directly to No. 1 Northern wheat, which is a premium wheat when applied in Liverpool to the fulfilment of a futures contract. Ordinarily No. 3 or No. 4 Northern Manitoba is regarded in Liverpool as the milling equivalent of the No. 2 Hard Winter wheat which may be offered in fulfilment of the Liverpool futures contract. When the Winnipeg price stands as high as the Liverpool price, a small but continuous trickle of exports tends to be maintained, the persistence of Canadian export being the result of mill demand for high-protein Marquis wheat. The same does not occur with Atlantic exports of United States wheat when the Chicago price equals the Liverpool price.

Nearly every importation of wheat into Europe from the United States is an individual transaction. The "parcel" may be as small as 8,000 bushels, or it may be a cargo of 10,000 tons. The importer has the background and the specific information relating to commodity considerations and prices; but he commonly imports a particular parcel of wheat to sell to a particular client. This has gradually come about as a result of the short distance from the United States to western Europe, the availability of liner tonnage, and the characteristics of our export wheats.

Late in the afternoon, after the closing of the European grain exchanges and the early prices on the foreign exchanges have become available in Europe, the European importer, having made a tentative or fixed sale to a customer, sends a night wire to the American exporter. The offer is usually to buy a certain amount of a particular type and variety, of specified grade, at a stated price for stipulated delivery, the price being usually based on the Chicago futures of the day. In the aft-

noon or the next morning the wire is received by the exporter, and a decision is made on the basis of information as to positions of cash wheats, in connection with quotations at the opening of the exchange, or perhaps with the use of indemnities.¹ The importer accepts, declines, or makes a counter-bid. The exporter wants to secure the order and make a profit of a quarter of a cent a bushel; the importer wishes to satisfy his customer and also make a profit of a quarter of a cent a bushel. Most exports of American wheat to Europe since the war have represented such individual transactions.

The same is not true of the wheat trade with Russia, Australia, or Argentina; Bunge and Dreyfus, for example, will bring to Europe from Argentina large amounts of wheat not sold to specific customers. The export trade of Canada too is much less particularized on account of the representative character of Canadian export wheat. With reservations, it may be said that exports of wheat from the United States are nowadays a hand-to-mouth business, whereas exports from other countries include the expedition of bulk supplies with carrying of stocks. Of course stocks of American wheats are carried in western Europe, and sometimes American wheats are shipped to Europe on open consignment; but the distinguishing features of the different wheat trades from the several major exporting countries remain and are of practical importance.

Skill in dealing with berth-rates and charters has much to do with success in exporting from this country. The possession of wheat (or knowledge of it) in a favorable position and the sudden opportunity to secure a low ocean rate may make feasible an export transaction otherwise not practicable. Familiarity with the numerous items included in the movement from the terminals in grain regions to the ports of Europe, a commonplace in the trade, is not possessed by all exporters in equal degree. In recent years these cost items have tended to decline, and to become to some extent matters of bargaining.

¹ By means of this device ("bids" and "offers") the exporter holds a bid over from one trading day to the next.

The inclusive cost of transferring wheat from Chicago to Liverpool used to be estimated at around 20 cents a bushel. During recent years this cost has declined substantially. Here it would be to no purpose again to undertake a breakdown of this item.¹ During recent months especially the cost of transporting wheat from the head of the Lakes or Chicago to Liverpool has declined to a surprising extent, to as low as 10 cents (or even less), exclusive of insurance and interest. Wheats have been shipped from the head of the Lakes and from Chicago to North Atlantic ports for as little as 3 cents a bushel. This decline—to levels too low to be permanent—has been due largely to ruinous rate-cutting on the waterways, aided by absorption of fobbing charges. It is perhaps fair to say that for the past crop year the cost of transferring wheat from Chicago to Liverpool has not been over 15 cents a bushel, with the average perhaps around 12 cents. This is the approximate amount which must be added to the price of the Chicago future, to secure a c.i.f. figure for the wheat to be landed in Liverpool, for comparison with the Liverpool future.

During most of the crop year 1931-32 the English pound was heavily under par and fluctuating, and during the entire year the Canadian dollar was also below par and fluctuating. Without entering in detail into the implication of these circumstances for the wheat trade, it may be taken for granted that importers in Europe are usually in better position than exporters in the United States to take advantage of fluctuations in exchange rates. The net effect is probably to lower the weighted Liverpool price in sterling.

To work wheat for export, as the trade expression runs, is made easier or more difficult by circumstances of holding. When growers hold wheat it means that they are not urgently pressed for cash, and that they delay selling in hopes of better prices. The holding of cash wheat by merchants depends largely on the existence of a carrying charge as ex-

pressed in futures quotations, that is, a spread between near and more distant futures equal to or exceeding the costs of holding wheat. Merchants as well as millers may try to hold cash wheat having certain quality characteristics, but the assured possession of the carrying charge is usually the determining factor. Wheat held in terminal storage by merchants is usually in a position advantageous to exporters, but merchants who have their carrying charges covered are not inclined to sell to exporters except with the prospect of an additional profit.

A general bullishness in the trade tends to act to the disadvantage of exporters seeking to make specific purchases in order to accept firm bids from abroad. Bullishness in this country need not be accompanied by bullishness abroad, and in any event the bullishness of European importers is likely to be less extreme than that of American traders. When prices are advancing on both sides of the Atlantic Ocean, the bids of European importers are likely to lag behind the expectation of American traders; and when prices are declining, the bids of European importers are likely to overdiscount the decline in the estimation of American traders. Mere bullishness or bearishness may thus mean much or little directly to the export movement of wheat. The holding of wheat in European hands is usually based upon specific circumstances related to the domestic crop, to the available supplies in exporting countries, and to the programs of the mills. Though hedging is of course practiced extensively in Europe, it is used more for the protection of imports en route than for the protection of stocks held for future sale. In the sense in which American traders store wheat when there is an assured carrying charge in the futures, there is much less corresponding storage in Europe.

In the broad sense, of course, bullishness and bearishness have comparable effects on both sides of the Atlantic. Bullishness stimulates the taking of risks in buying, holding, and selling and encourages trade; bearishness discourages the taking of risks and tends to depress the volume of trade to a hand-to-mouth basis. Either way, the importers tend to hold some advantage because they initiate

¹ Cf. "Speculation, Short Selling, and the Price of Wheat," *WHEAT STUDIES*, February 1931, VII, 243-44; and "Projected Waterways in North America as Related to Export of Wheat," *WHEAT STUDIES*, August 1932, VIII, 455-67.

the transactions; exporters are less able to utilize the advantages or to escape disadvantages, because they do not initiate the transactions. There are of course occasions when fear prompts the European importer to cast

caution to the winds; then exporters hold the whip hand and can dictate terms. For the most part, however, exporters are, so to speak, on the passive side, as has been illustrated in most years since the war.

III. DISTRESSED WHEAT

In the broad sense in which the term is used here, distressed wheat is of large practical significance, to an extent that is not commonly realized.

Wheat may be distressed because the grain itself is in danger of, or is undergoing, deterioration and must therefore be sold promptly. Wheat improperly stored, or not in good condition at the time of harvest, is liable to deteriorate, and it is common practice to recondition such wheat and dispose of it as rapidly as possible. Other things equal, European millers hold that the milling quality of wheat tends to deteriorate with age. During recent years European importers have complained of the behavior of wheats several years old and have sought to bring about the mandatory labeling of the crop of the wheat with each export sale.

Much more important for the export trade is what may be called merchandising distress. This arises when, for any one of a large number of reasons other than the one mentioned above, the wheat cannot be held and is put up for sale. It can be observed all the way from the farm to the European spot markets.

Farmers are often forced to sell "on the street" immediately after harvest. Their inability to hold may depend solely upon personal circumstances, or may be related to the crop of the region. A large crop induces, or forces, a farmer to sell early, when he would not do so with a small crop. This influence extends beyond the region. A large Canadian crop provokes distress in exportable American spring wheat, which would be held back if the Canadian crop were small. While it is too much to expect a crop to be marketed in close concordance with the flow of domestic utilization and exports, it remains true that a great deal of wheat is marketed prematurely because growers cannot hold their crops or because they lose their courage.

Country grain dealers do not all hedge. Many of them hedge when they fear the price will decline, but others do not hedge at all, irrespective of anticipated price movement. A tightening of credit, a bearishness on the market, a decline in mill purchases, and the pressing of export wheats by other surplus-producing countries, among other factors, tend to influence country grain dealers to change their minds and to hedge or dispose of their stocks. Distress may occur also in hedged wheats held by line elevator companies; the hedging operations may not turn out satisfactorily, or distrust may arise as to the merchandising qualities of some of the wheats held, and these will be then thrown upon the market.

Wheats may come to lie out of position. The elevator system of the country, the location of mills, the rate structure, and local variations in the quantity and quality of crops may bring it about that wheat is stored in places which come to be disadvantageous for sales. For example, of the 1931 holdings of the Grain Stabilization Corporation, a large proportion was more or less out of position for advantageous domestic marketing, and export outlets had to be sought. The same situation develops on a smaller scale with the private grain trade. It is not always that someone has "blundered"; market changes cannot always be foreseen. Seeking wheat parcels out of position represents one of the profitable devices of the successful exporters.

The wheats of certain regions are particularly exposed to the development of distress. This was true of Alberta before shipments from Vancouver became perfected. It holds true in Washington and Oregon and in Oklahoma and Texas. The natural export outlet of the wheats of Oklahoma and Texas is through Gulf ports. When cotton is freely moving to export, this places the wheat in an advantageous position for export because

wheat and cotton load well together; but if cotton is not moving freely, or if for any reason a stringency develops in Gulf shipping, these wheats are in distress. The surplus cannot profitably be milled in the region, nor shipped into distant milling areas for domestic consumption, nor sent to export through Atlantic ports on account of high freight rates. From this point of view, the wheats transportationally tributary to North Atlantic ports are least liable to fall into distress, except on occasions at export ports.

Wheat may become distressed during the course of ocean shipment, especially from the Southern Hemisphere to Europe. In the course of the voyage from Argentina or Australia to Europe, the ownership of wheat cargoes may change hands several times. Sometimes it is sold to make a prospective profit sure, but sometimes it is sold to avoid or to minimize a loss. In the broad sense it is perhaps appropriate to refer to wheat en route to Europe on open consignment as distressed wheat, or at least exposed to distress.

Finally, distressed wheat appears in the spot markets of Europe. Over and over again in official investigations abroad the fact has been brought out that parcels of the wheat of every country can be purchased for cash practically every day on the large spot markets of Europe for less than the c.i.f. equivalents of prices in the countries of origin. That is, a miller is able to buy a parcel of wheat on the cash market in Europe for a lower relative figure than he could make a purchase from an exporter in the country of origin. The volumes are not usually large, but the fact remains striking. The parcels of wheat under consideration may presumably be regarded as distressed wheats whether sales are made to take profits or to avoid losses. The prices at which these wheats are sold appear on the

open markets and are wired back to the countries of origin, possibly with the effect or intent of depressing prices.

Sometimes, though rarely, the spread between futures in the exporting and the importing countries may be wider than costs of shipment and yet not provoke export sales; that is, a transient favorable position of the spread may not lead to export sales. Several years ago the spread between the Argentine and the Liverpool futures was so wide that wheat was shipped on open consignment from Buenos Aires to Liverpool and delivered against futures contracts on the Corn Exchange. The prompt reaction should have been rise in price in Argentina and decline in price in Liverpool; but there was a surprising lag in the adjustment.

The phenomena described above are naturally of much more frequent occurrence when the international market has the complexion of a buyers' market. Under such circumstances the enlarged ability of buyers to pick and choose, to bide their time, weakens the holding tendency in surplus-producing countries. The importers in most years, by deciding how much import wheat they will hold, practically determine to what extent world stocks and carryovers shall be held in importing countries or in exporting countries. Their choice of purchases also influences the location of carryovers, among the different exporting countries. But these choices are of course affected by the varying degree of tightness with which wheat is held in exporting countries. These factors explain, for example, why in some years (as in 1931-32) the crops of Australia and Argentina, harvested later than the crops of the United States and Canada, were well sold out by the end of July, while heavy carryovers remained in North America and especially in the United States.

IV. PERTINENT STATISTICS FOR 1931-32

A résumé of the data on United States exports, Liverpool-Chicago price spreads, and carryovers in 1931-32 is now in point.

Out of a total domestic supply estimated at 1,213 million bushels (carryover, 319; crop, 894), net exports of wheat and flour¹ from the

United States were officially reported as 126 million bushels, including shipments to Alaska, Hawaii, and Porto Rico. Despite extraor-

¹ Net export data are preferable to gross exports, since nearly all of the imports are Canadian wheat milled in bond and exported as flour.

dinarily large feed use of wheat, the outward carryover in the United States increased by 44 million bushels to a new high record.¹

Net exports were actually somewhat larger than have yet been officially reported. Wheat sent to Canada for storage is frequently shipped on certificates permitting its return to the United States without payment of duty. If such wheat is subsequently exported from a Canadian port, the appropriate procedure is to have these certificates returned to American customs officials with entries permitting the wheat to be recorded as an export. If the procedure is not fully carried out, some wheat exported may never be included as such in the official returns. In any event, there are often delays in recording such exports.² There is reason to believe that some 7 to 9 million bushels of United States wheat were actually exported in July-June 1931-32 from Canadian Atlantic ports without being included in the year's official export statistics.

Table 1 gives some incidental evidence on this point. From August 1931 through June 1932 the Grain Stabilization Corporation's wheat exports through Lake and North Atlantic ports exceeded the total exports officially reported, in the aggregate by nearly 7 million bushels. It is fairly safe to infer that ordinary commercial shipments through North Atlantic ports were very small in this eleven-month period, but they could not have been a negative quantity. Conceivably the whole 8.5 million bushels exported through Canadian Atlantic ports in July-June by the Grain Stabilization Corporation, and possibly some small commercial shipments as well, had

not yet been included in the official export statistics. Official data on exports of wheat grain from other ports, and of wheat flour, are not similarly open to question.

Provisionally we assume that gross exports of wheat grain were 105 million bushels (official figure, 96.5) and that net exports of wheat and flour plus shipments to possessions were 133 to 135 million bushels³ in the year ending June 30, 1932.

Net exports of this amount were impressively small in comparison with the exportable surplus. A useful approximation to (a) the export surplus may be obtained by adding (b) the year's net exports plus shipments to possessions to (c) the amount by which the outward carryover (including United States wheat in Canada) exceeds the smallest carryover in recent years (100 million bushels on July 1, 1926).⁴ Comparative figures so obtained are shown below, in million bushels:

Crop year July-June	Surplus carryover (c)	Net exports (b)	Export surplus (a)	Percentage (b) to (a)
1920-21.....	23	316	339	93.2
1921-22.....	18	268	286	93.7
1922-23.....	47	208	255	81.6
1923-24.....	45	135	180	75.0
1924-25.....	18	258	276	93.5
1925-26.....	0	95	95	100.0
1926-27.....	20	209	229	91.3
1927-28.....	27	193	220	87.7
1928-29.....	145	145	290	50.0
1929-30.....	196	143	339	42.2
1930-31.....	234	115	349	33.0
1931-32.....	279	134	413	32.4

Striking indeed is the decline in recent years in the percentage of net exports to the export surplus, so computed. In each of the past two years, exports of United States wheat were less than a third of what could have been readily spared for export. Moreover, this method of calculation understates the true export surplus in years when depressed wheat prices lead to extensive diversion of wheat to feed and waste; for if prices had been high, less would have been fed and wasted and more would have been available for export. It is, therefore, safe to say that in 1930-31, when feed use of wheat was exceptionally heavy, net exports constituted well under a third of the export surplus in this larger sense; and that in 1931-32, when feed use was even

¹ WHEAT STUDIES, September 1932, VIII, 497, 502. See below, p. 13, for fuller analysis of the carryover.

² See *World Wheat Prospects*, February 20, 1932.

³ The official use of a conversion factor of 4.7 bushels per barrel somewhat overstates the wheat equivalent of flour milled from Canadian grain, and of flour exported from the Pacific Northwest. For 1931-32 the resulting error in the combined total as officially reported may have reached 2 million bushels.

⁴ This is not to be regarded as the minimum possible carryover. In an earlier study covering a 30-year period, we had used 50 million bushels as a minimum carryover. Figured on this basis, the exportable surplus is larger, and percentage of exports to exportable surplus smaller. The figures mentioned above, p. 1, were computed on this basis.

TABLE 1.—REPORTED DOMESTIC EXPORTS OF WHEAT GRAIN FROM THE UNITED STATES AND EXPORTS BY GRAIN STABILIZATION CORPORATION, MONTHLY 1931-32*

(Thousand bushels)

Month	From Lake and Atlantic ports			From Gulf ports			From Pacific ports			Total		
	Total	G.S.C.	Balance	Total	G.S.C.	Balance	Total	G.S.C.	Balance	Total	G.S.C.	Balance
July	5,608	2,319	3,289	4,449	1,327	3,122	2,674	1,791	883	12,731	5,437	7,294
Aug.	1,409	1,499	(90)	6,428	759	5,669	1,073	682	391	8,911	2,940	5,971
Sept.	2,898	2,915	(17)	2,930	380	2,550	2,569	1,545	1,024	8,397	4,840	3,557
Oct.	3,082	3,924	(842)	3,625	2,615	1,010	5,166	2,792	2,374	11,873	9,331	2,542
Nov.	2,670	3,913	(1,243)	3,399	3,364	35	3,450	2,162	1,288	9,519	9,440	79
Dec.	2,194	2,264	(70)	3,226	2,881	345	2,476	2,130	346	7,896	7,274	622
Jan.	1,117	1,547	(430)	1,979	1,527	452	976	1,019	(43)	4,072	4,093	(21)
Feb.	1,091	1,307	(216)	2,473	1,624	849	1,085	1,018	67	4,649	3,950	699
Mar.	3,644	3,728	(84)	1,688	1,740	(52)	417	392	25	5,749	5,860	(111)
Apr.	4,766	4,799	(33)	4,307	4,239	68	281	205	76	9,354	9,243	111
May	2,872	5,555	(2,683)	4,342	3,633	709	68	...	6	7,283	9,189	(1,906)
June	3,437	4,569	(1,132)	2,646	2,694	(48)	6	...	6	6,088	7,263	(1,175)
Total	34,787	38,339	(3,552)	41,494	26,783	14,711	20,241	13,737	6,504	96,522	78,859	17,663

* Totals as officially reported by U.S. Department of Commerce, exclusive of negligible exports from other border points. Data for Grain Stabilization Corporation exports, furnished through the kindness of that organization, include 8,542,000 bushels exported from Canadian Atlantic ports—Montreal, Quebec, Sorel, and East and West St. John. Canadian data, kindly furnished by the Dominion Bureau of Statistics, show ocean shipments of 8,907,000 bushels of United States wheat from these ports in July-June 1931-32. Balance figures in parentheses indicate excess of Grain Stabilization Corporation exports over official totals. July figures doubtless include, and June figures doubtless exclude, some wheat sold for export before July 1 but exported subsequently.

heavier, the exported fraction was considerably less.¹

About 75 per cent of the wheat grain exports, and 7½ million bushels of the flour ex-

¹ The United States Chamber of Commerce in a recent release, which was widely reproduced in the daily press of October 1, pointed out that the export of wheat during the first six months of 1932 was larger than during the same period of 1931 or than the average of the five years 1927-31, and evidently derived gratification from this fact. The figures compare as follows: 37.2 million bushels in 1932; 21.0 million bushels in 1931; and 30.6 million bushels for the five years 1927-31. But the exports in 1932 cannot be regarded as gratifying from any point of view. The exports during the first six months of 1931 were abnormally low because of the pegged price of wheat; the exports during the first six months of 1932 were largely those of the Grain Stabilization Corporation, representing mostly barter and sales to governments. Also, it is misleading to contrast exports during the second six months of the crop year. No matter what complexion is placed upon our figures for export of wheat, the fact remains that during the past four years it has been very small in relation to our exportable surplus.

² Exports of flour from the United States to Brazil declined, in terms of wheat equivalent, from 4.25 million bushels in 1926-27 to 3.15 million in 1930-31. Since the war most of these flour exports have been milled in bond from Canadian wheat, and the decline reflects the circumstance that prices of Argentine wheat have been lower than those of Canadian wheat.

ports, were made by the Grain Stabilization Corporation, nearly half of it on special credit terms to Brazil, China, and Germany. Ordinary commercial exports by private and co-operative exporters did not exceed 26 million bushels of wheat grain plus about 20 million bushels of American wheat in the form of flour, in addition to flour milled in bond from Canadian wheat.

The exceedingly light commercial exports can be explained only in part by the fact that the Grain Stabilization Corporation's sales to Brazil, Germany, and China to some extent took markets from private commercial exporters. The Corporation exported some 16 million bushels of wheat to Brazil under an arrangement that no private exporters could have made. In the absence of any such contract and the ensuing embargo on Brazil's import of flour, there is good reason to believe that, as usual, no United States wheat grain would have entered Brazil and that her takings of United States wheat in the form of flour would probably not have reached a million bushels.² It is doubtful if Germany, in the absence of the Corporation's sale to its government, would have taken appreciable

quantities of United States wheat during the year. If the China credit sale of 15 million bushels had not been made, wheat prices in the Pacific Northwest would have been lower, and exporters there could have sold more wheat and flour than they did; but probably Australia would still have undersold them in the Orient, export competition elsewhere would have been severe, and commercial exports from that area would probably not have been larger than they were by over 8 to 10 million bushels. Though it is impossible to reason closely about the matter, in retrospect we consider it safe to say that, in the absence of these special sales, commercial exports of wheat and flour would not have been over 10 to 15 million bushels larger than they were.

The small volume of total exports from the United States can be only partially ascribed to the fact that international trade in wheat and flour, particularly with Continental Europe, was subject to severe local restrictions during the year. Such restrictions, coupled with bright prospects for 1932 crops in importing Europe and Canada, unquestionably limited the year's volume of imports by Europe and a few ex-European importers, and hence the total exports that could find markets. However, the total volume of international trade in 1931-32, around 800 million bushels, cannot be considered small; and Russia, the Danube basin, Australia, and Argentina all shipped freely. The United States and Canada simply failed to get their proportionate share of the total trade, volume of export surpluses considered.

The major factor was that wheat prices in the United States, though greatly depressed, were too high in relation to prices of other export wheats in importing markets to permit United States wheat and flour to compete effectively abroad. This price relationship prevailed, although the Stabilization Corporation disposed of over 55 per cent of its stocks during the year, whereas in 1930-31 it had accumulated 257 million bushels in supporting domestic prices. Similarly, Canadian prices were too high for easy export.

The spread between Liverpool and Chicago futures that is necessary to permit liberal exports through North Atlantic ports varies, of

course, with costs of shipment, including freight (the largest and most variable element), fobbing charges, insurance, interest, and incidentals. During 1931-32 these costs were lower than in any other recent years. Without entering into details of computation, it suffices to say that under conditions during the year a spread of 10 to 13 cents would have approximately represented export parity for the export territory tributary to the Great Lakes. A somewhat larger spread is required to permit exports eastward from Kansas City territory; but a somewhat smaller spread permits Texas-Oklahoma wheat to move out from the Gulf ports.

Actual spreads are summarized in Table 2. In order to secure the figures most favorable to export operations, we have computed these spreads for the *Liverpool closing* quotation, which is posted on the Chicago Board of Trade early in the trading session there, and the *lowest Chicago* quotation on the same day. The wider spread between the highest Liverpool quotation and the Chicago lowest quotation would be biased; moreover, European importers are more influenced by the Liverpool close than by the highest quotation of the day. Except on Saturdays, European importers making bids have early Chicago quotations before the Liverpool close; American exporters considering bids from abroad have all of the Chicago quotations of the day.

The table shows that during the crop year July-June, 1931-32, there were only two days (August 24 and 25) when the spread thus computed was 10 cents or more, and only seven days (all in August) when the spread was 9 cents or more. It is obvious that Chicago futures were above export parity practically throughout the year. August and September were the only months in which Liverpool was above Chicago by 7 cents or more, and July-October the only months in which the spread was 6 cents or more. From August to January the spread became increasingly unfavorable to export, and thereafter gradually less unfavorable without reaching export parity. On most trading days in December-February, and on several days in March-April, Chicago was above Liverpool.

Clearly the two markets were out of line.

TABLE 2.—NUMBER OF DAYS IN EACH MONTH WHEN CHICAGO NEAR FUTURE WAS ABOVE (OR BELOW) LIVERPOOL NEAR FUTURE BY AMOUNT INDICATED, 1931-32*

Range of spread (cents per bushel)	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
Above Liverpool:													
4.9 to 4.0.....	..	..	..	..	..	..	2	..	..	..	..	..	2
3.9 to 3.0.....	..	..	..	..	..	..	7	3	..	..	..	..	10
2.9 to 2.0.....	..	..	..	..	..	1	3	3	..	..	..	..	7
1.9 to 1.0.....	..	..	..	..	..	6	1	5	6	..	..	..	18
0.9 to 0.1.....	..	..	..	..	..	11	2	9	3	1	..	..	26
Equal to Liverpool:	..	..	..	..	..	1	1	1	1	1	..	..	5
Below Liverpool:													
0.1 to 0.9.....	..	..	..	..	3	5	4	..	1	4	..	..	17
1.0 to 1.9.....	..	..	..	..	1	..	2	2	6	9	3	1	24
2.0 to 2.9.....	2	..	2	..	2	..	2	..	7	9	5	6	35
3.0 to 3.9.....	6	..	4	1	7	..	..	..	..	2	9	11	40
4.0 to 4.9.....	9	..	2	5	6	..	..	..	..	..	5	7	34
5.0 to 5.9.....	7	..	2	10	4	..	..	..	..	..	..	1	24
6.0 to 6.9.....	1	4	3	10	..	..	..	..	..	..	..	..	18
7.0 to 7.9.....	..	6	6	..	..	..	..	..	..	..	..	..	12
8.0 to 8.9.....	..	7	5	..	..	..	..	..	..	..	..	..	12
9.0 to 9.9.....	..	5	..	..	..	..	..	..	..	..	..	..	5
10.0 to 10.9.....	..	2	..	..	..	..	..	..	..	..	..	..	2
Total trading days....	25	24	24	26	23	24	24	23	24	26	22	26	291

* Spreads computed by comparing daily the lowest price of the nearest future at Chicago with the closing price of the same future at Liverpool. Data for Chicago from *Daily Market Record* (Chicago); those for Liverpool from *London Grain, Seed and Oil Reporter*, converted at daily exchange rate.

Since huge exports of wheat went to Europe from other countries on the basis of the Liverpool price, the Chicago price must have been out of line with Liverpool and world prices. Quality considered, the Chicago price expressed a higher estimate of value of wheat than obtained elsewhere. Despite the huge exportable surplus in the United States, price relationships were such as normally obtain with a low exportable surplus.

The carryover of United States grain in this country and in Canada increased, according to official estimates, from 334 to 379 million bushels. This increase, significant enough in itself, was less striking than the shift in ownership. Accepting the totals as accurate, we submit in the next column a provisional breakdown in million bushels.

The Grain Stabilization Corporation had reduced its cash wheat holdings from 257 to about 90 million bushels, while the wheat owned by farmers, mills, and merchants increased from 77 to 289 million bushels. Excluding some 9 million bushels unshipped on export contracts and 7 million of the March

appropriation not yet requisitioned by the Red Cross, but including around 37 million bushels of futures, the Corporation had available for sale on June 30 only 111 million

	1931	1932	Change
Carryover June 30			
In United States.....	319	363	+ 44
In Canada	15	16	+ 1
Total	334	379	+ 45
Cash wheat holdings in United States and Canada			
Grain Stabilization Corporation	257	90	-167
Other interests	77	289	+212
Farmers	32	72	+ 40
City mills	40 ^a	82 ^a	+ 42
Merchants and country mills..	5	135	+130

^a Census data on wheat stocks reported owned in all positions by city mills, raised to represent all city mills.

bushels;¹ and this was reduced by 45 million on July 6 by a second reservation for relief disposal. Growers, millers, merchants, and grain speculators, who had held only about

¹ These figures are our provisional approximations, in the absence of published data.

77 million bushels on June 30, 1931, carried some 252 million bushels on June 30, 1932. The burden of carrying huge stocks, which in 1931 was largely assumed by the Grain Stabilization Corporation, thus came to be widely distributed in 1932.

The wheat on farms was presumably almost wholly unhedged. Some portions of the stocks held by millers and merchants were also unhedged. We deem it safe to infer, however, that more than half of the 217 million

bushels in private hands and not on farms on June 30, 1932, was hedged in the futures markets, and that private grain speculators were long on these futures except to the extent of those owned by the Stabilization Corporation. The amount of old wheat in private hands was larger on June 30 in 1932 than even in 1930, when the Corporation held 65 million bushels out of a total carryover of 296 million, or in 1929, when the carryover, all in private hands, was 245 million.

V. WHY PRICES WERE ABOVE EXPORT PARITY

The influences that held up United States wheat prices in 1931-32, and specifically drove Chicago prices in varying degree out of line with Liverpool prices, were mainly four: (a) the policy of restricted sales by the Grain Stabilization Corporation; (b) relative bullishness by American speculators in wheat futures; (c) readiness of mills, grain dealers, and others to carry wheat liberally, and in larger amounts than usual unhedged;¹ and (d) reluctant selling by producers with power to feed wheat or hold it rather than to sell it for whatever it would bring. These were jointly responsible for the relative strength of United States wheat prices, and thereby for the low volume of American commercial exports of wheat and flour and the high carryover at the end of the crop year. The persistence of these factors is responsible for the very light exports of United States wheat in the summer and autumn of 1932.

These influences served in some degree to relieve pressure upon the world price of wheat—not so much to raise it as to prevent it from going still lower. Had American farmers sold freely and fed less wheat to stock, had the Grain Stabilization Corporation undertaken to liquidate its holdings completely, and had American millers and wheat traders (notably speculators) been unwilling or unable to carry wheat in large volume, not only would United States prices have fallen to export parity, but export pressure on import markets in Europe would have been much more extreme than it was, and world wheat

prices would have been even lower than they were. There is no doubt, however, that the influences in question affected United States markets primarily and predominantly, and world markets only in secondary degree.

It is impossible fully to discuss all of the factors which made the past crop year abnormal in exceptional degree. Currency values, exchange rates, and trade restrictions were distinctly abnormal more or less throughout the wheat-trading world. High prices in strongly protected markets were in glaring contrast to low prices in other markets. Economic and political factors outside the wheat situation exerted unusual influence upon it. Governmental interposition in wheat was probably more widespread and significant than in any period since the world became virtually an economic unit (except during the Great War), and this unity was seriously disrupted. Abnormal in this country were the facts that a season of open marketing followed a season of pegged price, that a large part of the inward carryover was, in effect, in government hands, and that an official agency using government funds was engaged in the export trade and was also a factor in the domestic market. Consequently wheat prices and movements in 1931-32 cannot be regarded as expressing the result of normal trade forces. Nevertheless, the market forces as they operated under these exceptional conditions merit careful consideration.

There was no divergence of opinion on the fact that conditions were such as to make wheat prices very low in this country and abroad. Heavy Russian and Danubian ex-

¹ Cf. "Financial Results of Speculative Holding of Wheat," *WHEAT STUDIES*, July 1931, VII, 405-38.

ports in the summer of 1931, the remarkable excess of exportable supplies over prospective import requirements, the persisting abundance of visible supplies, the continuation of world-wide business depression and recessions marked by fresh financial crises, the conjuncture that brought big crops in Canada and importing Europe in 1932 to offset drastic reductions in the United States winter-wheat belt, in the Danube basin, and probably in Russia: these factors were given due weight at home and abroad, but especially in Europe.

Importing countries, moreover, had no reason to fear anything approaching a wheat shortage, either for 1931-32 or for 1932-33. Secure in this view, and with government measures in many countries operating against holding stocks of imported wheat, European importers and speculators paid little practical heed to reports of shortage of subsoil moisture in Canada during the fall and winter, to various rumors of reduction in Argentine and Australian harvests, and even to the adverse weather that resulted in very short crops in the United States winter-wheat territory and in the Balkan countries. Speculative traders outside North America have had no incentives to seek long-term profits and have been content with short-term operations like the hand-to-mouth buying of grain merchants and millers abroad. But Europeans continued to be sensitive to rumors (e.g., in March 1932) that stocks of stabilization wheat would be pressed upon the European market.

In the United States and in some degree in Canada,¹ on the other hand, the conviction was cherished that wheat prices around 50 cents Chicago were at or near "rock bottom," and that the odds favored advances rather

than declines from such low levels as were reached. Here there was more disposition to have confidence that the Federal Farm Board would adhere to the sales policy announced on June 30, 1931. Even the shocks of the British crises in August and September 1931 failed to affect the wheat market in Chicago as much as those abroad. Hopes were given rein on comparatively slight provocation. Witness the speculative bull movement of October and November; this had its maximum effect in Chicago, and the subsequent reaction was less severe there. Throughout the season the bad prospects for winter wheat were taken more seriously in this country than abroad, as often before. Administration measures for resisting the forces making for widespread financial embarrassment naturally influenced domestic sentiment most.

Under the influence of such sentiments private speculators absorbed an increasing volume of wheat futures. On June 30, 1931, open commitments on the four leading futures markets were 96 million bushels. The open interest increased only moderately until after the middle of October, but then rose to a peak of 175 million bushels on November 9. After a recession in December and January another peak of 173 million bushels was reached on March 17. At the end of June 1932, the open interest was 149 million bushels, and by September 30 it had risen to 232 million bushels.

Moreover, during most of the year the spread between successive futures was fully equal to costs of carrying cash wheat. Under such conditions millers and merchants can carry hedged wheat with minimum concern over price fluctuations, leaving to speculators in futures the risk of price decline and the chance of profit from price advance. There are indications, however, that mills and grain dealers practiced hedging less extensively during the year than is customary, doubtless in the feeling that 50-cent wheat was so near "bed-rock" that unhedged grain had more chance of appreciating than of depreciating further.

During the year there was recurrent denunciation of short selling of wheat futures. To what extent, if at all, short selling was done

¹ Chicago and Winnipeg tended to support each other during 1931-32, despite the different relations of the Canadian and American wheats to the European mill market. The Canadian wheat price was upheld on the theory that Canadian wheat was indispensable to Europe, United States wheat prices despite recognition that our wheat was dispensable. It has been surmised that the wheat price in Winnipeg has been held up during 1931-32 by purchases of futures for the account of the banks or the government. If true, this would in part account for the high price of wheat in Winnipeg during the last year. With the new crops, Chicago and Winnipeg have diverged; on September 30, the Winnipeg price was nearly 10 cents below the Chicago price for comparable wheat.

in Winnipeg and Liverpool, by Americans or others (for the purpose of depressing the world wheat price or merely for individual profit), is not known to us. Taking the record of the wheat year in respect to supplies and demands, prices, and international movements, no reason appears for citing short selling as the explanation of the level of world wheat prices. For the United States, moreover, the inference must be to the contrary. It is impossible to impute depression of the American price to short selling so long as such short selling does not reduce the Chicago price to export parity with Liverpool. Table 2 (p. 13) is sufficient to negate the charge, or inference, that the Chicago price of wheat has been consistently depressed by short selling.

Holding by farmers was a pronounced characteristic of the year. Considering the size of the winter-wheat crop of 1931, the movement from farms was only moderate in the early summer, and it fell off sharply as prices declined. The price advance of October–November led to some increase in marketings, but apparently strengthened the eagerness of farmers to hold. One cannot safely generalize about the reasoning of a multitude of wheat farmers, but we are disposed to infer that they were less influenced by hope or confidence in higher prices than by unwillingness to sacrifice their wheat for going prices. Many, of course, had to sell, and most farmers were forced to sell part of their holdings; but those who could manage to defer selling did so stubbornly, and many found it more profitable to feed wheat than to sell it for cash. In consequence, receipts at primary markets constituted a smaller proportion than usual of the total farm supplies, feed use was unprecedentedly large, and farm stocks on June 30, 1932, were higher than ever before, except on June 30, 1916, when the record crop of 1915 was followed by a short crop in 1916.

Farm holding, together with the policy of limited domestic sales by the Stabilization Corporation, forced mills at various times to bid up prices to get the supplies they required. Notwithstanding the huge aggregate supplies in the country, the mills found market supplies more or less limited. This was particularly true in the Pacific Northwest after the

China sale was announced, and in the interior Northwest where the spring-wheat crop was very short.

It was mainly because of the readiness of speculators to take the burden of carrying wheat that the extensive liquidation of stabilization stocks during the year did not obviously contribute to depress wheat prices. The huge accumulation of wheat supplies, so heavily concentrated in visible positions, inevitably exerted a bearish influence. Even if the Farm Board had acceded to arguments that it sell no wheat in 1931–32 until the price reached 80 cents a bushel or more, the bearish influence of stabilization holdings would have remained. Probably, indeed, the bearishness of these stocks would have been increased by recurrent fears that the load would become financially impossible to carry.

The liquidation of stabilization stocks, however, was handled in orderly fashion and in such a manner as to support the domestic price more than the world price. The Corporation adhered to the announced policy of selling at a rate of 5 million bushels of wheat per month, apart from special sales to foreign governments. When, as in the summer of 1931, cash wheat was sold at a greater rate, futures were bought to cover the excess. In November 1931, when prices receded sharply, the monthly quota was not sold. Deliveries on Red Cross requisitions for relief reduced the wheat holdings of the Corporation during the year by some 33 million bushels, some of which did not displace private sales.

The sales of stabilization wheat to foreign governments did not pass through the grain exchanges. Sales to Brazil, Germany, and China went in large part to markets that would not otherwise have taken nearly as much United States wheat, as grain or flour. For this reason, exports were larger, and the outward carryover smaller, than would otherwise have been the case. Except for part of the shipments to China, however, this wheat largely displaced wheat and flour exports from Argentina, Australia, and Canada. To this extent it increased the export pressure of these other wheats in world markets generally, which tended to depress the world price. The China sale unquestionably took so con-

siderable a fraction of the Pacific Northwest surplus that prices were higher there than they would otherwise have been.

Finally, the tariff requires passing mention in this connection. It is frequently asserted that tariffs on farm products of which a large exportable surplus is produced afford no protection, are virtually ineffective. Without essential qualifications, this view is demonstrably untrue. In its crude form it presupposes virtual annihilation of distances within the surplus-producing country, and the ignoring of variations in type and grade. There is abundant evidence that the wheat tariff, applicable equally to all varieties, grades, and boundary points, often permits certain types and grades, in certain areas, to command higher prices than if no duty was in effect, even though the competition of surplus wheats prevents the price enhancement from reaching levels that would be possible if there were no wheat ex-

port surplus of any sort. There is no doubt that in 1931-32, when the spring wheat crop of the United States was extremely small while Canada's reduced crop still left her with a large export surplus, prices of spring wheats in the United States (both durum and bread wheats) commanded much better prices than if Canadian wheat had been admitted duty-free. The tariff was not so directly responsible for the more limited elevation of prices of hard winter, soft winter, and Pacific wheats; but it is certain that this elevation could not have been so pronounced if Canadian wheats had had free access to United States markets. In short, the tariff was among the conditions, though a passive rather than an active one, which made possible the relative firmness of United States prices in 1931-32. The speculators were bullish behind the tariff wall. Despite the record export surplus, the tariff was by no means wholly ineffective.

VI. HOW COMMERCIAL EXPORTS WERE POSSIBLE

Table 1 (p. 11) shows that exports of non-stabilization wheat through Lake and North Atlantic ports in 1931-32 were substantial only in a single month, July 1931. Presumably these July exports in part represented wheat distressed because out of position, and in part exports in fulfilment of sales made before July 1.¹ How much wheat was commercially exported through North Atlantic ports in subsequent months cannot be stated because of defects in the export data, but certainly the quantities were extremely small. Since Chicago prices were above export parity throughout the year, it is safe to infer that these comprised small lots of either distressed wheat or wheat of particular qualities for

which the export market happened to afford a better price than the domestic market. We also infer that most of the Grain Stabilization Corporation's exports through North Atlantic ports, even those that did not represent shipments on contracts with Brazil and Germany, were sold on a basis on which commercial exporters could not afford to operate.

Similar reasons must be invoked to explain the commercial exports, larger though still limited, through Gulf ports in November-June, and particularly in December-February when Chicago prices were commonly above Liverpool. The substantial commercial exports through the Gulf in July-October, however, correctly imply that exports from territory tributary to the Gulf may be made profitably when Chicago prices are above export parity. In fact, a considerable proportion of United States exports in recent years fall into this category. To explain this situation requires a regional analysis with reference to the freight rate structure.

American export wheats leaving Atlantic ports between Chesapeake Bay and the Gulf of St. Lawrence are drawn from a transportation area tributary to the Great Lakes, though

¹ Some of this wheat may have been sold prior to July, but it is not to be explained by a favorable spread between Chicago and Liverpool during May and June, since these were the closing months of high Chicago prices based on the pegged price of wheat. The spread between July and September was very narrow, and did not cover the carrying charge over the interval; this may have led to export sales of wheat in better position for export than for domestic disposition. Possibly the Grain Stabilization Corporation sold to private exporters some wheat out of position. Perhaps some eastern holders of old wheat failed to get it taken off their hands by the Corporation and sold it into export at a loss.

rail shipments may occur during the season of closed lake navigation. All the spring wheats passing to export from the upper Mississippi Valley, soft red winter wheats from the northern part of that belt, and (less uniformly) hard winter wheat from as far south as the Kansas-Oklahoma line, are naturally exported through Atlantic ports. There is, however, a region tributary to Omaha from which it is practicable, because of special rail rates, to export wheat through New Orleans.

The relation of Kansas City prices to Liverpool prices is not usually one to favor exports. The lowest rail rate from Kansas City to Atlantic ports is 23.1 cents; but the rate from interior points is lower. The rate from Kansas City to Galveston or New Orleans is 14.1 cents. Since the ocean rate from Galveston or New Orleans to northern Europe is only 2 cents more than the cargo rate from New York, it follows that the export route of lowest cost from store in Kansas City is via the Gulf, but this need not hold for interior Kansas points. There has been, however, little export from Kansas City; in the rate sense, wheat going abroad from Kansas goes around Kansas City.

Exports through New Orleans (and Mobile) are largely soft red winter wheats proceeding from a region contiguous to St. Louis and Cairo, but including also (to a considerable extent in certain years) wheat from eastern Nebraska shipped by rail to St. Louis. A low barge rate from St. Louis to New Orleans greatly facilitates exports by this route, though some wheat goes to New Orleans all rail.

The export wheats of Oklahoma and Texas go out through Gulf ports, especially Galveston, more or less in simultaneous association with export of cotton. The line separating Gulf export shipments from Atlantic export shipments lies somewhere between the Kansas-Oklahoma boundary and the latitude of the Missouri Pacific Railroad across Kansas.

These three regions are fairly distinct, and most of the exports passing respectively out of Atlantic ports, New Orleans, and the Texas ports can be traced back to the regions of origin. There are of course inconsistencies in the local rate structures, and these, with the

occurrence of wheat distressed under peculiar circumstances, bring it about that wheat from the margins of these regions may be exported in one or another direction at different times.

Exports from each region are based upon local prices and freight rates to ocean port. The local price rests on the basis of the futures price. Exports from Atlantic ports are usually based directly on the price of Chicago futures. Exports through New Orleans are also based on the price of the Chicago future, with special consideration of the southbound barge rate. Even though exports passing through Atlantic ports come from the hard-winter-wheat belt, which stands under the immediate influence of the Kansas City Board of Trade, the through rail-rate structure is such as to relate such export sales to the Chicago future rather than to a Kansas City future, between which in any event the concordance tends to be very close.

Exports from Texas ports, however, stand upon a different footing. The prices of futures in Chicago and Kansas City are of course in the background; but the local prices do not depend directly upon the prices in Chicago or Kansas City, because the rate structure in Texas and Oklahoma does not permit the wheats from the southern part of the hard winter-wheat belt to be marketed in Kansas City and northward for export except under occasional circumstances. This subject deserves a more detailed consideration.

The freight rates of the hard winter-wheat region do not represent a consistent rate structure based on considerations of flow of grain northeast to interior terminals or southeast to the Gulf. The rates (changed within the year) represent instead more or less haphazard rail charges to interior and exterior points, evolved with the development of the region. It is readily possible, however, to indicate an irregular line below which the cheapest outlet is to the Gulf and above which the cheapest outlet is to Kansas City-St. Louis. Wheat headed for Galveston enjoys an export rate, but wheat headed for Kansas City has no equally favorable prerogative. Wheat leaving Kansas City for export, however, enjoys an export rate both coming to and departing from that city. The rates from

Kansas to Chicago and thence from Chicago eastward are substantially less than the re-shipping (proportional) rates from interior points via Kansas City eastward. To some extent, therefore, this facilitates export of wheat from Kansas interior points via the Great Lakes. To determine the direction of export, one must obtain for each interior point the cheapest direct export rate (a) via Chicago, (b) all rail via St. Louis, (c) to New Orleans-Galveston via Kansas City or St. Louis, and (d) the direct-rail rate via Galveston or other Texas port. Galveston remains the cheapest route for most points in Texas and Oklahoma, and the Gulf has become the outstanding outlet for export of hard winter wheat, though significant quantities still go via North Atlantic ports. This Gulf export will expand rather than contract, with the prospective increase in wheat-growing in Oklahoma, Texas, and eastern New Mexico.

The following export rates (in cents per bushel) serve to indicate the advantage of the Galveston route, which is still greater because to the Chicago rates must be added charges to North Atlantic ports depending on the route.

Station	To Galveston	To Chicago
Texas:		
Farwell	20.4	32.7
Amarillo	19.8	30.3
Dalhart	20.4	30.3
Sweetwater	19.8	28.5
Lubbock	19.8	33.3
Quanah	19.8	28.5
Wichita Falls	19.8	28.5
Oklahoma:		
Woodward	21.6	24.0
Elk City	21.0	24.6
Altus	19.2	24.6
Ardmore	18.0	25.2
El Reno	19.8	24.0
Enid	21.0	22.8
Ada	18.6	24.0

One could pursue the analysis by taking up the northbound and southbound rates in southern Kansas and northern Oklahoma to determine the line of cleavage. The line, of course, shifts to the advantage of Galveston during the season of closed navigation on the Great Lakes. Under these circumstances it is not surprising that despite depression in the wheat market, the wheat exports from

Galveston during the five crop years ending with June 1932 have averaged 22.7 million bushels per year, ranging from 31.6 million in 1929-30 down to 13.1 million in 1927-28.

In the new southwestern hard winter-wheat belt is, therefore, a surplus area in which wheat is to a certain extent isolated from the direct influence of grain exchanges. Out of total crops (in Oklahoma and Texas) that have ranged, in recent years, from 51 to 133 million bushels, less than 40 million bushels have been ground, on the average, in the flour mills of these states. Most of the remainder must be shipped northeast into the territory of Kansas City or southeast to export through Gulf ports. When export demand is strong, the region is in a favorable position for export. When, on the other hand, export demand is weak and Chicago prices are above export parity, high-grade wheat in this region tends to fall into a position reasonably to be described as "distressed."

When hard wheat is shipped out of Oklahoma and Texas northeastward into the territory of the Kansas City Board of Trade, it meets in the competitive markets comparable wheat shipped into Kansas City from a shorter distance and at a lower freight rate. When this occurs, other things equal, the farm price of wheat in Oklahoma and Texas must be lower than the farm price of wheat in Kansas, given wheats of the same grade and type competitively sold on the Kansas City market. Put in another way, if there were no Gulf export outlet for wheat, then the farm price of wheat would diminish as the radius from Kansas City increased, corresponding to the gradually rising freight rate from the periphery to Kansas City. It is the Gulf export outlet which changes the situation, since at certain points, which form an east-to-west line, it will be cheaper to ship south for export than to ship north for domestic consumption or export. It is the greater cost to the Great Lakes which constitutes the exposure to distress of the wheat south of the line. In fact, of course, the wheat is in a far less distressed position because it can go to Gulf ports than it would be if it had to be sold entirely through Kansas City. But in relation to the Kansas City futures, it is proper to refer to the wheat of Oklahoma

and Texas as occupying a distressed position predisposing it to export.

The hard winter wheats of Texas and Oklahoma are harvested earlier than those of Kansas and usually enough earlier to enable new-crop wheat to be sold before the end of June. This tends to give them a certain premium position for a few weeks. When later the Kansas crop comes on the market, this advantage is lost if quality is comparable over the entire region. Hedging by Texas and Oklahoma mills tends to be less satisfactory; as against this, the mills of Texas and Oklahoma possess some advantage in country buying of cash wheat. When the mills of Texas and Oklahoma have made their early purchases from the new crop, after the Kansas crop comes to market and the relation of cash to futures has been established on the Kansas City market, the wheat of Texas and Oklahoma is likely to find itself, so to speak, neglected. Desirous of getting rid of their wheat before the spring-wheat crop comes in, on the basis of the current price at Kansas City, the wheat growers of Texas and Oklahoma look abroad for their final market, taking advantage of relatively low freight rates to the Gulf and avoiding the burden of relatively high freight rates at Kansas City. The export market during July and August tends to be favorable because at that time the European price of Canadian hard spring wheat tends to be high. It is thus an important fact that new-crop hard winter wheat without carrying charge is available to the European importer in competition with old-crop Canadian wheat burdened by almost a year's carrying charge.

The relatively favorable location for export of wheat in Oklahoma and Texas is due, in short, to the low freight rate to Galveston and the semi-distressed position of the commoner grades of this wheat in relation to the Kansas City market. Ordinarily, No. 2 Hard Winter can be placed on the boat at Galveston for no more than the price of the Chicago future and often lower; indeed, occasionally this can be done for little more than the price of the Kansas City future. Even when the Chicago future is high relative to Liverpool, this permits export from Galveston if the crop has been abundant. For example, if the Liverpool fu-

ture and the Chicago future were each 60 cents and No. 2 Hard Winter could be placed on the boat at Galveston for 60 cents, such wheat could be laid down in Liverpool from Galveston for a little over 65 cents, whereas it would have cost about 73 cents to have laid it down from Chicago. But if the wheat could have been laid down on the boat in Galveston for the price of the Kansas City future (to take an extreme illustration), which was, say, 53 cents, then the wheat could have been laid down at Liverpool at a figure slightly under the Liverpool future.

When, therefore, the Chicago future is only 5 or 10 cents below the Liverpool future, export of wheat is still feasible from Galveston when it could not be carried on either from Chicago or from Kansas City. Practically speaking, Galveston has almost a 10-cent differential advantage over Chicago, so that the term "export parity" at Galveston is an entirely different thing from "export parity" at Chicago. It is thus possible for wheat to be actively exported from Galveston and not exported at all from Atlantic ports.

The surplus area designated as the Pacific Northwest differs from the Texas-Oklahoma region in two important respects. It is geographically much more isolated from the great central markets of the United States; freight charges to interior domestic markets, by rail or water, are so high that the regional surplus ordinarily must find export outlets, except as it goes to California, Alaska, or Hawaii. Moreover, the wheat is predominantly white, and soft or semi-hard, resembling Australian wheat much more closely than it does Canadian spring or United States hard winter. For these reasons, wheat prices in that region often diverge widely from Chicago prices, and Chicago export parity in a given year has little bearing on exports from Portland or Seattle. Thus in 1924-25, Chicago prices were such as to permit large exports of hard and soft red winter wheats, while the Pacific Northwest, with a short crop, exported very little. By contrast, exports of Pacific white wheat were liberal in 1925-26, whereas, after a short crop of hard and soft red winter wheat, Chicago prices were so high in relation to Liverpool that exports of these wheats were very small.

As shown by Table 1 (p. 11) Columbia River and Puget Sound exports were substantial in September–November 1931, but negligible after December. Trade information indicates that export sales were liberal before the China contract was announced, but that after shipments on this contract began in October, export sales were confined largely to special lots at premium prices.¹ The 15 million bushels reserved for the China contract depleted the regional surplus; California took more than usual; farm holding was in evidence as elsewhere; and some shipments were made back into the intermountain territory because of the spring-wheat shortage. Consequently, wheat prices in that area were maintained at levels too high to meet severe Australian competition, particularly in the Orient, and competition of various wheats on the European market. The tariff prevented appreciable imports of Canadian wheat.

Our Pacific export wheats are grown west of the Rocky Mountains; Canadian wheat exported from Vancouver is grown east of the Rockies, mostly in Alberta.² Our Pacific export wheat is largely of a type different from the wheats grown east of the Rocky Mountains, whereas the Canadian Pacific export wheat is Marquis wheat, which is identical with, or often superior to, that raised in Saskatchewan and Manitoba. Broadly speaking, the export wheats from the Puget Sound ports are not directly competitive in Europe with the wheat from Vancouver, since the American exports yield soft flour of the biscuit type, whereas the Canadian exports yield strong flour of the bread type. These wheats, however, compete in the Orient more or less regardless of type. In the Orient the Pacific export wheats from the United States encounter similar and comparable wheats from Australia, so that soft wheats from Australia and the United States compete with hard wheat from Canada. For the most part, the wheats sent to the Orient from all three countries of origin incline to

be of lower grade and unrepresentative characteristics, since the Asiatic imports incline to be determined by price.

The relation of these exports to a common base-line of price has never been carefully studied. There are no grain exchanges for trading in futures in Australia, and those on the Pacific Coast have never been active enough to serve as guides to exporters. Exporters of Alberta wheats through Vancouver make direct use of Winnipeg and Liverpool futures. Exporters of United States wheats from Pacific ports cannot make comparable use of Chicago and Liverpool futures. Alberta wheat, whether exported eastward or westward to Europe, is influenced directly by Liverpool and Winnipeg prices. It might perhaps be implied that Alberta wheat sold in China encounters there the influence of the Liverpool price reflected through Australian wheat sold in China, but the hypothetical relationship would be very difficult to trace. Pacific export wheats from the United States perhaps feel in Asia the influence of the Liverpool price reflected through the prices of both Australian and Canadian wheats, but again the influence would be very difficult to trace. The wheats of Alberta, Washington, and Oregon are often in distress, in the sense that they are compelled to seek outlets in distant markets and with little choice. This is more true of the wheats of Washington and Oregon than of those of Alberta. The export of wheat from our Puget Sound ports is quite clearly an opportunity trade: there is no base-line of futures prices from which it may be judged directly, and the growers must accept current prices in the Orient and in Europe, minus current transportation costs, unless they wish to feed their wheat or store it into the next season. The domestic market in the Pacific states is limited, with the top price fixed by the cost of delivering into the Pacific states flour manufactured east of the Rocky Mountains. The wheat is in distress in the sense that it cannot be successfully hedged and the exportable surplus must be sold for what it will fetch, unless held at the risk of growers. The effect of isolation which applies to some extent in Texas-Oklahoma applies still more strongly in Washington and Oregon.

¹ E.g., *Commercial Review*, Portland, Oregon, September 27, 1932.

² Comparisons of export freight rates, eastbound and westbound, confirmed by inquiries to Canadian exporters, show that Canadian wheat cannot move westward to export from farther east than the western fringe of Saskatchewan.

VII. CONCLUDING OBSERVATIONS

The foregoing discussion brings into bold relief the fact that an effective combination of circumstances may keep United States wheat prices out of line with prices in foreign importing markets and in other exporting countries. Even in the face of a huge export surplus here, the tendency to export parity may be effectually counterbalanced and exports radically restricted by price relationships. This situation may obtain even in the absence of such widespread optimism and general bullishness as prevailed in 1928-29, and in the absence of governmental purchases of wheat or wheat futures such as were present in 1929-30 and 1930-31. American holders of and traders in wheat may agree, in effect, to set a higher valuation on wheat than European importers do. In the light of recent experience, this point deserves much greater emphasis than it has commonly received.

In particular, it appears that, in the absence of Federal Farm Board support to the wheat market in 1929-31, other forces such as operated in 1931-32 would have limited the decline of domestic wheat prices, restrained exports, and enlarged the carryover. The Federal Farm Board is entitled to less credit for support of domestic wheat prices, and to less blame for restriction of exports and increase of carryover, than it has commonly been given. Unquestionably the Board's operations in wheat have had far-reaching effects on the wheat situation in the past three years. It is easy to point out specific consequences; but to appraise the net effect upon world wheat prices, domestic prices, and United States exports and carryovers remains exceedingly difficult. It is safe to stress the point that ordinary market forces in recent years exerted an influence upon wheat prices in this country tending to resist severe declines even at the cost of limiting exports and expanding stocks. When the government undertakes stabilization operations, a large part of the burden it

assumes is taken over from other interests; it is by no means a net addition to stabilizing influences.

Probably even in the absence of stabilization operations, the great bulk of the world wheat surplus would have come to be held in the United States, and the 1932 carryover might not have been radically smaller than it was. The forces discussed above are operating in the current year to prevent the absorption of this surplus.¹ They must be reckoned with, and should be clearly understood, in connection with any fresh proposals for government measures to aid wheat farmers.

We have confined our detailed analysis to a single year; the examination is really tentative in character; and we have made no attempt to weight the several factors influencing the Chicago price in relation to the Liverpool price, or to elucidate the mechanisms involved. The topic is part of a larger one—the relation of wheat export to wheat price in the major exporting countries. The urge to export and the urge to hold wheat are not the same in the different wheat-exporting countries. The causes of these differences, their extents, and the effects upon domestic and foreign prices of wheat constitute a large problem deserving comprehensive investigation. The tentative examination herein presented serves merely to call attention to the current situation, on account of its timely importance and bearing on developments during the present crop year.

¹ During July-September 1932 the spread between the lowest Chicago price and the closing Liverpool price (of the nearest future) ranged from 2.7 to 9.2 cents per bushel. The spread was less unfavorable to exports in 1932 than in the corresponding months of 1931. We have some 130 million bushels less wheat in the supply than last year, and the Texas-Oklahoma crops are much smaller. Net exports of wheat have been extraordinarily light. The factors tending to raise the Chicago price evidently persist. When the situation terminates, more detailed examination will become feasible.

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