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WORLD WHEAT SURVEY AND OUTLOOK JANUARY 1940

V. P. Timoshenko and Holbrook Working

Wheat prices in North America were strongly influenced during September–November by the selling policy of the Argentine grain board. The board raised its selling prices only moderately following the outbreak of war and sold freely, favored by the fact that ocean freights from Argentina advanced no more than from North America. Canadian prices declined persistently under this competition, and in the United States prices responded only moderately to the sensational deterioration of prospects for winter wheat there. Severe crop damage in Argentina and a change in Argentine selling policy, however, contributed to sharp price advances from late November to mid-December. At Antwerp, price increases during December were extreme, reflecting great further increases in ocean freights.

International trade in wheat, curtailed in September and October, has since been larger than last year. Although most European countries have taken steps toward economizing on wheat, they are apparently endeavoring to maintain or to increase stocks. European imports seem likely to be about as we estimated in September, and ex-European takings somewhat larger.

Despite the drastic decline in Argentine crop prospects, estimated world wheat supplies for 1939–40 show little net change. European carryovers next August 1 promise to be larger than a year earlier, and the total world carryover may also be larger and perhaps at a new high. In view of the large supplies, it seems questionable whether prices in exporting countries can be maintained at the levels of mid-January.

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Wheat prices at Chicago and Winnipeg in mid-September, two weeks after the outbreak of war, were nearly or quite 20 cents a bushel higher than in mid-August. The Argentine grain board, however, taking a conservative view of the price effects to be expected from the war, had raised its export selling price only about 8 cents per bushel. The British import trade was wholly under governmental control, with all wheat markets closed, but at Antwerp prices of North American wheats in mid-September were some 45 to 50 cents higher than in mid-August. Contrary to general expectations, costs of shipment from Argentina in neutral vessels rose no more than costs from North America. Shippers were thus able to quote Argentine wheat at a price advance of only about 35 cents per bushel above prices asked in August.

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Although the Argentine grain board advanced its export price slightly in October to about 49 cents per bushel, the Argentine competition forced a decline in Canadian prices during September–November. In the United States, an unprecedented autumn drought, drastically cutting prospects for next year's harvest of winter wheat, induced relative price strength and led to modification, and eventually to discontinuance, of the export-subsidy program (later partially reinstated). Meanwhile, serious crop damage in Argentina from excessive rainfall helped to lay the basis for renewed price advances in exporting markets. The advance began suddenly at the end of November and, aided by severe frost damage in Argentina, further unfavorable weather in North America, and a wave of public buying, prices were swept upward, the May future at Chicago advancing nearly 25 cents per bushel in a little over 3 weeks. At Antwerp the December price advance was much greater than in exporting markets, for intensified German destruction of merchant shipping led to new advances in ocean freights greater than those during the first month of war. By late December prices of imported wheat at Antwerp were 2 to 2½ times as high as in mid-August.

The sudden and drastic decline in Argentine crop prospects, though it affected wheat prices, made little change in total world wheat supplies; for several upward revisions of crop estimates in exporting as well as in deficit countries more than compensated for Argentine crop losses. During the past four months estimated supplies in the Northern Hemisphere have increased slightly more than those in the Southern Hemisphere have declined. The geographical distribution of supplies remains highly favorable for provisioning the wheat-deficit areas of Europe, under circumstances calling for economy in the use of ocean tonnage. The supplies of Europe and North Africa are the largest on record, and those in North America, the next nearest source of supply for Europe, are also very large.

Rapid marketing of the large new Canadian crop taxed railway and storage facilities, but a large proportion of the big crop was moved to the Atlantic seaboard ports, so that heavy shipments of Canadian wheat during the winter over the short Atlantic route will be possible.

Despite abundant wheat supplies from stocks and new crops, most European countries, whether belligerent or neutral, feared wartime dislocation of ocean transportation and introduced numerous measures designed to economize on wheat. Many have prohibited feed use of wheat, others have lim-

ited it, flour-extraction has been stretched, and a few countries, Germany among them, have resorted to direct rationing of bread and/or flour. At the same time, practically all European countries have attempted to increase their wheat imports in order to maintain or even to increase stocks. Overseas shipments to Europe, reduced by the impact of the war in September and continuing low in October, accordingly recovered in November to a level above last year's. Shipments on the longer route from Argentina recovered even earlier than on the shorter North Atlantic route, partly because Argentine prices were raised less than Canadian. But this may also indicate that a policy of strict economizing of British tonnage has not yet been applied and that neutrals were perhaps more willing to supply their tonnage on that route.

Statistical information concerning international trade has become very incomplete, so that comparison with previous years is precarious. It seems probable, however, that the volume of international trade during the first five months of 1939–40 was only about 10 per cent below last year's volume in the same months, though exports to Europe declined more than this. Exports from the four chief exporters were larger than last year's, and Danubian exports as well, but these increases did not fully compensate for the near-absence of Russian exports, which had been exceptionally large early in the autumn of 1938.

Practically all international trade in wheat, both exports and imports, is now determined by government-controlled agencies, and the volume of trade in coming months will therefore depend heavily both upon unpredictable wartime developments and upon decisions of the governmental agencies. But trade developments during August–December seem to warrant the inference that the year's volume is likely to fall within a range suggested last September—net exports of some 550–580 million bushels.

Europe will probably draw exports so far as possible from the nearest sources around the Mediterranean Sea, in order to economize on ocean tonnage. Hence the share of this area in European imports will be larger than usual.

In North America, the second nearest source of supply for Europe, the United States will export little. With export subsidies limited to Pacific Coast wheat exported to the Philippines, China, and Hong Kong, new sales for export will hardly be large. Canadian exports, however, may be larger than last year's even though shipments in August–December were smaller this year. With large Canadian wheat stocks in eastern seaboard ports, unusually heavy shipments are possible in the winter months.

Shipments from Argentina with her small and low-quality new crop can hardly be maintained at the very high level of November–December. Yet sizable stocks of good old-crop wheat, which the new milling regulations do not reserve fully for domestic use, will permit substantial exports. Australian shipments will be hampered by the great distance from Europe. The government will presumably seek, however, to dispose of as much wheat as possible in the nearest Oriental markets in order to keep stocks from accumulating heavily. The stocks in Australia next August may nevertheless reach a level not touched since 1916–19.

The year-end carryover promises in total to establish a new high record. Carryovers will be particularly large in Europe and in North America, as well as in Australia.

Wheat Supplies

Present appraisals of the world wheat crop of 1939 differ little from those current last September. The numerous revisions of crop estimates and newly issued first official estimates of the past four months have more or less offset one another, sharply in contrast with developments in 1938; and the world wheat crop ex-Russia now appears about 130 million bushels larger than seemed probable last September.[1]

Its geographical distribution, however, has changed substantially. In the Northern Hemisphere, in both surplus and deficit countries,

[1] Deterioration of prospects for the 1940 crop of winter wheat in the United States, resulting in an official forecast of a crop of only 399 million bushels (implying a yield per acre sown 25 per cent under the 1928–37 average), had a strong market influence despite the fact that it had no bearing on supplies for the current crop year.

revisions and new official estimates were mostly increases, and the Northern Hemisphere crop is now estimated some 90 million bushels larger than in September. On the other hand, a drastic change in the outlook for the Argentine crop reduced the prospects for Southern Hemisphere production by more than 60 million bushels, even though the outlook for the Australian crop improved.

The December official estimate brought the United States wheat crop to 755 million bushels, 19 million above the September estimate. The Canadian official estimate was also revised upward by 40 million bushels, practically the whole increase being in the Prairie Provinces. The estimate for Europe ex-Danube ex-Russia now stands at 1,248 million bushels, some 39 million higher than in September,[1] mainly because the official estimate of the crop of Greater Germany was some 18 million bushels larger than our tentative estimate in September. There were also smaller upward changes for such European countries as Sweden (5.4 million bushels), Greece (6.3 million), Belgium (1.1 million), Lithuania (1.2 million), and several others (Table II). These increases were not fully offset by slightly reduced prospects for the crop of the Lower Danube region. A reduction of the Rumanian official crop estimate by some 12 million bushels more than compensated for upward changes for Bulgaria (6.2 million) and Yugoslavia (0.8 million).

The present estimate of the crop of French North Africa is also smaller, by 2 million bushels, than it was in September; but the Turkish crop is now estimated 6 million bushels larger. Thus, on balance, the estimate for all the surplus areas surrounding the Mediterranean Sea has not changed since September. Nor was there a large net change in the estimate of the wheat crop in the Orient. Although the current appraisal of the Japanese crop at 61 million bushels is the largest on record and some 7 million bushels above the September forecast, it is more than offset by a reduced appraisal of the Manchukuan crop.

Changes in crop estimates represent changes in wheat supplies, for estimates of inward carryovers remain practically unchanged since September.

The changes in the geographical distribution of world wheat supplies indicated above make the problem of providing the wheat-deficient areas of Europe with wheat, under war conditions, even simpler than it appeared in September. With their own crops appraised somewhat higher, with the supplies in the nearby surplus areas surrounding the Mediterranean of record size though not larger than seemed probable last September, and with increased estimates of crops in the North American area, Europe is in a most favorable situation for wheat importation with maximum economy in utilization of ocean tonnage. For the current year, ocean tonnage presents practically no problem for continental belligerents with their very large (under normal conditions, embarrassingly large) initial stocks of wheat and with record wheat supplies in the adjacent surplus areas —the Lower Danube for Germany and northern Africa for France. The problem of ship-

[1] Official estimates for such important wheat producers as France and Italy are still missing, and provisional figures are used for these and some other countries.

Supplies from crops and inward carryovers (using revised estimates of carryovers as given in WHEAT STUDIES, October 1939, XVI, 66) are as follows, in million bushels:

Crop year	World ex-USSR[a]	Europe ex-Danube	North America	Southern Hemisphere exporters[b]	Danube basin[c]	French North Africa[d]	India; Near East[e]
1929-30....	4,527	1,386	1,487	460	375	88	472
1930-31....	4,869	1,282	1,728	559	399	78	538
1931-32....	4,863	1,254	1,731	551	430	78	542
1932-33....	4,842	1,498	1,727	568	277	82	470
1933-34....	4,962	1,671	1,434	593	398	80	497
1934-35....	4,080	1,680	1,279	576	316	105	500
1935-36....	4,526	1,623	1,270	427	336	90	509
1936-37....	4,271	1,392	1,115	509	418	64	550
1937-38....	4,349	1,395	1,176	464	401	79	550
1938-39....	5,146	1,584	1,471	606	502	81	614
1939-40							
Sept.[f] ..	5,252	1,581	1,542	620	539	113	602
Jan.[g] ...	5,270	1,620	1,591	559	536	111	608

[a] Including also Russian net exports.
[b] Australia, Argentina.
[c] Hungary, Yugoslavia, Rumania, Bulgaria.
[d] Morocco, Algeria, Tunis.
[e] For Near East (Turkey, Syria and Lebanon, Palestine, and Cyprus) inward carryovers disregarded.
[f] Data actually published in September (WHEAT STUDIES, XVI, 22) differ slightly from these estimates because of changes subsequently made in estimates of inward carryovers.
[g] Our estimate as of January 1940.

ping is important only to Great Britain and the neutrals of northwestern Europe. If Great Britain continues to control ocean routes and to recognize the legitimate interests of neutrals as she seems to do now, it is doubtful whether any substantial problem of securing wheat supplies exists for Europe in the current crop year.

The tabulation in the footnote above shows the distribution of wheat supplies among the large wheat-producing regions with comparisons for previous years, and well illustrates Europe's very favorable situation in 1939–40. It is true that total wheat supplies in Europe ex-Danube (crops plus inward carryovers) are some 40 million bushels smaller in 1939–40 than they were on the average during the surplus years 1933–34 to 1935–36. But utilization of wheat in this area has declined, due partly to governmental interventions, and during the three years preceding the present war it was more than 50 million bushels smaller than the average of 1933–34 to 1935–36. Furthermore, supplies in the Danube basin for 1939–40 exceed last year's record by more than 30 million bushels, and also exceed by 180 to 190 million bushels the average supply for this area in the previous three years. The supplies of French North Africa are 30 million bushels larger than the moderate supply of last year and about 20 million bushels above the average supply of 1933–34 to 1935–36.

In general, with such supplies in the wheat-deficient areas of Europe itself and in the neighboring surplus areas, European requirements for imported wheat, taking the three years preceding 1939–40 as a standard, would not under normal conditions exceed those for 1934–35 or 1935–36, when European net imports were some 340 to 350 million bushels. Of this small import requirement, a much larger proportion can be obtained from neighboring countries around the Mediterranean than was possible in the earlier years. Moreover, supplies in North America, the second nearest source, exceed those of last year by about 130 million bushels, and are about 390 million bushels larger than the average supplies of 1934–35 to 1937–38, when the North American crops were unusually small. Only in the distant countries of the Southern Hemisphere and in India and the Near East, where surpluses are usually small, are this year's supplies smaller than last year's.

Wheat types and quality.—During wartime less attention is usually paid to quality of wheat than in peacetime. Yet a few facts warrant mention. Because of the large Canadian crop, supplies of superior hard red wheats are abundant this year—larger than last year or in any year since 1932–33. With good crops in the Mediterranean countries, supplies of durum wheat are also abundant, in spite of a lower outturn of durum this year in North America. The larger Australian crop of 1939 brings supplies of good white wheat slightly above the moderate supply of last year, even with the substantial reduction of white wheat in the American Pacific Northwest as compared with the three preceding years. The remoteness of Australia may nevertheless prevent Europe from obtaining large amounts of white wheat during wartime. Good red "filler" wheats, on the other hand, are not abundant, largely on account of the very small new Argentine crop (the second smallest since 1916–17) and its poor quality due to rust and frost. Last year the Argentine crop was not only very large, but also of high quality. Rumanian wheat from this year's crop is also of low quality, so light in weight that the government has forbidden use of the heavier grades in domestic flour mills so as to reserve them for export.

The Canadian crop is not only large but of excellent quality. The percentage of superior grades is very high. Wheat grading No. 3 Northern or better comprised 93.5 per cent of all inspections during August–November, when special classes such as Garnet and durum are excluded. The average protein content of the 1939 crop, according to the Board of Grain Commissioners, was 14.1 per cent, exceeding the final value for the 1938 crop. In this year's crop, the protein content increases as the grade declines.

The quality of the 1939 wheat crop in the United States is also high, particularly for hard red spring, hard red winter, and durum wheats. Quality is not only higher than last year but also materially higher than the 1934–38 average. Only the quality of soft red winter

wheat in the United States is slightly below that of the 1938 crop.

Europe thus finds in North America this year not only a physical abundance of wheat, but also a large reservoir of superior hard red wheats of high quality.

Visible supplies and marketings.—Since the outbreak of war last September, statistics are no longer available of wheat stocks in several positions, particularly ports of the United Kingdom and afloat to Europe. Hence world visible supplies for recent months cannot be shown in comparison with data for earlier years (Chart 1). But the principal components of the world visible, stocks in North America, continue to be published regularly. These, when supplemented by rough estimates of the missing components, warrant the conclusion that the world visible would have established a record high level this year if all its components had been reported.

The principal cause of this increase from last year, when the world visible failed fully to reflect existing large world supplies, lies in the large Canadian crop of 1939. This brought the Canadian visible to the highest point on record. As is shown by the tabulation below, the Canadian visible on January 1,

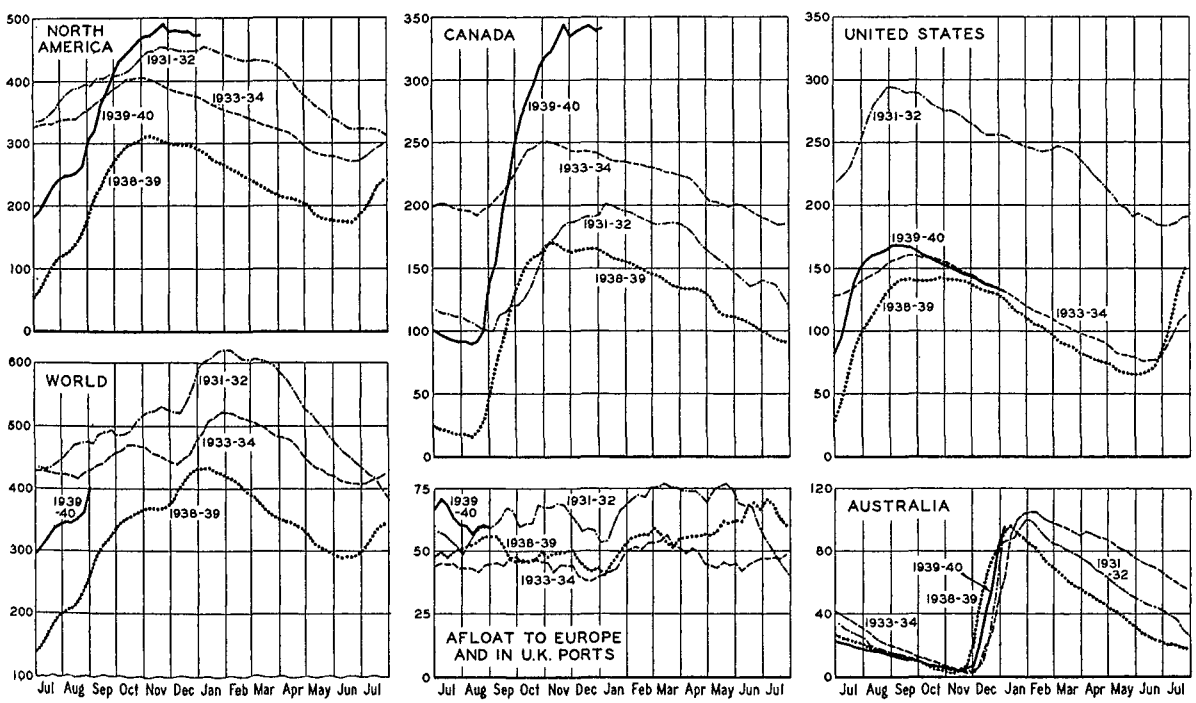
Jan. 1	"World"	North America	United States[a]	Canada[b]	Australia	Argentina	Afloat	U.K. ports
1932..	594	448	256	192	85	7	30	24
1935..	448	350	92	258	46	11	25	16
1939..	430	294	129	165	83	10	25	18
1940..	...	473	134	339	83	..	..	..

[a] Including United States wheat in Canada.
[b] Including Canadian wheat in United States ports.

1940, exceeded the previous Canadian record of January 1, 1935 by 81 million bushels; and it exceeded even much more (by 147 million bushels) the visible on January 1, 1932, the year when both the North American and the world visible established their previous records. Thus the North American visible on January 1 of the current crop year has exceeded by 25 million bushels that on January

CHART 1.—WHEAT VISIBLE SUPPLIES, WEEKLY FROM JULY 1939, WITH COMPARISONS*

(Million bushels)



* Weekly data for certain series summarized by months in Table IV. Note that scales are not uniform throughout.

1, 1932, the year of the record high visible. This suggests that the world visible, if complete, would also establish a new record during the current crop year. The missing stocks afloat could hardly be much lower than those of 1932, while stocks in British ports have presumably run as high as or higher than in 1932.[1]

While visible supplies have run at a record high level this year, their seasonal course, particularly in Canada, reflects very heavy marketing early in the season. The period of rapid Canadian marketing began about as early this year as last, and the first 25 per cent of the estimated total marketings from the crop were delivered at about the rate that is usual with moderately favorable weather—about 8 per cent weekly. The second 25 per cent, however, was delivered at the extraordinarily rapid rate of about 11 per cent weekly. This rate had been approximately equalled in previous years only in 1929, when the Canadian crop was small. To attain this rate from the large crop of 1939, however, required delivery of 45.8 million bushels weekly, establishing a new record by a wide margin. Three-fourths of the estimated total marketings from the 1939 crop were completed by October 31, about 3 days later than the same percentage was reached in 1938, when the record was set in this respect.

The exceptionally rapid Canadian marketing this year is better perceived by comparisons with the record Canadian crop of 1928, and the crop of 1927 which approached this year's crop. By November 17, 1939, about 80 per cent of the estimated total marketings for the season had been completed. The figure was about the same in mid-November 1938, but was only 66 per cent in 1928 and only 49 per cent in 1927. This reflects changed conditions of harvesting and hauling to market over the past decade.

The primary movement of wheat in Canada established records in both September and October and was so heavy that it soon taxed country and terminal elevators as well as railway facilities. From October 16 to November 17 an embargo was placed on rail shipments of wheat from country points to Fort William and Port Arthur, even though the movement of wheat down the Great Lakes from these terminals was very heavy and from August 1 to the close of navigation had exceeded last year's movement for the same period by 32 million bushels. But exports of Canadian wheat in September and October were only very moderate in relation to export supplies. This reflected partly wartime disturbance of ocean shipping in the early months, and partly British purchasing policy. Only in November did British purchases of Canadian wheat increase and shipments of wheat from Canada improve greatly. Consequently, with the heavy primary movement, the visible supplies of Canadian wheat underwent an enormous increase. At the end of September they had already exceeded the previous record (of 1933), and the margin continued to increase rapidly through October and November (Chart 1). Heavy shipments down the Great Lakes before the close of navigation resulted in a shift of a large proportion of the crop to eastern lake and seaboard ports both in Canada and in the United States. At the close of navigation on the Great Lakes and the St. Lawrence, the Canadian surplus was thus in a strategic position; the possibility of heavy shipments to Europe during the winter and early spring was assured without the necessity of using the long ocean route from Pacific ports.

The post-harvest increase of visible supplies in the United States (Chart 1), reflecting large receipts at primary markets during July last, was as rapid as in 1938 despite the much smaller crop of 1939. This points to rapid early marketing in the United States also. In August, however, both the rise of the visible and receipts at primary markets became much slower than in the previous year. Marketing in the current year slowed down in August, perhaps because the government loan program was put into effect much earlier this year than last. On August 31, 1939, 74 million bushels of new wheat were under loans while in 1938 relatively few loans were made before October. This may have retarded mar-

[1] The latest published statistics of stocks in ports of the United Kingdom indicate that they rose to 28.8 million bushels on August 26, 1939; on September 1, 1931 they were only 12.5 million.

keting as well as shipments to primary markets, the point where wheat appears in the visible. The United States visible early in September was 33 million bushels larger than on the same date in 1938, and it continued to increase until mid-September, reflecting heavy receipts at primary markets that were slightly larger even than those of September 1938. But even at its 1939 peak the visible was some 125 million bushels smaller than the record peak of September 1, 1931. This year the decline from the mid-September maximum was relatively rapid, much more so than in 1938 when visibles continued to rise until November. This decline reflects slow movement of wheat to primary markets during the current year rather than rapid disappearance, for exports have been smaller this year than last year, and domestic disappearance seems also to have been smaller (p. 212). The Australian visible began to rise early in November, and on January 1 was at last year's level.

UTILIZATION

Except for statistics of wheat stocks in the United States as of October 1, practically no other statistical material is available to indicate the level of wheat disappearance during recent months. German statistics of stocks of wheat and flour, previously published monthly, no longer appear. Even statistics of imports have been suspended by several countries since the beginning of the war (see pp. 214–15). Here we can only emphasize such facts as give, if only indirectly, some indications of recent developments in wheat utilization. Among such facts are the supplies of other crops used for human food or for feed in competition with wheat, and the various governmental regulations affecting human consumption of wheat or the feeding of wheat to livestock.

Rye, potatoes, and feed grains.—In general, Europe harvested a very good *rye* crop in 1939, much larger than the 1933–37 average. In many eastern European countries which are important producers of rye, the 1939 crops exceeded even the good crops of 1938. This is true particularly of Poland, the Baltic countries, and Hungary (all surrounding Germany), but also of Bulgaria and Yugoslavia where, however, the rye crops were only slightly larger this year than in 1938. Germany herself harvested a slightly smaller crop of rye this year than last, but one substantially above the 1933–37 average. Thus, if she should choose to do so, Germany is in a position to husband her stocks of wheat for future use, relying at present more on her own good domestic supply of rye or on the rye surpluses of Poland or other neighboring countries.

The German *potato* crop of 56.3 million tons, according to official statistics, is practically the same as the large crop of 1938 and 5.6 million tons larger than the average crop in 1932–37. Information on the potato crops of other European countries is rather scanty. It seems clear, however, that the Scandinavian and Baltic countries have potato crops this year about as large as those of 1938, which were near the average. But with regard to Poland, whose potato crop is usually smaller only than the German, it is impossible to appraise the losses caused by the war. As yet there are no official estimates of the potato crops in the United Kingdom and France, but in August the situation in the United Kingdom was satisfactory and yields were expected to be high, while in France a light crop was expected.

In countries in which *corn* is used as human food in competition with wheat, this year's Rumanian crop much exceeded outturns in the last two years and was above the five-year average. Hence less wheat may be required within Rumania, and a larger surplus may be left for export. In Yugoslavia, however, the situation is just the reverse. The corn crop was much smaller this year than last and substantially smaller than the 1933–37 average. The Italian corn crop, according to unofficial information, also seems to be smaller this year than last, both years being slightly below average. Hungary also harvested a smaller crop than last year's, but corn is there used little for food and mostly as a feed grain.

Feed-grain supplies in the world ex-Russia are ample this year, perhaps even better than last year. Although the corn crops in Europe, with the exception of Rumania, are only mod-

erate, the United States corn crop is larger than last year. Taken together with the very large carryover from last year, the good crop brings corn supplies in the United States to the highest level since 1932. The growing Argentine crop is reported to be in good condition, and was presumably sown on an enlarged area. Total corn supplies for the world market therefore promise to be larger this year than last.

The 1939 *barley* crop of the world ex-Russia is generally good, better even than the large one of 1938. The total European crop seems to be somewhat smaller, though there are no crop estimates for several important producers; but crops in eastern and southeastern European countries such as Poland, Hungary, and Rumania are above last year's level. The German crop, though smaller than that of 1938, exceeds the 1933–37 average. An excellent barley crop was harvested in French North Africa. Thus Europe's potential supply of barley from neighboring countries is good, though prohibition of barley exports from Rumania was recently reported. North American supplies of barley are also larger this year than last, and much above the average for 1933–37. The *oats* crop, according to incomplete statistics, is also satisfactory—somewhat smaller than last year's but above average. In the United States, however, the supply of oats is some 10 per cent smaller than last year's and below average.

Price relationships between wheat and the feed grains promise to be more normal this year than last. After the beginning of the war, the price of wheat relative to other grains rose in the United States and in other countries, though recently, into December, the price of corn in Argentina exceeded the price of wheat and in London the price fixed for Plate corn on November 6 was above the price of Rosafé wheat. Under wartime conditions, however, feed use of wheat in Europe will not depend so much on price relationships as on governmental regulations. As we shall see below, these prohibit or limit feed use of wheat in most of the countries that before the war were important users of wheat for feed. On the other hand, the ample supplies of feed grains in North America, at prices in more normal relationship to wheat this year than last, will restrain the feeding of wheat to animals. Statistics of wheat stocks in the United States on October 1, 1939, already indicate that feeding of wheat on farms has been about a fourth smaller than in 1938.[1]

Government measures.—With the beginning of the war last September, several European governments both belligerent and neutral imposed various regulations designed to economize on wheat. Those countries which had already introduced in peacetime comprehensive governmental controls over wheat utilization (Germany among the belligerents, Italy among the neutrals) found it unnecessary to change their regulations greatly with the advent of war. But those among the belligerents, like England, which in peacetime had in no way limited wheat utilization, or which, like France, were in the process of taking measures to increase wheat utilization in order to dispose of domestic surpluses, changed their policies radically at the outbreak of war. Numerous measures aimed toward economy in use of wheat were also taken by the neutrals most seriously affected by the blockade, like Belgium, the Netherlands, Switzerland, the Scandinavian countries, and some others.

Such measures may be summarized under three headings: (1) those limiting non-food utilization of wheat, particularly feed use; (2) those directed toward economical use of wheat in human consumption without limiting consumption itself, such as increase in the rates of flour extraction or admixture of wheat substitutes in flour; and finally (3) those aimed toward direct limitation of human consumption of wheat by rationing consumers' purchases of bread and flour.

In Germany, the feed use of bread grains had been prohibited in the years just before the war; hence no change was required when

[1] We now estimate probable domestic utilization of wheat for 1939–40 as about 680 million bushels, as against 705 million estimated last September. We now anticipate not only smaller feed use of wheat, but also slightly smaller requirement for domestic milling and for seed. More flour will be extracted per bushel of wheat from the 1939 crop than from the crop of 1938; and the acreage sown for the 1940 crop now seems unlikely to reach our September expectations. For details, see Appendix Table IX.

war came, except that feed grains began to be closely controlled, with delivery by producers to governmental agencies made obligatory, as earlier with the bread grains. Belgium, Sweden, and Switzerland, which sometimes use substantial quantities of wheat for feed, prohibited such use soon after the war began. Switzerland on September 2 even prohibited the feed use of products from feed grains if those products were suitable for human consumption. This regulation was later somewhat liberalized. In the United Kingdom the use of home-grown wheat was largely confined to flour and seed by early instructions issued by the Ministry of Food to flour mills, but later, in October, arrangements were made to make available more home-grown wheat for feed in order to meet a temporary dislocation in the supply of feed grain for livestock. Effective from December 1, trading in home-grown wheat is under license and the licensed traders are required not to sell more than one-third of their purchases for uses other than flour milling. The same order prohibits the treatment of wheat in any way that might render it unfit for milling.[1] There has been no formal prohibition of feed use of wheat in other countries, so far as we know; but war conditions will inevitably prevent such use in substantial quantities, since some countries, like the Netherlands, introduced feed rationing. France, however, continues to feed denatured wheat from last year's surplus, and apparently to export it to neighboring countries.[2]

Strict regulation of flour extraction has prevailed for several years in such countries as Germany, Italy, and Spain, but after the war began several other countries both belligerent and neutral found reason to resort to such regulation with a view to economical use of wheat. In the United Kingdom the minimum rate of flour extraction fixed at the beginning of the war by an order establishing governmental control over all mills was 70 per cent; this was raised at the end of October to 73 per cent for flour extracted from imported or mixed wheat. In France a decree of September 9, effective from September 16, fixed the rate of flour extraction at 2 points above the average specific weight for wheat ground in each mill. This minimum rate is 4 points higher than the maximum rate that had been established earlier in the year for the purpose of facilitating disposition of the surplus from the large wheat crop of 1938. With standard wheat from this year's crop weighing 75 kilograms per hectoliter (the base for the fixed price), the average rate of extraction will be 77 per cent, and higher for heavier wheat.[3] Just before the war, effective from August 1, 1939, Italy limited production of flour to only one type of 78 per cent extraction, instead of the two types previously allowed with a somewhat smaller average extraction rate for both. Belgium and Switzerland introduced a single grade of wheat flour, effective in both countries from the last week of September. Switzerland required an extraction rate of 80 per cent, considerably above the usual prewar rate. In November, Greece introduced new milling regulations permitting only two types of flour to be milled—one of 85 per cent extraction, the other of 95 per cent. Production of flour of 75 per cent extraction is allowed only by special permission.

The important wheat-consuming countries of Europe are thus extracting considerably more flour from a given quantity of wheat than was true before the outbreak of war. This may mean a further substantial economy in wheat use as compared with prewar standards. Only one country—Spain, which changed her status from war to peace—liberalized her milling regulations by putting on the market in September wheat flour of 85 per cent extraction, whereas 100 per cent extraction had been compulsory earlier.[4]

Finally, Germany and the few neutrals most affected by the blockade have introduced direct limitation of wheat consumption in the form of bread and/or flour rationing. In Germany, from September 25, the sale of bread (including some other bakery products, but excluding fancy breads) or flour has been per-

[1] *The London Grain, Seed and Oil Reporter*, Dec. 1, 1939.

[2] *Le Bulletin des Halles, Bourses et Marchés*, Nov. 22, 1939.

[3] Small mills have complained that they cannot normally work with such a minimum rate, and they have been permitted instead to mix with wheat flour 2 per cent of rye flour (*Ibid.*, Nov. 11, 1939).

[4] Broomhall's *Corn Trade News*, Sept. 6, 1939.

mitted only on presentation of a ration card.[1] In view of the satisfactory new grain crop in Germany and the large carryover from last year, this measure was motivated not by actual shortage but by the necessity of keeping a certain amount of control over consumption. The bread ration has been fixed for "normal consumers" at 2,400 grams (5.3 pounds) per week. "Heavy workers" are entitled per week to 3,800 grams (8.4 pounds), and "heaviest workers" to 4,800 grams (10.6 pounds). The consumption of bread grain by grain producers themselves is also limited to certain rations: in Austria, Sudetenland, and southwestern Germany, to 3,640 grams (8.0 pounds) per person per week, and in other parts of Greater Germany to 3,360 grams (7.4 pounds).

As yet only a few of the neutral countries have begun to ration bread or flour. Switzerland introduced ration cards on November 1, which among other foods include flour and semolina and certain cereal products. However, no restriction was introduced requiring one-type bread. In Norway, rationing of flour has been introduced. In Belgium and the Netherlands, there was temporary limitation of bread and flour purchases at the beginning of the war, though formal rationing has not been introduced.

Restriction of feed use of wheat, lengthened extraction rates, and rationing together must tend strongly to curtail total utilization of wheat in Europe. But other factors operate in the opposite direction; heightened physical activity of nations in wartime, and restraints on use of other foods, may tend to enlarge wheat utilization and import requirements. The net effect of these opposing forces on utilization and import requirements cannot be appraised at present.

[1] See *Marktbericht des Reichsnährstandes,* Abteilung A, Oct. 2, 1939, p. 2, and also U.S. Department of Commerce, *Commerce Reports,* Dec. 2, 1939, p. 1105. In *Foreign Crops and Markets* (Dec. 16, 1939, p. 678), however, it is stated that while most foodstuffs are now strictly rationed in Germany, bread remains an exception.

[2] Data presumably representing official monthly Australian export statistics through October 1939, however, have been published in the *Monthly Crop Report and Agricultural Statistics* of the International Institute of Agriculture.

International Trade

Statistical information concerning international trade has become very incomplete since the war began. No European belligerent has released detailed trade statistics since September. Among the European neutrals, Italy has suspended publication of foreign-trade statistics, and like France has not even published data for August. Nor has France reported since last August the trade of her North African possessions with their relatively important wheat exports. Of the non-European belligerents, Australia has discontinued publication of her wheat export and import statistics[2] as well as of some other important data. Not only have these suspensions of publication caused difficulty, but receipt of statistics from reporting countries has been delayed.

The incompleteness of official trade statistics has inevitably affected unofficial data on shipments such as those published by Broomhall. His reports on shipments from Australia were discontinued after September 2, and for this reason total world shipments have since been clearly incomplete and not comparable with prewar series. And other components of the world total, particularly shipments from the Danube basin, North Africa, and "others," must inevitably have been affected more or less by shifts in routes and by wartime secrecy. From comparison of official statistics of exports from the Danube countries for the early months of the war with Broomhall's figures for shipments from the Danube, we have the impression that the shipments have recently been more incomplete than usual. Except for the broad subdivision of shipments to Europe and to ex-Europe, Broomhall's distribution of shipments according to destination was also discontinued after September 2, and few statistics of arrivals have since been published. This, coupled with the absence of official import statistics for important European wheat importers, makes import statistics conspicuously defective and precludes the possibility of using them to check and interpret export statistics, which continue to be relatively more complete.

Under the circumstances, discussion of world trade must run mainly in terms of ship-

ments and exports. To the extent that some of the exported wheat is sunk on passage and does not reach its destination, any attempt to use export statistics to draw conclusions concerning receipts by importers will tend to exaggerate the receipts. The extent of loss in passage is not as yet a matter of record. For these reasons our analysis of international trade must be less complete and accurate than usual, and many of the columns in our appendix tables relating to international trade must remain blank. But Broomhall's data on shipments, even with the numerous qualifications mentioned above, continue to supply valuable information concerning the course of international trade in wheat and, when adjusted, they supply a useful basis for comparison with trade in previous years.

Volume.—Broomhall's shipments, given in million bushels in the tabulation below for 22 weeks of the current year, in total and to Europe and to ex-Europe, are not directly comparable with data for the previous year because of incompleteness. They require adjustment, at least for the missing series of shipments from Australia after September 2.

Aug.–Dec. (22 weeks)	World	To Europe	To ex-Europe
1932–33	246	188	58
1933–34	220	172	48
1934–35[a]	218	166	52
1935–36	212	152	60
1936–37	238	185	53
1937–38	206	168	38
1938–39	239	193	46
1939–40	192	158	34

[a] Shipments for 23 weeks minus those in the first week.

When so adjusted,[1] total shipments for the first 22 weeks of 1939–40 fall some 12 to 13 per cent below last year's shipments during the same period. But in view of the probability that Broomhall has recently reported at least the Danubian and "others" shipments less completely than usual, it seems safe to conclude that total shipments of wheat during August–December of the current year fell below last year's shipments (600 million bushels in August–July) by a smaller percentage than indicated above—perhaps by not more than 10 per cent.

Trustworthy comparison of Broomhall's incomplete data for the current year on shipments destined respectively to Europe and to ex-Europe with similar data for previous years is even more difficult. The adjustment necessary would require knowledge of the distribution of the missing Australian shipments between these two destinations, and this information we do not have. But from a report sent by Broomhall's Sydney correspondent on November 28 that up to that date there had been exported barely half of the 9.25 million bushels of wheat (including flour) purchased by the British government, and on the assumption that with outbreak of war shipments of Australian wheat to other European destinations were inevitably hampered, we may tentatively conclude that Australian exports in September–December were directed more to ex-Europe than to Europe. Large Oriental purchases of Australian new-crop wheat in November were reported by the same correspondent and tend to substantiate this inference. If the inference is valid, it follows that total shipments to ex-Europe in August–December 1939, when adjusted for Australian shipments, were about at the 1938 level, and the decline of August–September shipments to all destinations as compared with those of last year was due wholly to smaller shipments to Europe. It follows also that the volume of shipments to Europe during August–December 1939 fell below last year's volume in the same months by more than the 10 per cent indicated above as the probable decline in total world shipments.

Government intervention.—Under prevailing war conditions, it is not safe to draw conclusions concerning the possible development of international trade for the crop year as a whole from the volume and course of trade in the first five months of the year. The volume of trade will depend heavily upon unpredictable developments in the war, particularly in naval warfare which directly interferes with the overseas trade. The course of trade also depends much more upon decisions of governmental agencies now than it did even last

[1] Statistics of exports from Australia, as reported by the International Institute of Agriculture, suggest that shipments from Australia for September–October averaged about 1.1 million bushels a week.

year, when exports from practically all of the major exporting countries were already controlled by governmental agencies, and imports into such countries as Germany, Italy, and Spain were also in governmental hands. With the beginning of the war, development in this direction proceeded still further. Great Britain, by far the largest importer of wheat, after the beginning of the war concentrated all purchases of import wheat in the hands of the Cereal Control Board, set up under the Ministry of Food; the volume, the source, and the timing of her imports are therefore completely under governmental control and direction. Several other countries, among them Ireland, the Netherlands, and Denmark—all important wheat importers—also created purchasing agencies, either strictly governmental or controlled by government, through which all purchases of wheat and flour are made. Furthermore, the system of private export from Australia disappeared. In 1938–39 and up to the beginning of the war, Australia was the only important exporter to have no direct governmental interference in wheat marketing. But when war came, the Commonwealth government assumed control of wheat exports, and through a Wheat Board created for the purpose took over residual stocks of wheat from the old crop, and the whole of the new crop of 1939–40.

Thus, practically all international trade in wheat at present—exports as well as imports—is determined by various government-controlled agencies, and conclusions and interpretations of the course of trade based on peacetime experience are no longer applicable.

Course of shipments.—The course of shipments during recent months (Chart 2), though incomplete, nevertheless suggests the force of the impact of war, with the accompanying dislocation of ocean transport, upon the flow of wheat. In the last few days of August, the uncertainties of the political situation had already affected wheat shipments. Shipments for the week ending September 2 were much below the level of the preceding weeks, which had shown the seasonal rise from the usual trough in the second half of July. In the next week shipments rose somewhat; presumably those delayed during the period of uncertainty were finally released. But in the following week they fell still lower and remained at this low level practically through October. The decline of shipments was due mainly to recalling of ships by belligerents and some neutrals, by the immobilization of German vessels in neutral ports, by regrouping of tonnage over various routes, by delay in organizing convoys over the main routes, etc. Incompleteness of the reports may also have contributed somewhat, but not heavily, to the "statistical" decline of shipments. The falling off of shipments from North America and Argentina, which are apparently satisfactorily reported, accounted for a large part of the decline in total shipments.

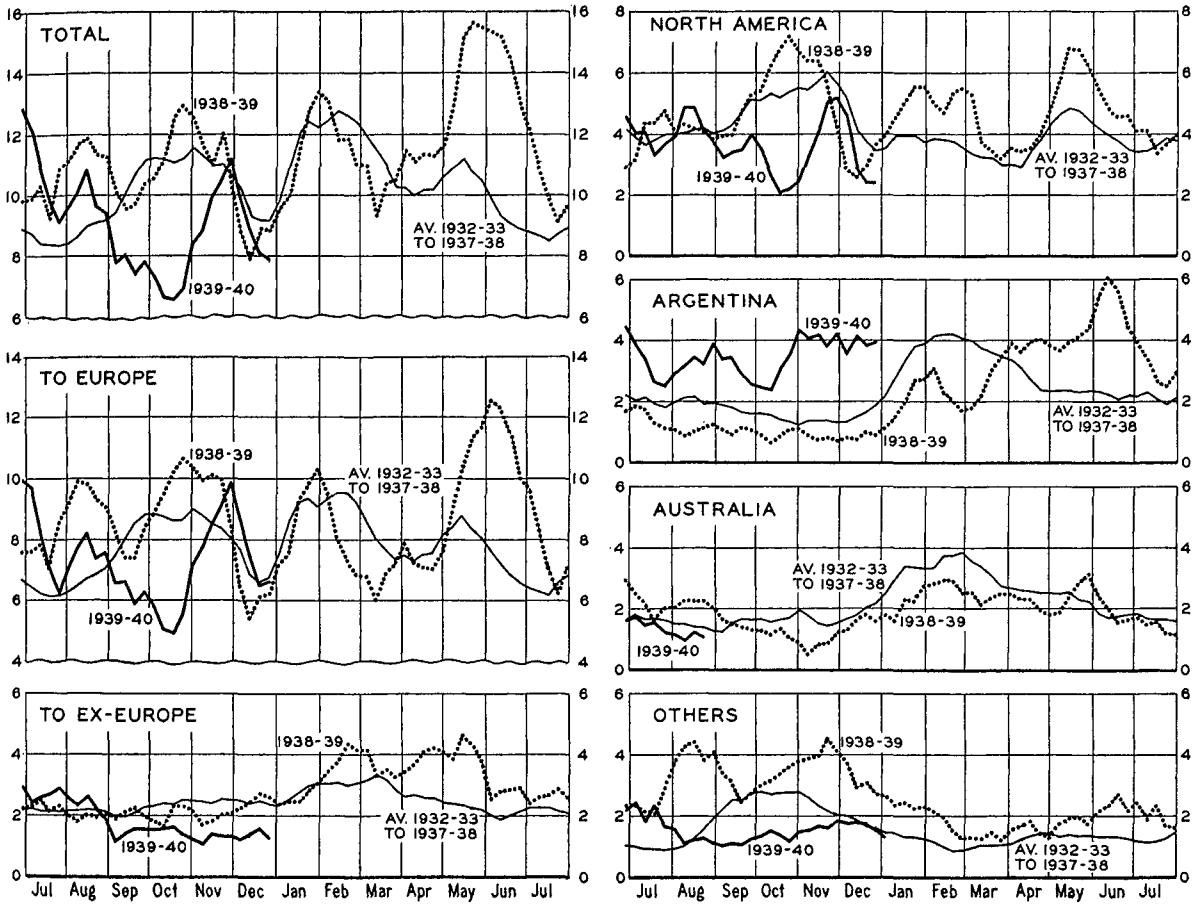
It is of interest to note that recovery of shipments from this low level began earliest on the longer route from Argentina. On this route, by the end of October, shipments had already risen to a high level from their trough in the first half of the month, while shipments from North America continued low until early in November and recovered only in the second half of that month. This occurred in spite of the fact that October–November is usually the season of heavy shipments from North America and of light shipments from the Southern Hemisphere. Various governmental policies presumably contributed to the relatively slow revival of North American as compared with Argentine shipments. For reasons not clear, the British government did not make heavy purchases of Canadian wheat until November, when a good deal of dissatisfaction with British policy was beginning to be felt in Canada. American exports were limited by changes in policy. The export-subsidy program after the beginning of the war was followed with more restraint than before, and subsidies granted for exports of wheat grain under the bid-payment program were sufficient to encourage exports to only a limited area (p. 229). The rapidity and extent of the recovery of shipments from Argentina suggest that the policy of economizing on British tonnage by utilization of the shortest routes had not begun to be applied in the first months of the war. There is also the possibility that the supply of neutral tonnage remained ample, for a considerable fraction of the shipments

from Argentina went to neutral countries of continental Europe and to Brazil.

It was stated above that the total volume of trade for August–December 1939 declined, as compared with the previous year, solely because of decline in the European trade. The course of shipments to Europe indicates the same fact. Shipments to Europe consistently declined from the end of August to the second half of October, and during October weekly shipments to Europe were some 5 to 6 million bushels smaller than in 1938. But beginning in the second half of October, shipments rapidly recovered and by the end of November and in December exceeded those of last year; and the usual December decline was smaller than in 1938. This suggests that organization of convoys was successfully completed at the beginning of November. Intensification of naval warfare in the second half of November, resulting in enlarged losses of tonnage, was not reflected in data on wheat shipments; but it must have affected arrivals, on which we have no information.

CHART 2.—INTERNATIONAL SHIPMENTS OF WHEAT, WEEKLY FROM JULY 1939, WITH COMPARISONS*

(Million bushels; 3-week moving averages)



* Broomhall's data; see Table VI.

The incompleteness of reports on shipments does not greatly affect the reported shipments to Europe, at least so far as concerns the missing data on Australian shipments,[1] for even before the war these shipments were not heavy. But discontinuation of reports of Australian shipments is the principal explanation of the indicated sudden decline of shipments to ex-Europe from the end of August to Sep-

[1] Incompleteness of Danubian and North African shipments might have a more important effect, but we are unable to appraise it.

tember. Our impression is that if or when adjustment can be made for the missing Australian shipments, the shipments to ex-Europe in August–December 1939 will be found to have been about at the level of previous years, when they were not so exceptionally heavy as they became in February–May 1939.

Imports.—Not much can be said about imports in view of the scanty information available. It is apparent, however, from data revealed by a few of the neutral countries, that the war and the blockade notably affected the imports of such European neutrals as surround Germany and usually receive their wheat from across the ocean. As would be expected, their imports in September fell substantially below those of the preceding month and were lower than in September 1938. This applies especially to Belgium, the Netherlands, and Denmark. Reserve stocks in Belgian ports were notably reduced.[1] But Switzerland, in a position to import wheat from neighboring countries on the continent, particularly Hungary, succeeded in increasing her imports in September over what they had been in August, though without reaching the figure of September 1938. Norway, with freer access to ocean routes, also succeeded in obtaining not only more wheat than in August but more than usual in September. In October the imports of practically all neutrals increased and they were seemingly satisfactory in November, though cumulative totals from August for Belgium, the Netherlands, and Denmark seem still to be lower this year than last. On the other hand, Switzerland and Norway up to the end of November have been able to import more wheat than in August–November 1938. Adequacy of wheat imports into these neutral countries is indicated by the fact that none has rationed bread as yet, and, though rationing in the Netherlands was considered in October, it was postponed in November.

We know little about receipts of wheat by belligerents. But judging from their purchases as reported from time to time in the trade press and from information on exports and shipments, all must be receiving wheat in quantities sufficient at least to enable them to maintain their reserve stocks intact. Heavier exports than last year from Hungary and active shipping up the Danube to Germany from Rumania, Yugoslavia, and Bulgaria throughout the whole period, according to reports in Broomhall's *Corn Trade News*, indicate that the receipts in Greater Germany must be substantial, and also Italian receipts from the same sources. The fact that Italy is importing wheat so early in the season suggests that she has decided to increase reserves, in contrast with policies in the last few years. Nothing can be said of French imports, except that they are not immediately needed. If France is receiving wheat from her North African dependencies, it is apparently only with a view to relieving them of large surpluses from their excellent crops, and also to encourage the sowing of a large acreage for the crop of 1940.

Import statistics of ex-European importers are as usual so delayed that they give very little information concerning trade in the months following outbreak of war. However, the American Agricultural Commissioner in Shanghai reports[2] that imports of wheat and flour into China, Japan, and Manchukuo for the period July–October were larger than a year ago. Large purchases of Australian and American wheat and flour were made by China in the closing months of 1938–39, and these appeared on the Chinese market during July and August. China also continued to purchase flour in the early months of 1939–40. Chinese imports during July–October 1938, however, were rather low and reached a high level only between the beginning of March and the end of the crop year 1938–39.

Sources of exports.—Net exports of wheat and flour in August–November by countries of origin, in million bushels, are shown in the following tabulation, with comparisons. Canadian exports are shown in two forms: according to customs statistics of exports, which include much wheat exported to the United States for subsequent shipment overseas, and (in italics) export clearances as pub-

[1] Broomhall's *Corn Trade News* (Oct. 25, 1939) mentions that stocks of wheat at Antwerp had then fallen to 28,000 tons as against 76,000 tons on September 1 and 96,000 tons on August 1.

[2] *Commercial Review*, Jan. 2, 1940, p. 5.

lished by *Canadian Grain Statistics,* which seek to include exports via the United States only as they move overseas. The movement of Canadian wheat through United States ports to overseas destinations has fluctuated greatly

Country	Average 1934–38[a]	1937	1938	1939[b]
United States	11.3	29.1	27.4	20.7
Canada (exports)	81.1	42.1	71.5	71.4
Canada (clearances)[c]	*67.1*	*36.1*	*66.2*	*48.0*
Australia	26.5	21.0	24.9	19.0
Argentina	29.6	12.1	18.0	62.0
Danube[d]	25.2	29.6	33.7	38.0
USSR	16.4	27.0	30.5	..[e]
Others[f]	16.3	19.3	14.5	13.0
Total	206.4	180.2	220.5	224.1
Total with clearances	*192.4*	*174.2*	*215.2*	*200.7*

[a] Not deducting net imports.

[b] Including our approximation for November for some countries.

[c] Overseas clearances of wheat grain from both coasts of Canada and from United States ports, plus imports of Canadian wheat into the United States for milling in bond and for consumption.

[d] Hungary, Yugoslavia, Bulgaria, Rumania.

[e] Presumably net imports.

[f] Including French North Africa, India, Turkey, and numerous other countries in years in which they ranked as net exporters.

in recent years and causes substantial year-to-year differences between the two sets of statistics given in the tabulation. In the current crop year, a strikingly large quantity of wheat was accumulated in the United States for later shipment overseas—some 38 million bushels on January 1, 1940, as compared with only 8 million the year before. From August 1 to December 1, 1939, stocks of Canadian wheat in the United States increased about 27 million bushels, whereas the increase in 1938 was less than 8 million. Accordingly, Canadian export clearances in August–November 1939 were 23 million bushels smaller than official exports during the same months. The year before, this difference had been only 5.3 million.

It is thus clear that the flow of Canadian wheat to final destinations was slower this year than last, despite the larger initial stocks which permitted larger August exports, and this year's much larger crop. The general delaying of world shipments caused by the war in September–October obviously affected the overseas movement of Canadian wheat, and Canadian export clearances in August–November 1939 were 18 million bushels smaller than in the same months of 1938. In contrast, Canada's August–November *exports* were of equal size this year and last. With the accumulation of stocks in the United States emphasized by this contrast between exports and clearances, Canada is well prepared for winter shipments overseas, and can transfer much more wheat to Europe from United States Atlantic ports during the winter months than was possible last year. Canadian export clearances in August–November were also below their 1934–38 average, but larger than in 1937 when Canadian supplies were very small.

August–November exports from the United States were also smaller in 1939 than in the two preceding years. This reflects not only slower movement after the beginning of the war, but also smaller exports in August, when the government was uncertain regarding its export-subsidization program and commercial exports were precluded by the artificially high level of domestic wheat prices.

Argentina, on the other hand, was able to export a large fraction of the huge surplus existing on August 1, 1939. August–November exports were not only far larger than in corresponding months of the two preceding years, but were also twice as large as the 1934–38 average. Shipments during November–December averaged no less than 4 million bushels per week, and total August–December shipments (22 weeks) of 78 million bushels were only second to those of 1929. Even with these heavy recent exports, Argentina's carry-over on January 1, 1940 must have been of record size, perhaps 65–70 million bushels.

Australian August–November exports were smaller this year than in the same months of 1937, 1938, or the five-year average 1934–38. This would naturally be expected under wartime conditions for so distant a source of supply. The low level of both Australian and North American shipments in August–November, however, was fully offset by the heavy movement from Argentina. Total August–November exports of the four chief exporters, even with Canadian export clearances taken

instead of net exports, thus exceeded exports for the same period last year and the 1934–38 average as well.

Danubian exports during August–November 1939 were also larger than those of the preceding year, though this is not reflected in Broomhall's shipments which this year are evidently less complete. With record large wheat supplies in the Danube countries readily available to the wheat-deficient areas of central and southeastern Europe, a substantial flow of exports in August–November was to be expected. But the reported exports were rather small in relation to the record size of the export surplus. In the same months of 1931 and 1936 when the surpluses were much smaller, the exports were larger. The Danube countries presumably hold large stocks available for export later in the current crop year.

As compared with 1938 the larger exports (taking export clearances for Canada) from the four chief exporters and the Danube countries in August–November 1939 failed to compensate fully for absence of net exports from the USSR this year. The USSR appears to be a net importer, for her imports of wheat through Vladivostok seem larger than the small exports indicated by Broomhall's shipments through the Black Sea.

It seems reasonable to assume that August–November exports from other sources, for which the data are not complete, have run nearly at last year's level, even in the face of wartime disturbances. Exportable surpluses in French North Africa are much larger this year than last, and Japan has been exporting wheat flour from her record crop at about the same rate as last year.

With regard to the world total, it seems possible to conclude that in August–November exports (taking export clearances for Canada) were some 15 million bushels smaller in 1939 than in 1938. This suggests that thus far in the crop year world exports are perhaps running at a somewhat higher level than seemed probable last September. Four months ago, our tentative appraisal of import requirements pointed (on stated assumptions) to the possibility that world net exports in 1939–40 might fall 75 to 125 million bushels below those of 1938–39. The events of the first third of the crop year point in the direction of a smaller reduction.

Prices and Price Relations

Wheat prices in all free markets rose sharply on the outbreak of war in Europe. Changes between mid-August and mid-September may be tabulated as follows in American cents per bushel:[1]

Quotation	August	September	Increase
Antwerp prices			
No. 1 Hard Winter	53	104	51
No. 2 Manitoba	66	111	45
Rosafé, arrived	50	91	41
Rosafé, afloat	50	86	36
Export markets			
Chicago basic cash	67	86	19
Winnipeg No. 2 Northern	49	66	17
Argentine export price	38	46	8

In the international market the dominant wheats in mid-September and later were Argentine and Canadian. Prices of United States wheats, which competed actively with Argentine in August, were raised above a competitive basis in September, partly in consequence of the strong price advance in the United States, but chiefly owing to reduction, and later, temporary withdrawal, of the export subsidy on wheat.[2] Between mid-August and mid-September the export price of Argentine wheat was raised only about 8 cents per bushel, as indicated in the tabulation above. The price of No. 2 Northern in Canada meanwhile advanced about 17 cents per bushel. In Antwerp the price increases were much greater than in the exporting countries, owing to sharp advances in costs of ocean freight and insurance. The price of No. 2 Manitoba wheat rose about 28 cents per bushel more than the price of the same wheat in Canada, and the delivered price of Rosafé wheat afloat rose by the same amount relative to the export price. Despite the shorter ocean voyage to Antwerp from North Atlantic ports than from Argentina, costs of shipment in neutral vessels rose about as much on one route as on the other.

[1] Data chiefly from Table X and the corresponding table in Wheat Studies, September 1939.

[2] Changes in the export-subsidy program are summarized below (pp. 228–29).

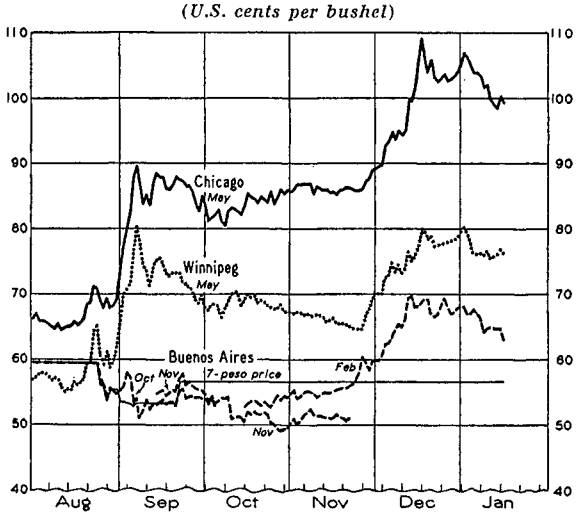
Pressing demand for wheat supplies immediately available in Europe in September advanced the price of Rosafé wheat already in Antwerp nearly as much as the price of Canadian wheat. Although the Antwerp price of Rosafé wheat afloat rose only 36 cents per bushel between mid-August and mid-September, the price of Rosafé, arrived, rose 41 cents, as compared with the advance of 45 cents in the price of No. 2 Manitoba. These relations reflected an unstable price situation in mid-September. Unless freight and insurance differentials were to change markedly to the disadvantage of Argentina, Canadian prices must decline or the Argentine export price advance.

North American prices.—The sharp price advance of early September[1] was followed at Chicago by an irregular and accelerating downward trend until early October (Chart 3, and Chart 5, p. 224). Then increasing concern over the progressive deterioration of prospects for winter wheat in the United States led to a gradual price advance until early November, followed by three weeks of extraordinarily narrow price movements with the Chicago May future close to 86 cents per bushel. Unprecedently poor prospects for winter wheat and expectation of continued price support from the government loans[2] tended on the one hand to keep Chicago prices in November from following the downward trend of Winnipeg prices (in United States currency). The threat of importations from Canada if the price spread between Chicago and Winnipeg should widen much more tended on the other hand to prevent further price advance at Chicago.

At Winnipeg prices tended steadily downward for three weeks from mid-September. Sensational reports on the bad prospects for winter wheat in the United States induced a sharp recovery of about 4 cents at Winnipeg during October 7 to 12, but the downward trend of Winnipeg prices was soon resumed, and, in terms of United States currency, continued through November 27. As quoted in Canadian currency, the Winnipeg May future held close to 75 cents per bushel and the Winnipeg December at about 70 cents (the wheat board buying price) through most of November. The decline shown by the Winnipeg price curve in Chart 3 during November is proportional to the depreciation of Canadian currency in United States dollars (Chart 4). The

CHART 3.—WHEAT FUTURES PRICES, DAILY, FROM AUGUST 1939*

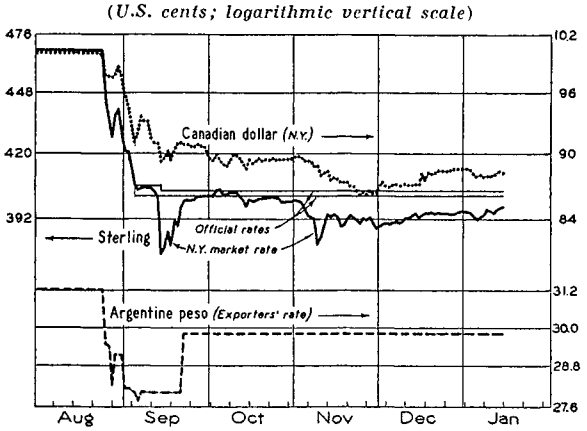
(U.S. cents per bushel)



* Closing prices, from Chicago *Daily Trade Bulletin* and Winnipeg *Grain Trade News*.

CHART 4.—EXCHANGE RATES ON CANADA, ENGLAND, AND ARGENTINA, DAILY FROM AUGUST 1939*

(U.S. cents; logarithmic vertical scale)



* Noon cable transfer rates at New York on Canadian dollar and pound sterling, as published by Board of Governors of the Federal Reserve System. Official sterling rates, from the London *Economist*. Argentine rates, partly nominal, as cabled in conjunction with Buenos Aires grain price quotations. The vertical scale is the same as in the upper section of Chart 5, p. 224.

[1] Discussed in WHEAT STUDIES, September 1939, XVI, 18.

[2] In mid-November it was reported that 154 million bushels of wheat were on record as having been placed in storage under loan by November 8. The loan basis was equivalent to a price of about 85 cents for Chicago May wheat.

wheat board buying price undoubtedly tended strongly to form a "floor" for Winnipeg prices, and it may be that the floor would have held even though further depreciation in the Canadian dollar had not occurred to relieve some of the tendency toward price decline at Winnipeg. Nevertheless the failure of Canadian wheat prices to advance as the Canadian currency depreciated evidences continuation of pressure on Canadian prices until near the end of November.

Underlying the general downward drift of Winnipeg prices during most of September–November was the fact that Canadian wheat was over-priced in relation to Argentine wheat. The price of No. 2 Manitoba wheat delivered at Antwerp had risen between mid-August and mid-September 9 cents per bushel more than the price of Argentine wheat (p. 220). A relative decline of the price of Canadian wheat at Antwerp between August and September would have been more appropriate in view of the fact that Canada in September began exporting from a new crop with an exportable surplus from crop and carryover about 75 per cent larger than that of the previous crop year. The disparity between prices of Canadian and Argentine wheat in Europe in mid-September required adjustment, and most of the adjustment to late November came through decline of Winnipeg prices.

Argentine prices.—The Argentine price that was important for international markets during September–November was the selling price of the Argentine Grain Regulating Board. This price, not officially published or regularly available, does not appear in Chart 3; nor are we able to describe its course precisely, since information in trade sources is not in full agreement.[1] Broadly, however, it appears that immediately after the outbreak of war the grain board raised its selling price at Buenos Aires to the equivalent of about 46 cents per bushel. This represented an increase of over 20 per cent from the price of 38 cents in August, and in Argentine pesos, which depreciated with the pound sterling (Chart 4, p. 221), the advance amounted to about 35 per cent.[2]

Through September and early October the grain board selling price appears to have been kept close to 46 cents per bushel. Following revaluation of the peso at an advance of about 6 per cent in the latter part of September,[3] the export price in terms of pesos was lowered, keeping the price in dollars substantially unchanged. In mid-October, influenced perhaps by the declining prospects for the new Argentine crop and the poor outlook for winter wheat in the United States and encouraged by price advances in North America, the grain board raised the export price about 3 cents per bushel. Thereafter it was held near 49 cents per bushel until late November. On November 24 offers for export were temporarily withdrawn, apparently pending clarification of Argentine crop prospects.

The movements of Buenos Aires futures prices prior to late November had little relation to prices paid for actual wheat by either foreign buyers or Argentine millers, yet they merit notice from other standpoints. Their interpretation requires comparison with the prices of 7 pesos per 100 kilos established in the previous November as the grain board buying price for the 1938–39 crop, and its minimum selling price to Argentine millers. The dollar equivalent of the 7-peso price, varying with the dollar-peso rate of exchange, is shown by the light solid line in Chart 3.

Prior to the outbreak of war, prices of Buenos Aires wheat futures during 1939 departed only negligibly from the grain board's buying

[1] The following description is based mainly on reports issued by Broomhall's New York office, quoting the export price sometimes only in cents per bushel and sometimes in both cents per bushel and pesos per 100 kilos. The *Times of Argentina*, mentioning the export price on three occasions during September–October, stated it once in pesos and twice in sterling, in the latter instances giving only approximate equivalents in pesos. Fluctuations in exchange rates and uncertainty pending official announcement of changes in Argentine exchange regulations introduced difficulty at times in ascertaining the effective price either in cents per bushel or in pesos; and there are indications that at times offers for export to Europe may have been made at different prices to different buyers.

[2] In the latter half of August the price had been as low as 4.45 pesos per 100 kilos. At the beginning of September the price was raised to 6.00 pesos, and a few days later Broomhall reported it as high as 6.12½ pesos.

[3] From September 7 the official rate for exporters' bills was fixed in terms of dollars, though the importers' rates remained tied to sterling. The exporters' rate was 357.15 pesos per $100 during September 7–21 and 350.04 pesos from September 22.

price, but in early September speculative buying carried the price of the October future to as much as 5 cents per bushel above this buying price, and some 12 cents above the price at which the board was offering wheat to exporters. This led to a series of measures to discourage such speculative buying.[1] On September 6 the grain board unexpectedly announced termination of its buying at the minimum price. With this assurance of limitation of possible price declines removed, the price of the October future broke sharply to below the 7-peso price. It quickly recovered, however, supported by continuation of the 7-peso minimum as the board's selling price. Next the board gave encouragement to short selling of futures by offering to return actual wheat to previous sellers at the 7-peso price.[2] This limited possible losses of some short sellers and opened a possibility that the board might indirectly dispose of some of its surplus to speculators at cost. Under the resulting short selling the prices of futures declined in early October to 3 to 4 cents per bushel under the board's price to millers. Next the board decreed that millers must continue to obtain their supplies from it until November 1940.[3] Speculative buyers were thus deprived of prospect for a domestic market at any time during the next year for such wheat as they might acquire, and the price of the November future promptly broke over 3 cents per bushel, falling to only slightly above the board's selling price to exporters. Even in the face of these discouragements, speculators' anticipation of higher prices continued to be reflected in purchases of the February future at substantial premiums over the November.

November 23–December 18.—From November 23 to the peaks in mid-December futures prices rose 13 cents per bushel at Buenos Aires, 15 cents (United States) at Winnipeg, and 23 cents at Chicago in an advance that was extraordinarily rapid and continuous. Much of the basis for the advance was laid earlier by serious deterioration of prospects for winter wheat in the United States, ominous shortage of autumn precipitation in Canada, and finally severe crop damage, mainly from excessive rainfall, in Argentina. For various reasons, among which the selling policy of the Argentine grain board was an important one, these crop developments occasioned little or no apparent price response at the time. They may in fact have held prices higher than they would have been otherwise, but to many traders they appeared to warrant a price advance such as had not occurred.

Withdrawal of export offers by the Argentine grain board on November 24, aided later by reports of frost, stimulated sharp price advances at Buenos Aires during November 24 to 27, but North American markets disregarded this advance at the time. Then on November 28 reports of heavy export sales of Canadian wheat, estimated at 7 million bushels, started a sharp price advance in North American markets. Continued export sales in fair volume, serious frost damage in Argentina, and dust storms in the United States helped to carry the advance forward in all American markets. Intensification of the German attacks on merchant shipping, and the Russian attack on Finland, tended to revive war-market psychology.

Over half of the price advance at Chicago and one-third of that at Winnipeg occurred during December 13 to 18, in the absence of any important crop developments. Official weather and crop reports from the United States and Argentina during the interval probably stimulated public speculative buying, although the United States official reports were in line with previous information and the Argentine crop estimate was slightly above standing private estimates. Chicago prices were influenced also by announcement of an official request for a tariff commission investigation which might result in a limitation equivalent to prohibition of imports of Canadian wheat.

[1] The general contention that speculation at such a time involved "profiteering" seems not properly applicable in this instance, since the grain board held most of the country's burdensome supply of wheat and was in complete control of prices of actual wheat in Argentina. One may infer that the speculation may have been frowned upon because existence of an open market price above the grain board price invited claims that the grain board was holding its prices too low.

[2] *Times of Argentina*, Sept. 18, 1939, p. 25.

[3] In late December the required proportion of old wheat was reduced to 40 per cent, which the board will sell until March 31, Broomhall reports, at the 7-peso price even though the market price is higher.

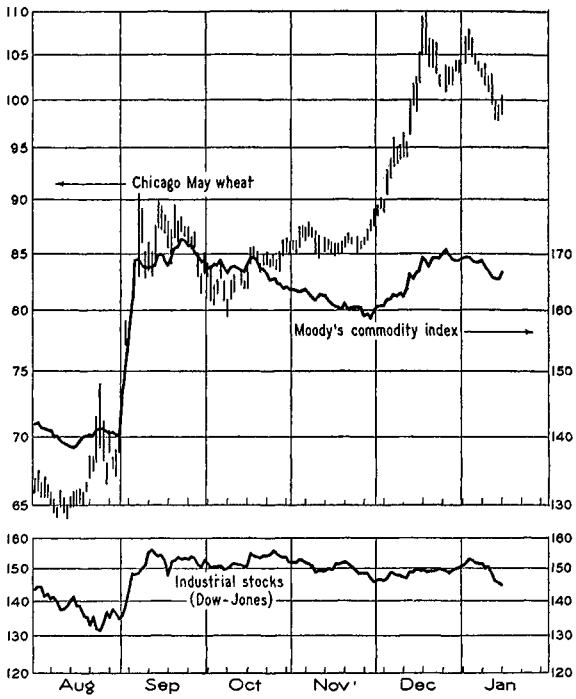
At Buenos Aires, prices rose significantly only on the first day of renewed price advances in North America.

In the United States, at least, the extent of the wheat price advance in December was partly a consequence of a disposition of many speculative traders to accept conspicuous price increases as evidence of the beginning of an anticipated general advance of commodity prices. Prices of cotton and soy beans rose steadily during October and November. When the advance in wheat prices began at the end of November, the upward price tendency promptly spread, without equal reason, to the other grains, and to such popular vehicles of commodity speculation as lard, cottonseed oil, silk, and hides. Toward mid-December, prices of sugar and rubber also advanced moderately. Upward price tendencies during December, under the leadership of wheat, were sufficiently general to raise the Moody index of prices of 15 sensitive commodities nearly one-third as much as wheat prices increased (Chart 5). Prices of the metals and of wool, however, did not show the upward tendency, and prices of industrial stocks rose only slightly from late November to mid-December.

December 18 – mid-January. — The great price advance to mid-December was followed at Winnipeg and Buenos Aires by four weeks of comparative price stability. Fluctuations were fairly wide at times, but considerably smaller than often occur after so large a change in level. At Buenos Aires the fluctuations were on a slightly declining trend, while at Winnipeg prices dipped, recovered to about the same level as in mid-December, and then dropped to about 4 cents per bushel below the peak. The net decline of 4 cents in an equal number of weeks was about the same in both Winnipeg and Buenos Aires. At Chicago the pattern of price movement from December 18 to mid-January was broadly similar to that at Winnipeg, but the amplitude of the movements was much larger. Market news seems not to have exerted a prominent influence in connection with these price changes. Reports of heavy British purchases of Canadian wheat on January 10, however, estimated at close to 20 million bushels, encouraged confidence that the existing level of prices was reasonable and helped to prevent substantial decline at Winnipeg when Chicago prices dropped 4 cents per bushel during the next three days, to 11 cents below the peak of mid-December.

CHART 5.—CHICAGO MAY WHEAT PRICES AND INDEX NUMBERS OF PRICES OF SENSITIVE COMMODITIES AND STOCKS, DAILY FROM AUGUST 1939*

(Cents per bushel; per cent; logarithmic vertical scales)



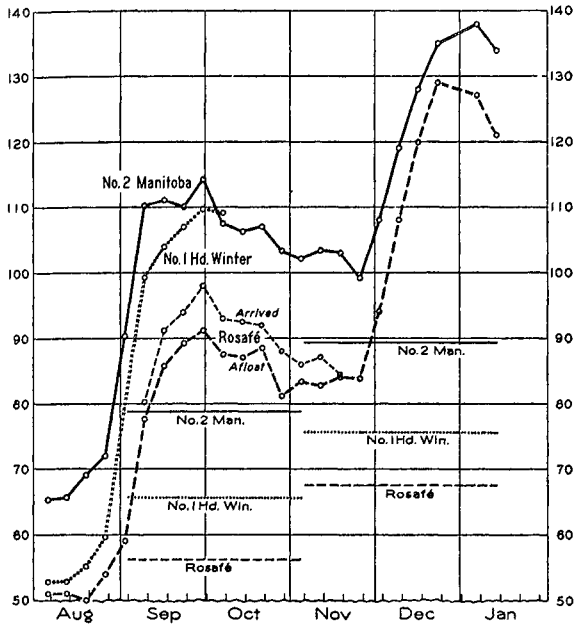
* High and low prices of the Chicago future; index of closing prices of 15 sensitive commodities, base December 1931 = 100, compiled by Moody's Investors Service; index of closing prices of 30 industrial stocks, compiled by Dow-Jones News Service. The scales represent a change of 10 per cent in stocks prices by the same vertical distance as a change of 5 per cent in either the wheat price or the Moody index.

European import prices.—War brought all wheat prices and the entire import trade in England, the world's chief import market, immediately under full governmental control. With the British markets closed, Antwerp was left as the world's principal free import market for wheat. Price quotations at Antwerp are neither so abundant nor so regular as those previously available from British markets, but the series shown in Chart 6 afford a serviceable indication of the course of prices

of imported wheat in Europe and of changes in relations among them.[1]

CHART 6.—ANTWERP PRICES OF IMPORTED WHEATS AND BRITISH GOVERNMENT PRICES, WEEKLY FROM AUGUST 1939*

(*U.S. cents per bushel*)



* Antwerp prices from Table X. British prices, shown by the horizontal lines, from tabulation on p. 226.

Comment has already been made on the price advances at Antwerp on the outbreak of war (p. 220). The price of Rosafé wheat afloat rose about 5 cents per bushel after mid-September, perhaps in response to further advances in ocean freight and insurance charges. Freight rates from the River Plate to Antwerp in neutral vessels at the end of September were 30 to 35 cents per bushel as compared with about 12 cents in August. Moderate declines in freight and insurance charges during October, aided perhaps by a narrowing of shippers' margins as their risks became better known, permitted a decline of 6 to 8 cents per bushel in the price of Rosafé wheat in October, despite the 3-cent advance in the Argentine export price (p. 223). By about mid-November heavy arrivals of Argentine wheat led to disappearance of the premium on Rosafé wheat in port.

The price of No. 2 Manitoba, which constituted the bulk of reported sales of Canadian wheat at Antwerp, declined some 10 to 15 cents per bushel during October–November, roughly paralleling the course of prices of arrived Rosafé. This decline reflected partly the satisfaction of urgent demands existing at the end of September for wheat immediately available. Comparing prices in mid-September and in late November, the decline at Antwerp corresponded closely with the decline in Winnipeg prices.

From late November to mid-December Antwerp prices made another great advance. This was only in part a reflection of the price increases in Argentina and Canada. While the Argentine export price and Winnipeg futures prices rose about 13 and 15 cents per bushel, respectively, during the interval, Antwerp prices increased as much as 45 cents. The larger part of the advances at Antwerp rested on sharp increases in ocean freight and insurance charges, occasioned largely by German successes in destruction of ocean shipping in late November and December. Quoted freight rates from Argentina to Antwerp rose from about 30 cents per bushel at the end of November to nearly 60 cents at the end of December.

Although the extraordinary price increases of September and December raised prices of imported wheat landed in Europe to 2 to 2½ times the levels that prevailed in mid-August, these prices were not high in comparison with previous prices of domestic wheat in continental importing countries. Choice Canadian wheat could still be brought to European ports at costs slightly under the prices that had been maintained in France for domestic wheat throughout the recent years of world wheat surplus, and substantially under the prices that had been maintained in Italy and Germany.

In the United Kingdom the British declaration of war in September was followed promptly by requisitioning for the government of commercial stocks of wheat and of wheat arriving subsequently, settlement of outstanding futures contracts, and fixing of

[1] To afford even this degree of detail in the record it has been necessary to supply some quotations by interpolation from relations earlier and later to prices for which quotations were available.

flour prices and of prices at which imported wheat would be sold to millers. Selling prices in effect during September 4—November 5 were replaced on November 6 by a schedule of prices about 10 cents per bushel higher on the principal grades. In cents per bushel (at $4.00 to the pound sterling) the prices on a c.i.f. basis for the principal grades and descriptions were as follows:[1]

	Sept. 4 to Nov. 5	From Nov. 6
No. 1 Manitoba	81.9[a]	91.2
No. 2 Manitoba	78.8[a]	89.4
No. 3 Manitoba	75.0[a]	88.1
No. 3 Garnet	68.1	79.4
Rosafé, 64-lb	56.2	67.5
No. 1 Hard Winter	65.6	75.6
Pacific White	58.8	68.8
Australian[b]	60.0	69.4
Danubian	53.8	65.0
Moroccan	54.4	65.0
French	53.1	60.6

[a] Atlantic shipment; Pacific, 2½–3 cents lower.
[b] Except Queensland, which was 2½ cents lower.

The British fixed prices in effect during September 4—November 5 represented for Canadian and United States wheats an advance of about 15 cents per bushel over prices prevailing in mid-August, but for Rosafé, an advance of only about 6 cents.[2] They were some 30 to 35 cents per bushel below prices quoted on the free market at Antwerp during much of the time they were in effect. In early November it was possible to establish a new schedule of prices based on what appeared fairly well established levels of export wheat prices and shipping requirements. The new prices were still some 10 to 15 cents per bushel below corresponding open market prices at Antwerp, as may be seen from Chart 6 (p. 225); but the differences for Canadian and Argentine wheats were at least no greater than the differences between freight and insurance rates in neutral vessels and freight and insurance in British vessels under convoy.[3] The British fixed prices appear to have been intended to cover the cost of the wheat landed in the U.K., though naturally without allowance for costs of convoying.

North American price relations.—The most noteworthy changes in wheat price relations in North America during September–January occurred between United States and Canadian prices. The Winnipeg May future was only 9 cents per bushel under the Chicago May at the end of August, but during September–November it went to 21 United States cents under the Chicago future, and in mid-December was as much as 29 cents under (Chart 7, top section). The difference between the December futures in mid-December reached 32 cents. Owing to the superiority of No. 1 Manitoba Northern wheat over No. 2 Yellow Hard Winter (the bases, respectively, of the Winnipeg and Chicago futures), this extreme price difference was nearly sufficient to permit importation of Canadian wheat for consumption

[1] Prices from Broomhall's *Corn Trade News*, Nov. 8 and Nov. 15, 1939; the rate of $4.00 to the pound sterling is slightly below the official rate of $4.02 to $4.04 and about equally above the open market rate prevailing during most of the period.

[2] Owing to the depreciation of sterling during the interval, the increases appear much larger if calculated in sterling and then converted to cents per bushel. They amounted to about 9*s.* 6*d.* per quarter on Manitobas and 5*s.* 3*d.* per quarter on Rosafé. Converted at $4.00 to the pound, these increases appear as about 24 and 13 cents per bushel, while if converted at the exchange rate in effect in mid-August ($4.68) they appear equivalent to increases of about 28 and 15 cents per bushel, respectively.

[3] British shipping was placed under governmental control immediately after the declaration of war and official freight rates were established after a short delay. Those placed in effect in mid-September were substantially prewar rates. All rates were raised, however, before the end of September, and on December 4 still higher rates were established to apply from November 1. The three schedules, in cents per bushel, at $4.00 to the pound sterling, were as follows:

To U.K., from:	Sept. 14	Sept. 25	Nov. 1[a]
North Atlantic	8.8	10.0[b]	15.2
North Pacific	...	25.4	30.7
U.S. Gulf ports	11.2	11.9	17.3
Argentina	16.1	17.4	23.3
Australia	18.8	24.1	29.5

[a] Announced December 4, retroactive to November 1.
[b] Increased in October to 11.2 cents per bushel.

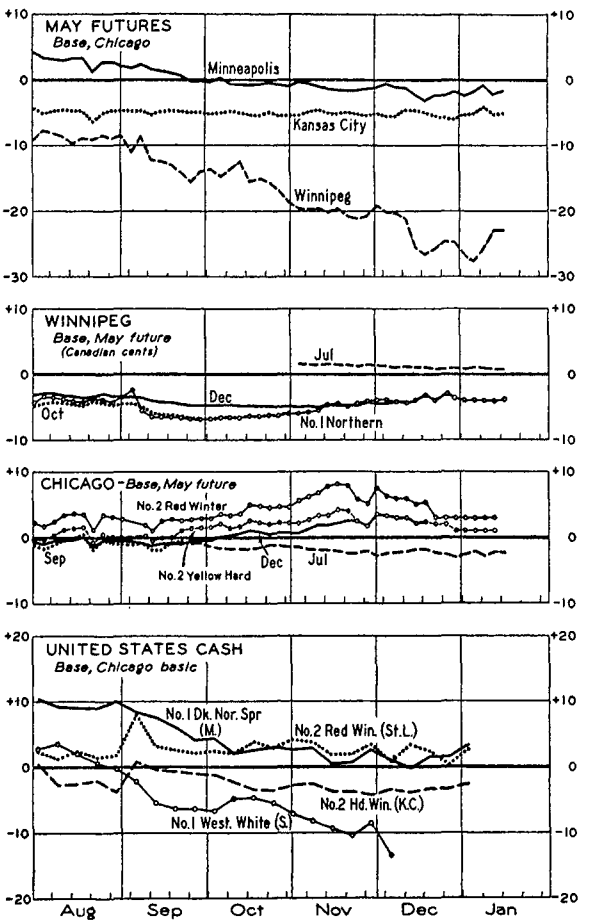
Cargo rates in neutral vessels varied rather widely during September–November according to the conditions of the charter and the flag of the vessel. In late September the rates from Argentina to Antwerp appear to have been 30 to 35 cents per bushel, but from mid-October to the end of November, were generally about 30 cents per bushel. Rates from New York to Antwerp appear to have been generally only slightly under the rates from Argentina. The advance of rates during December carried the quotation on grain freights from Argentina to nearly 60 cents per bushel at the end of December.

over the 42-cent duty.[1] The advance of United States prices relative to Canadian may be ascribed primarily to deterioration of winter-wheat crop prospects, despite the fact that the widest price spreads were reached after significant deterioration had ceased.

At Winnipeg the nearer futures and spot wheat increased their discounts under deferred futures during September (Chart 7, second section), influenced by an extremely sharp increase in the Canadian visible supply (p. 209). The high average quality and large size of the Canadian crop (p. 208) resulted in a narrowing of price spreads between grades to less than the fixed differentials applying for delivery on the Winnipeg future, and No. 1 Northern resumed its normal position as the sole effective basis of the future for the first time in over two years. Market discounts on the lower grades were less also than the differences in the wheat board buying prices, leading to protests from growers over the undervaluation of the lower grades by the wheat board.[2]

CHART 7.—NORTH AMERICAN WHEAT PRICE SPREADS, FROM AUGUST 1939*

(U.S. cents per bushel)



* Price differences based on Tuesday and Friday closing quotations, except for United States cash wheats; these are weekly averages of daily quotations at Chicago (taken as the base) and Seattle, and weekly averages of all reported cash sales of the designated grades at Minneapolis, Kansas City, and St. Louis.

Prices of spot wheat and the nearer futures at Chicago advanced steadily from September to mid-November, owing to persistent scarcity of supplies of "free" wheat in the market. The amount of wheat recorded as under government loan increased from 103 million bushels on September 16 to 136 million at the middle of October and 156 million on

[1] On the basis of prices at the close on December 19, James Richardson and Sons, Ltd., of Winnipeg, published the following calculated costs of three grades of Canadian wheat delivered at Philadelphia, in United States cents per bushel:

Class of wheat	No. 1	No. 2	No. 3
Manitoba Northern	95¾	94¼	92⅞

in comparison with prices, delivered at the same point, of two United States grades of wheat of three different protein contents:

Class and grade	15%	14%	13%
No. 1 Dark Northern Spring.	132	130¾	129
No. 1 Hard Winter.....	131¾	130¾	129¾

The calculated prices for Dark Northern Spring wheat, based on shipment by rail for Minneapolis, were stated to be somewhat above those at which such wheat could actually be obtained at Philadelphia.

These calculations suggest that Canadian wheat could have been obtained at Philadelphia, duty paid, for only about 3 to 8 cents more than comparable United States wheat. Milling tests would be necessary to determine which of the grades represent wheats nearest equality in commercial value.

[2] James Richardson and Sons, Ltd. (Winnipeg), *Weekly Grain Letter*, Nov. 22, 1939.

Some of the principal price differences in the wheat board schedules of buying prices for last year and this compare with recent market differences as follows in Canadian cents per bushel, using No. 1 Northern as the basis:

	Wheat Board		Market, 1939		
	1938 -39	1939 -40	Oct. 16	Nov. 15	Dec. 15
No. 1 Hard.....	+ 1	+ ½	0	0	0
No. 1 Northern....	0	0	0	0	0
No. 2 Northern....	— 3	— 3	— 2¼	— 2	— 2
No. 3 Northern....	— 6	— 7½	— 4	— 2¼	— 7
No. 4 Northern....	—11	—13	— 6¼	— 4½	— 8¾
No. 1 Amber Durum	—10	— 8	—10½	—10½	—10½
No. 1 Garnet.....	— 8	—12	— 8	— 9	—11

November 14. Subsequent increase in the amount reported under loan was slower, but increases persisted and stocks under loan on December 26 were reported at 166 million bushels.[1] The large amount of wheat going under government loan was an important factor also in keeping the May future at a premium over the July, despite the opinion of some traders that the poor prospects for winter wheat should tend to put the July future at a premium.[2]

The price of the Minneapolis May future declined relative to the Chicago May during September–December (top section of Chart 7) and the price of No. 1 Dark Northern Spring wheat at Minneapolis declined even more relative to Chicago basic cash (bottom section of Chart 7). Prices of spring wheats were especially sensitive to the possibility of Canadian importation, but in September a more potent influence probably was the abundance of high-protein wheat in the new crop. Protein premiums declined in consequence, affecting especially the prices of the higher-protein sorts of wheat, but tending also to reduce the premium enjoyed by ordinary No. 1 Northern Spring (the basis of the Minneapolis future).

[1] From the standpoint of effect on the supply of free wheat, the date of storing with intent of obtaining a loan is more significant than the date of final recording of the loan with the CCC. Presumably as early as the end of October some 160 million bushels of wheat was being held either under loan or with intent of obtaining a loan. The lag in completion of loans and in recording loans and withdrawals probably explains the continued increase in recorded loans during December when reports from elevators indicated substantial sales of loan wheat.

[2] See for example a brief summary of trade opinion in the *Southwestern Miller*, Nov. 7, 1939, p. 25. Our studies have shown no significant influence of crop prospects on the price spread between the May and July futures; see Holbrook Working, "Price Relations between May and New-Crop Wheat Futures at Chicago since 1885," WHEAT STUDIES, February 1934, X, 183–228.

[3] The sharp relative advances in prices of both No. 2 Hard Winter and No. 2 Red Winter shown for the first week of September were due to sales of cash wheat in these markets at price advances greater than were permitted in the futures markets under the 5-cent limits on daily price changes for futures.

[4] Resumption of subsidized exportation from the United States announced on January 19, after this was in type, is taken into account below. The subsidy program for flour exports to the Philippine Islands was not interrupted.

At Kansas City the price of the May future held close to 5 cents per bushel under the Chicago May from September to mid-January, but cash wheat and the nearer futures strengthened relative to the May in September, before similar tendencies appeared at Chicago. This difference in timing of advances in cash wheat relative to the May future chiefly explains the advance of No. 2 Hard Winter at Kansas City relative to Chicago basic cash in September, and its subsequent relative decline (bottom section of Chart 7).[3]

Prices of No. 1 Western White wheat at Seattle, like other Pacific Coast wheats, changed less than prices east of the Rocky Mountains owing to their greater dependence on subsidized exportation of wheat. Thus as Chicago prices advanced, Pacific Coast prices moved to larger discounts under Chicago. In December, when Chicago prices rose above $1.00 per bushel, the price of No. 1 Western White wheat at Seattle fell to more than 15 cents under Chicago basic cash for the first time since early October 1937, when Chicago prices were last above $1.00 per bushel. At this price spread, Pacific Coast wheat and flour again moved in substantial volume by water to Gulf and Atlantic ports, and by rail to the Middle West, competing with the soft wheats and flours of the Eastern states.

Export subsidies.—The price advances of September–December brought a welcome end, at least for the time being, to subsidized exportation of wheat from the Americas. Canadian prices were continuously at or above the wheat board buying prices after the first few days of September; the selling price of the Argentine grain board was raised above the price at which the 1938–39 crop had been bought, in early December; and at the end of December discontinuance of both the wheat and flour export subsidy programs of the United States was announced.[4]

Changes in the flour export indemnities from the date when they reached their maximum are given below, in dollars per barrel. Since wheat prices in the United States throughout September–December were higher in relation to prices of competing exporters than in August, the indemnity rates permitted

only moderate export sales of flour after September 5, chiefly to Central and South America and the Orient.

Date	From Pacific Coast ports			From other ports
	China and Hong Kong	Philippines	General	
Aug. 17	1.55	1.45	1.50	1.55
Sept. 5	1.35	1.25	1.30	1.35
Sept. 8	1.25	1.15	1.20	1.25
Sept. 25	1.10	1.00	1.10	1.10
Nov. 13	1.30	1.20	1.30	1.20
Dec. 18	....[a]	....[a]	....[a]	1.10
Dec. 22	1.20	1.10	1.20	1.00
Jan. 3[b]	0.00	....[a]	0.00	0.00
Jan. 8	....[a]	1.00	....[a]	....[a]
Jan. 18	....[a]	.90	....[a]	....[a]
Jan. 19	1.15	....[a]	....[a]	....[a]

[a] Unchanged.
[b] Announced Dec. 29, 1939.

The wheat export subsidy was temporarily withdrawn early in September.[1] When subsidized exportation was resumed late in the month, it was with the stated intention of disposing of about 8 million bushels more of the wheat acquired by the Commodity Credit Corporation at the maturity of loans[2] and of affording a subsidy sufficient only to encourage exports to Central and South America.[3] Sales on even this restricted scale were brought practically to an end in November, as appears from the following tabulation of reported export sales, in thousand bushels:[4]

Period	Loan wheat	Other wheat[a]	Flour	Total
July–Aug.	4,638	4,101	3,331	12,070
Sept.	280	445	3,940[b]	4,665
Oct.–Nov.	4,060	412	1,494	5,966
Dec.	375	0	1,352[c]	1,727[c]
Total	9,353	4,958	10,117[c]	24,428[c]

[a] Sales under bid-payment plan, from August 19.
[b] Mostly during September 1–5.
[c] Through December 26. Further sales of 2,873,392 bushels were made during December 27–January 3, mostly in January in anticipation of withdrawal of export indemnities.

Broadly, it appears that export sales of loan wheat taken over by the FSCC were made at a rate of a little over 2 million bushels per month during July–August and October–November, but were discontinued during most of September. For other wheat, the export subsidy program was in operation on a significant scale only during August 19–31, but during those two business weeks it permitted sales of over 4 million bushels of wheat.

Outlook for Trade and Carryover

International trade during the first five months of the crop year was apparently of a volume sufficient to warrant the conclusion that the year's volume is likely to fall within the range which we suggested last September. It then seemed possible that European requirements for net imports might approximate 370 to 420 million bushels, non-European requirements about 125 million, total requirements for net imports 495 to 545 million, and world net exports 525 to 575 million. The net exports of 1939–40 then seemed likely to fall 12.5 to 21 per cent below those of 1938–39; and, if our present appraisals of August–December trade are correct, the reduction of total trade from August–December 1938 to August–December 1939 was about 10 per cent and that of European trade somewhat larger, perhaps 15 per cent (p. 215). The lower limit of our September forecasts of European trade in 1939–40 was based on the assumption that both belligerents and neutrals (taken together) might merely maintain their reserve stocks; whereas the upper limit was based on the assumption that there might be moderate additional accumulation of stocks in Europe.

Moreover, all of the September estimates were grounded on certain fundamental assumptions regarding the development of the war in Europe: (*a*) that war would continue throughout the crop year; (*b*) that the principal countries neutral in September would remain neutral; (*c*) that all European countries, belligerent or neutral, would attempt to maintain large reserves of wheat; and (*d*) that Germany would not resort to indiscriminate

[1] Formal announcement of the withdrawal was made on September 8.

[2] The FSCC had purchased 13,881,000 bushels of loan wheat from the CCC by the end of August, acquired 274,000 bushels more in September, and only 65,000 bushels during October and November. In disposing of this wheat, the FSCC made some exchanges of wheat taken over for smaller quantities of exportable wheat in position for export (*Southwestern Miller*, Jan. 2, 1940, p. 22).

[3] *Ibid.*, Sept. 26, 1939, p. 35.

[4] Data compiled from official reports, mostly as published currently in the *Southwestern Miller*.

sinking of neutral vessels carrying supplies to neutral countries, or England to interference with necessary wheat shipments to neutrals.

Broadly, these assumptions proved valid for the past four months. Soviet Russia's unprovoked attack upon Finland has not significantly changed the situation with regard to wheat, for it was clear in September that Russia would not export substantial quantities of bread grain in 1939–40, and Finland has long ranked as only an unimportant wheat importer. Nor was the wheat situation much changed by the early conclusion of active military operations in Poland and the subsequent division of Polish territory between Germany and the USSR; the disorganization of economic resources and destruction of resources in Polish territory claimed by Germany,[1] however, now seems less marked than seemed probable in mid-September. And, although Germany resorted to more ruthless attack on both neutral and belligerent shipping in late November and the allies retaliated with stricter blockade of both imports and exports of Germany, the resulting losses of tonnage were not strikingly large. The losses cannot have curtailed greatly the arrivals of wheat in belligerent or the most exposed neutral countries, nor can they have created a shortage of tonnage for the near future. All told, it does not seem necessary, in considering probable trade developments in coming months, to alter the fundamental assumptions set forth last September.

The European supply situation now looks much as it did four months ago, though several minor upward revisions of wheat crops have appeared. Of these, the most important was the German official estimate (p. 207). With a wheat crop of 233 million bushels in Greater Germany and Bohemia and Moravia, it would be possible for wheat consumption to be maintained at the level of recent years without drafts on reserves and with smaller imports than the 30 to 40 million bushels (including the Polish surplus) estimated last September. But reported German efforts to purchase large quantities of wheat in the Danube basin and to organize transportation on the Danube or by rail suggest that the intention is to accumulate larger reserve stocks than we assumed in September. The development of exports from the Danube indicates that these intentions can be carried out. Hence, we maintain our earlier estimate of German import requirements despite the larger domestic supplies shown by official statistics.

British imports of wheat during the past four months have not been reported, and it is only indirectly from volume of shipments and exports that one can conclude that imports were presumably adequate to maintain reserves or perhaps even to increase them, particularly in view of the probability that governmental measures may reduce feed use of wheat to perhaps half of what it was last year, when domestic and imported wheat was cheap in relation to imported maize.[2] In November the Minister of Agriculture advised the pig and poultry industries to plan their production programs for the next twelve months on the assumption that the quantity of feed derived from imports would be at least a third smaller than the normal prewar quantity. This indicates that the government plans to economize on imported feeds as well

[1] On the basis of official Polish data published in the *Concise Statistical Yearbook of Poland* for 1938, and *Agricultural Statistics* for the same year, it is possible to estimate roughly the population and agricultural resources of that part of Poland under German control, according to the roughly traced new frontier. This part of Poland contained 61 to 62 per cent of the population (1931 census), 46 per cent of the 1938 total area, 55 per cent of the arable area, and 56 per cent of the sown area. The percentages of wheat and rye acreage and production (1938) in this area were as follows:

	Acreage	Production
Wheat	50	56
Rye	61	67
Wheat and rye	59	64

Thus Germany gained control of a smaller proportion of Poland's wheat area and production than of her population; of about the same proportions of rye area and population; but of a larger proportion of rye (and so of bread-grain) production than of population. Polish net exports of wheat averaged only 4 million bushels in 1933–38, but her net exports of rye averaged 11 million. With good Polish crops of wheat and rye in 1939, Germany presumably obtained appreciable surpluses of both bread grains, mostly rye. The wheat carryover of Poland as a whole from the crop of 1938 was substantial, about 10 million bushels; but it is not possible to say what fraction of these stocks lay in territory now under German control.

[2] See WHEAT STUDIES, December 1939, XVI, 177.

as on wheat. At the same time, the higher minimum flour extraction rates will permit production of 4 to 5 per cent more flour from the same quantity of wheat. British wheat reserves may therefore be notably increased even with imports of only 200 million bushels of wheat—the lower limit of our tentative approximation made in September. The quantity actually imported will depend on governmental policy toward further building up of stocks. Under present conditions of ocean transport larger imports seem possible; but other considerations may hold them to a moderate level.

French domestic supplies of wheat are now appraised at about the same level as in September. With a huge carryover from the last crop France is in a position to dispense with imports from her North African dependencies, appraised in September at 15 to 25 million bushels. But wheat is presumably being taken from this area in order to reduce the large surplus there. On the other hand, France appears to be exporting some wheat to Great Britain, as may be inferred from the fact that the British government has announced fixed prices for French wheat as well as for Moroccan in the general schedule of fixed prices (p. 226).[1] We therefore suppose that French net imports will be closer to the lower than to the upper limit of our estimate, for imports from the colonies will be offset in some degree by exports to Great Britain. It is also possible that part of the North African surplus may be purchased and stored there. Only a few months ago the French Wheat Board was embarrassed, both financially and for storage space, by too large a domestic carryover of wheat, and may prefer to let the carryover decline slightly.

The northern European neutrals and Switzerland will presumably continue their efforts to hold reserves at least at the level of last August. Some, like Switzerland, Norway, and the Netherlands, are apparently endeavoring to enlarge their stocks. Heavier receipts of import wheat by practically all these neutrals in October–November, after the September decline, suggests that the efforts have been successful in some degree. We judge that imports of this group of neutrals will approach the upper limit of our September appraisal of expected imports of 85 to 95 million bushels, if the allied blockade permits.

Italy and Greece also appear to be attempting to accumulate reserve stocks. This is suggested by reports of substantial Italian purchases from Hungary, Rumania, and also some from Yugoslavia, by the early-season Italian imports, and by the fact that Greek imports have run slightly above last year's level in spite of the recently increased estimate of her crop. The crop-year imports of these two countries now seem likely to lie in the higher part of the range of our September estimate.

Spanish imports may prove to be substantial this year, though actual imports in the early months have not been reported. According to the *Corn Trade News*, the Minister of the Interior has announced that this year's wheat harvest was insufficient to cover requirements, and that the necessary measures have been taken to import adequate quantities. It was later reported that Spain had purchased a large amount of Plate wheat.[2]

The detailed comments above do not change our September estimates of European net imports as a whole. These may now be appraised at about the same level as in September (some 370 to 420 million bushels), perhaps within the somewhat narrower range of 385 to 410 million. But it must be emphasized that actual imports depend so much on the unpredictable decisions of various governmental agencies that the wider range may be safer.

The information on imports of ex-European countries is so scanty (p. 218) that little can be said concerning the outlook for their crop-year imports. Broomhall's shipments to ex-Europe, when tentatively adjusted for the missing Australian shipments, were about the same in August–December 1938 and 1939. But shipments last year rose sharply during

[1] A German official source (*Marktbericht des Reichsnährstandes*, Abteilung A, Dec. 12, 1939) cited *L'Information* (Paris) as authority for report of a Franco-British agreement whereby France was to deliver to Great Britain one million quintals (3.7 million bushels) of French wheat, for which Britain was later to settle by delivering wheat received from British Dominions, Argentina, and/or the Danube countries.

[2] *Corn Trade News*, Nov. 15, Dec. 6, 1939.

the second half of the crop year, mainly because of large purchases by China and Manchukuo. A similar rise in the later months of 1939–40 is not to be expected, for Chinese purchases can hardly be large in view of depreciation of Chinese currency and the somewhat higher level of international wheat prices. We therefore expect that shipments to ex-Europe in later months will follow the usual flatter pattern (see Chart 2, p. 217). On the other hand, large supplies of Australian wheat, which can hardly be transported in quantity to Europe, may be offered freely in the Orient; and, if neutral tonnage is available, shipments to the Orient may prove somewhat larger than seemed probable in September. Including Oriental imports of Japanese flour, we now appraise probable imports of ex-Europe at 130 to 135 million bushels, a little higher than in September. Total net imports of Europe and ex-Europe for the crop year may range from 515 to 545 million bushels.

Sources of exports.—Net imports within this range imply world net exports of some 550 to 580 million bushels, as against our September estimate of 525 to 575 million. The margin between the statistics for net exports and for net imports may be a little larger than usual, if for no other reason than loss of wheat from sinkings. Net exports of 550 to 580 million bushels would be some 11 to 15 per cent below last year's actual net exports.

In September we made no attempt to give numerical expression to the prospective distribution of exports by countries of origin. At present, the size of the Southern Hemisphere crops is known, export policies of various exporting countries are somewhat clarified, and the volume of shipments during the first five months of the crop year permit certain conclusions to be drawn regarding the future development of shipments. Hence more facts are available concerning the probable distribution of exports; but even now so much depends on the governmental export policies and on the purchasing policy of the British government, which is no clearer now than four months ago, that the suggestions below must be regarded as conjectural.

It continues reasonable to believe that Europe will so far as possible draw exports from the nearest sources around the Mediterranean Sea, in order to economize on ocean tonnage. Since exports from the French possessions are permitted only under licence, these supplies will be reserved completely for the allies. If for some reason the full surpluses should not be exported they will probably be purchased and stored locally by the French government.

Danubian exports during the early months of the crop year were larger than in 1938–39, suggesting that the year's total may exceed last year's large exports of 85 million bushels. Existing export surpluses in the Danube countries would permit much larger exports. We are inclined, therefore, to expect that total exports from countries near the Mediterranean and the Black Sea will exceed 100 million bushels and may reach 110 to 120 million.

The same principle of economizing on ocean tonnage, coupled with a record large Japanese crop, will presumably result in larger net exports of flour from Japan to Oriental markets, some 10 to 15 million bushels in terms of wheat.

Thus a total of around 440 million bushels would remain for export from the four chief exporting countries, more distant from Europe. This is below the middle of the range suggested in September, at 425 to 475 million bushels. A tentative distribution of the total of 440 million bushels among the chief exporters may be reached by discussing the possibilities for each country separately.

Definitive forecasts of United States exports are complicated by the vacillation in relation to wheat export policy. The subsidy on wheat and flour exports was suspended effective January 3, with exception only as regards flour exports from the Pacific Coast to the Philippines. But shortly thereafter, the subsidy was restored for exports both of wheat and flour from the same area to China and Hong Kong. If export subsidies are to be limited to such exports, and if the rates are not much raised from the present level, United States net exports cannot be large. Under such conditions only limited new sales of wheat and flour from the Pacific Northwest can be expected in addition to execution of transactions made before January 3. China can hardly import much wheat in her present exchange situation, and

American wheat must meet competition of wheat and flour from Australia and Japan. We now estimate that the United States net exports in July–June 1939–40 will amount to some 40 to 45 million bushels and her August–July net exports will be around 35 million bushels.

Canadian exports to final destinations were slower during August–December this year than last, which may appear to suggest that her crop-year exports may not exceed last year's total of 165 million bushels. But the concentration of Canadian wheat stocks in eastern ports at home and in the United States will permit larger shipments than usual in the winter months. Moreover, the British government can perhaps be expected to increase purchases from Canada in the later months of the year. We therefore expect that Canada may export some 180 million bushels, or even 200 million if required. Requirements may be enlarged because of the high quality of Canada's last wheat crop and her proximity to Europe.

Large quantities would still be left for export from the Southern Hemisphere. Argentine exports were very heavy during August–December—about 78 million bushels. The small new crop of low quality would not permit such heavy exports during the second half of the crop year; but to the new crop must be added some 65 to 70 million bushels of old-crop wheat of high quality carried into the new Argentine crop year. With the new regulation requiring domestic flour mills to use only 40 per cent of old-crop wheat instead of the 100 per cent previously required, there remains a sizable stock of old-crop wheat for export. Up to 60 million bushels could be exported after January 1, and total Argentine exports for the crop year may amount to some 135 million bushels.

Australia may fill the remaining requirement, with exports for the crop year perhaps reaching some 80 million bushels. Since exports during August–November were less than 20 million bushels, a total of 80 million for the crop year may seem too high in view of the fact that ocean tonnage must be used economically. However, a recently announced purchase of 60 million bushels of wheat by the British government indicated that British takings from Australia up to August 1 may be considerable even if the above purchase represents the total which the government contemplates taking from the 1939–40 crop through November. On the other hand, we assume that Australian wheat will continue to be exported in substantial quantities to ex-Europe, especially the Orient. The purchase of 30 cargoes of Australian wheat by Japan tends to substantiate this assumption. But even with exports of 80 million bushels, Australia would be left with nearly 100 million on August 1, 1940, an unprecedentedly high figure since 1919. The government, having taken over the whole crop, will presumably try to dispose of as much of it as possible.

Prospective carryovers.—In the absence of import statistics from important wheat importers and of statistical information with which to check wheat utilization, there is no possibility of estimating even roughly the probable carryovers of the principal importing countries of Europe. It can only be said in general that if the European wheat-deficient countries should succeed in importing some 400 million bushels of wheat during the current crop year, their year-end stocks will exceed last year's, perhaps by 30 to 40 million bushels. Even with exports of 100 million bushels from the Danube countries, year-end stocks there will not be smaller than last year's. Europe may thus enter the second year of the war with larger reserves of wheat than on August 1, 1939.

The prospective wheat carryovers of the chief exporters on August 1, 1940 also appear larger than last year, especially in North America. Stocks in the United States may increase from 255 to 290 million bushels, while in Canada, even with exports of 200 million bushels, year-end stocks will exceed 250 million—a new record. The total North American carryover may therefore approach the record high level of August 1, 1933. Southern Hemisphere stocks next August 1, if Argentina and Australia succeed in exporting the quantities estimated above, will still be very large—some 40 million smaller than last year, but higher than the heavy stocks of August 1, 1929, and nearly as high as those

of August 1, 1934. They will be more evenly distributed between Australia and Argentina this year than last.

On the basis of these calculations, the "world" wheat carryover, as measured by our new series, may increase by some 200 million bushels, to a new high level.

Outlook for Prices

Wheat prices in the United States stand at mid-January in a position from which they might move along a course rather different from that of prices in countries that are exporting actively. It is necessary to consider separately the influences likely to bear on prices in the United States during February–April and those likely to bear on prices in Canada and Argentina. In the end, nevertheless, we are led to similar conclusions regarding prospects for the two sets of prices: both seem more likely to decline than to advance, and neither seems likely to suffer drastic decline. Prices of imported wheat in Europe will tend to follow the course of export prices of Canadian and Argentine wheats, modified by the effects of changes in costs of ocean transportation. Ocean freights and insurance rates will depend largely on the unpredictable course of sea warfare.

United States prices.—A useful historical relation exists between wheat prices in the United States in March and wheat supplies, measured in terms of United States carryover on the first of the ensuing July. Broadly, the record indicates that supplies which afford a carryover of much less than 130 million bushels of wheat represent scarcity, and that for years of such scarcity there is a fairly close relation between price and year-end carryover. When supplies are abundant, however, the degree of abundance, within a broad range, has no perceptible bearing on the price. Whether the carryover has promised to be only 130 million bushels or as much as 300 million seems generally to have made no significant difference in the price. Apparently a carryover of as much as 130 million bushels represents a surplus such that the price of wheat in March tends to be determined by the valuation placed on wheat for the purpose of carrying it over in anticipation of a higher price in the next year. And apparently expectations for next year's price are generally not much affected by differences of as much as 170 million bushels in the amount of the surplus (the difference between 130 and 300 million bushels).

This is not to say that prices have been about the same in March of all years ending with a carryover of 130–300 million bushels. Even after making adjustment for differences in the general wholesale price level, wheat prices have differed widely among years ending with such carryovers. This seems readily explicable on the theory suggested above: that under such conditions the price in March depends on the prices anticipated during the next year. Such long-range anticipations are naturally surrounded by much uncertainty, and judgments formed under such circumstances may be much affected by the state of business sentiment, and especially by the apparent general trend of commodity prices.

Statistical evidence bearing on these interpretations is afforded by Chart 8, which shows the course of prices of the Chicago May future during all the crop years but one from 1895–96 which have ended with carryovers of 150–300 million bushels.[1] The year omitted is 1938–39, in which conditions other than United States wheat supplies were so different from those at present as to throw little light on present price prospects. The prices indicated by curves in this chart, expressed in cents per bushel at the 1913 price level, may be adjusted approximately to the basis of the present price level by increasing them by 14 per cent: thus, prices of 80 to 90 cents per bushel, shown most frequently by these price curves, correspond to prices of 91 to 102 cents at the general wholesale price level of early January 1940.

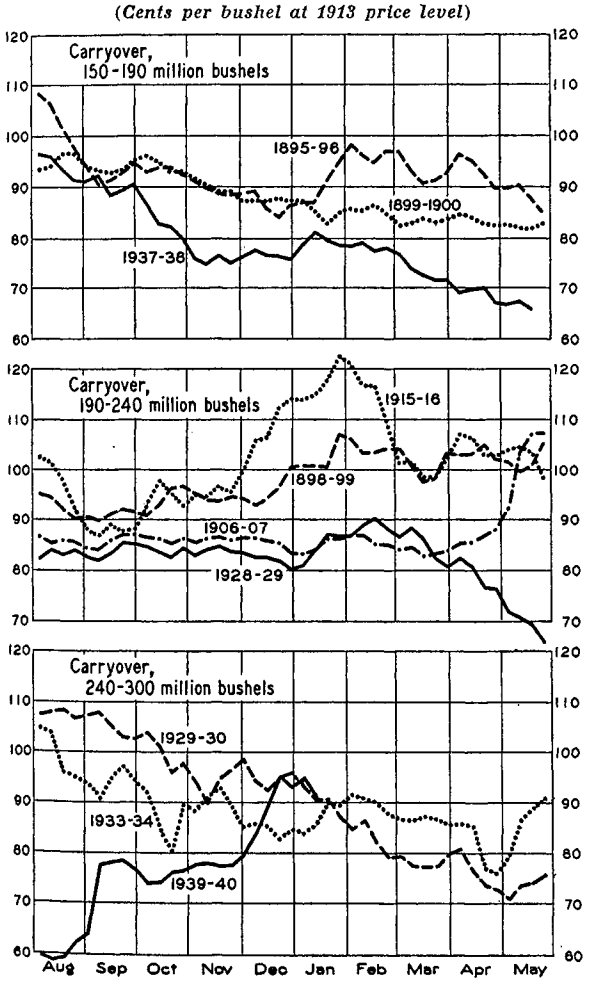
In only three of the years shown on this chart was the price of the Chicago May future maintained during much of February–April above 88 cents (the equivalent of $1.00 per bushel now). The pertinent circumstances seem to have been these: in 1895–96 wheat

[1] A similar chart including price curves for years ending with carryovers as low as 130 million bushels was published in Wheat Studies, January 1938, XIV, 214.

was recovering from the period of surplus of the early 'nineties, the wheat crops of the Southern Hemisphere turned out badly, and crop prospects were poor in India; in 1898–99 business was booming and commodity prices generally were rising rapidly; and in 1915–16 the war boom was in full swing and commodity prices were rising at a phenomenal rate.

CHART 8.—DEFLATED PRICES OF CHICAGO MAY FUTURES, WEEKLY, IN YEARS OF COMPARABLE UNITED STATES YEAR-END WHEAT STOCKS*

(Cents per bushel at 1913 price level)



* Weekly averages of daily closing prices, compiled from the Chicago *Daily Trade Bulletin*. Deflated by dividing by crop-year averages of the Bureau of Labor Statistics index number of wholesale prices of "all commodities," base 1913 = 100 per cent.

Business activity seems not now above a normal level, and no boom is generally expected for the near future; wholesale commodity prices in general are neither rising rapidly nor holding well the moderate advances that have occurred; and the chief possibility for unusual strength in wheat prices seems to lie in expectations of poor crops in North America next year and of special wartime demands on North American wheat supplies. The idea that the war may soon lead to a heavy drain on North American supplies appears to us ill-founded[1] and likely gradually to become less prevalent. The prospect for crop shortage in North America in 1940–41 is fairly clear only as concerns winter wheat in the United States; and even though only about 400 million bushels of winter wheat should be harvested (as officially forecast in December), an average yield of spring wheat would apparently afford supplies in the United States sufficient for a carryover of some 200 million bushels at the end of 1940–41. In other words, it seems reasonable to anticipate at least a moderate wheat surplus in the United States next year as well as this year.

In these circumstances, it may be doubted whether the optimism of speculative holders of wheat (including growers) will long prove strong enough to hold the price of the Chicago May future above $1.00 per bushel. If it does not, the common tendency for wheat prices in the United States to weaken at the end of the winter may depress the price of the May future to about 90 cents or slightly lower by some time in March. A decline of Canadian prices, if it should occur, would give evidence of ease in the international wheat position that would prove depressing at Chicago also. On the other hand, if withdrawals of wheat from government loan should continue small, as seems possible, the wheat loans would probably prevent a sustained decline of the Chicago May future below about 85 cents per bushel.

Canadian and Argentine prices. — On grounds of normal relations of supply to price, the prospects of a world wheat carryover about August 1, 1940 above that of 1939, and of a carryover in the four major importing countries much larger than that of 1939,

[1] See especially M. K. Bennett, "Wheat and War, 1914–18 and Now," WHEAT STUDIES, November 1939, XVI, 105–06.

might be interpreted as warranting Canadian and Argentine prices this year little higher than those of 1938–39. Yet in mid-January 1940, prices to exporters of both Canadian and Argentine wheats, in United States currency, were some 20 cents per bushel higher than a year earlier. The fact that the United States has discontinued subsidized exportation perhaps accounts for nearly half of this difference. Prospects for less pressure of Argentine exports, owing to the much reduced exportable surplus there, can scarcely be an important factor inasmuch as the strong holding policy of the Argentine grain board was limiting the export pressure a year ago. Some 10 to 15 cents of the difference between prices recently and a year earlier seems due simply to a holding disposition stimulated by expectations of further war-stimulated price advances.

Much of what has been said above regarding holding disposition in the United States appears to apply in Canada and Argentina also. To these countries now exporting actively, certain other circumstances are important. It remains uncertain how fully Australian supplies will be available to Europe, but the recently reported purchase of 60 million bushels of Australian wheat by Great Britain suggests that the British expect to be able to transport that quantity before the end of the Australian crop year in November. Presumably they will endeavor to move much of it during the next few months, while shipments from Canada are impeded by winter conditions. If they succeed, the danger that Australia may be lost as an important source of European wheat supplies will be postponed for another year at least. More or less prevalent expectations that war would substantially reduce European wheat production seem likely to diminish in force, though the outcome in this respect must continue uncertain while there remains a possibility of large-scale military operations in the Danube Basin. For Canada, it is especially significant that the anticipated difficulty of maintaining shipments from Argentina has not yet materialized.

If destruction of ocean shipping should reach such proportions as to interfere seriously with the movement of wheat from overseas exporting countries, the relative advantage accruing to Canada from her proximity to Europe may be largely offset by curtailment of European takings. This is the contingency against which such large wheat reserves have been accumulated in Europe.

Crop prospects.—As a price factor, prospects for next year's wheat harvests seem unlikely to have much further influence before April. The poor outlook for winter wheat in the United States seems so fully reflected in present prices that only clear evidence of greater damage than is now expected, such as can appear only after growth has started again in the spring, would be likely to cause much further price advance. If winter precipitation should prove abundant, however, prices might tend to be depressed.

The accumulated moisture shortage in the principal spring-wheat regions of North America has diminished the chances for a large crop of spring wheat, but it need not prove a determining influence. The situation is in any case one which will tend to remain static while the ground continues frozen. Good winter snowfall might be more beneficial than usual, however, since in large areas the ground is too dry to freeze and can absorb the moisture from melting snow. In April and May special importance will attach to precipitation in the spring-wheat area.

Price relations.—Spreads between Canadian and United States wheat prices during February–April may depend to an unusual degree on the general course of wheat prices. If Canadian prices should decline severely, prices in the United States would tend also to decline, but probably less. Otherwise, it seems to us reasonable to expect prices in the United States to decline relative to Canadian prices. Present supplies of wheat and crop prospects in the United States seem not to warrant price relations that would permit duty-paid importations from Canada either this year or next.

Price relations between the May and new-crop futures at Chicago are peculiarly dependent on the course of prices. If prices remain considerably above the costs of redeeming loan wheat, there will be a great abundance of "free" wheat in the market that may re-

sult in nearly a full carrying charge between successive wheat futures at Chicago. But if the course of prices should be such that little loan wheat is placed on the market, the May future may retain a substantial premium over new-crop futures. It might appear logical to expect the poor crop prospects for hard winter wheat to induce some advance of Kansas City futures relative to Chicago, especially in view of the tendency of shipments from the Pacific Coast to depress the price of soft red winter wheat, which is deliverable on Chicago but not on Kansas City futures; but we find little support for such an expectation in the price records for past years. If the prospects for hard winter wheat continue bad, however, there may be some tendency for protein premiums to increase, and such an increase might be accompanied by an advance of spring-wheat prices and of Minneapolis futures relative to Chicago. If Canadian importations should be practically banned, as is possible under existing legislation,[1] prices of spring wheat might gain some special benefit, at least temporarily; but we regard the recent relatively low levels of these prices (p. 228) as due principally to abundance of high-protein wheats rather than to threats of Canadian importations.

[1] Section 22 of the Agricultural Adjustment Act of 1933, as amended.

The authors are indebted to M. K. Bennett for aid on the text, to Marion Theobald for tables, and to P. Stanley King for charts.

APPENDIX TABLES

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS, 1934–39*

(Million bushels)

Year	World ex-Russia[a]			United States	Other chief exporters[b]	Europe ex-Russia					French North Africa[g]	India	Others ex-Russia[a]	USSR
	Total[a]	Northern Hemisphere	Southern Hemisphere			Total	Northwestern[c]	Central[d]	Mediterranean[e]	Lower Danube[f]				
1934	3,490	3,046	444	526	650	1,546	499	328	470	249	97	350	321	1,117
1935	3,557	3,184	373	626	568	1,575	441	342	490	302	70	363	355	1,133
1936	3,508	3,038	470	627	620	1,480	395	327	374	384	50	352	379	1,135[h]
1937	*3,788*	*3,344*	444	876	552	*1,536*	406	318	*451*	361	72	364	*388*	1,625[h]
1938	*4,525*	*3,953*	*572*	932	851	*1,856*	559	386	*445*	466	72	402	*412*	1,494[h]
1939[i]	*4,151*	*3,681*	*470*	736	*844*	*1,666*	*428*	*325*	*456*	*457*	102	371	*432*	.....
1939[j]	*4,179*	*3,772*	*407*	755	823	*1,701*	*438*	*348*	*462*	453	100	371	*429*	.....

* Data summarized from Table II (except for India and USSR). Figures in italics are in part unofficial approximations. Dots (...) indicate no data available.

[a] Excludes China, Iran, and Iraq.
[b] Canada, Australia, Argentina.
[c] British Isles, Netherlands, Belgium, France, Switzerland, Denmark, Norway, Sweden, Finland.
[d] Germany, Austria, Czechoslovakia, Poland, Estonia, Latvia, Lithuania.
[e] Portugal, Spain, Italy, Greece.
[f] Hungary, Yugoslavia, Rumania, Bulgaria.
[g] Morocco, Algeria, Tunis.
[h] Not comparable with earlier years.
[i] As of about Sept. 20, 1939.
[j] As of about Jan. 20, 1940.

TABLE II.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1934–39*

(Million bushels)

Year	U.S. winter	U.S. spring	Canada	Australia	Argentina	Uruguay	Chile	Brazil, Peru	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis
1934	438.0	88.4	275.8	133.4	240.7	10.7	30.1	7.13	64.8	68.3	76.6	39.6	39.6	43.5	13.8
1935	465.3	161.0	281.9	144.2	141.5	15.1	31.8	7.41	84.2	73.1	96.4	47.9	20.0	33.5	16.9
1936	519.9	106.9	219.2	151.4	249.2	9.2	28.6	8.36	87.8	107.4	128.7	60.4	12.2	29.8	8.1
1937	685.8	189.9	180.2	187.3	184.8	16.6	30.3	9.58	72.2	86.2	138.2	64.9	20.9	33.1	17.6
1938	688.1	243.6	360.0	154.4	336.2	15.5	35.5	....	98.8	111.3	177.2	79.0	23.2	34.9	14.0
1939[a]	550.7	185.4	449.1	*160.0*	*235.0*	....	....	....	112.1[c]	103.7	176.4	*65.0*	38.8	44.8	18.6
1939[b]	563.4	191.6	489.6	186.5	147.0	11.0	....	....	112.8[c]	104.5	164.9	71.2	38.8	42.6	18.6

Year	United Kingdom	Eire	France	Italy	Germany	Austria	Czecho-Slovakia	Switzerland	Belgium[d]	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1934	69.8	3.80	338.5	233.1	166.5	13.3	50.0	5.55	17.9	18.0	12.8	1.20	27.8	186.8	24.7
1935	65.4	6.69	285.0	282.8	171.5	15.5	62.1	5.97	17.1	16.7	14.7	1.87	23.6	158.0	22.1
1936	55.3	7.84	254.6	224.6	162.7	14.0	55.6	4.47	17.2	15.4	11.3	2.09	21.6	121.5	8.7
1937	56.4	6.99	257.8	296.3	164.1	14.7	51.3	6.18	16.8	12.6	13.5	2.50	25.7	*110.2*	14.7
1938	73.3	7.40	372.9	297.3	205.0	16.2	65.7	7.81	22.0	15.9	16.9	2.64	30.2	*96.0*	15.8
1939[a]	59.7	*7.20*	*275.0*	294.0	*187.0*[e]		*38.0*[f]	6.58	*15.9*	*13.0*	*14.0*	*2.40*	*26.0*	111.8	*18.0*
1939[b]	59.7	*8.00*	*276.0*	*294.0*	205.2[e]		*40.0*[f]	6.36	*17.0*	13.3	15.1	2.55	31.4	111.8	*18.3*

Year	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Turkey	Other Near East[g]	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1934	76.4	10.5	8.05	3.11	3.28	25.7	99.7	21.5	37.3	47.7	9.3	23.9	11.0	16.4	5.93
1935	73.9	10.1	6.52	2.27	4.23	27.2	92.6	24.8	43.2	48.7	9.7	37.3	10.7	23.7	8.86
1936	78.4	8.0	5.27	2.43	5.26	19.5	141.6	20.3	45.7	45.2	8.2	35.2	13.6	16.1	7.17
1937	70.8	8.1	6.30	2.79	7.66	30.0	133.0	24.1	45.4	50.4	10.3	41.4	10.6	10.2	6.04
1938	79.8	9.2	7.05	3.14	9.40	36.1	156.1	27.3	45.9	45.2	10.4	34.3	11.8	17.1	5.56
1939[a]	83.4	*8.0*	*6.50*	*2.50*	8.23	*32.0*	*152.0*	*29.0*	49.0	54.4	12.3	47.0	*13.0*	*15.0*	....
1939[b]	83.4	9.2	7.30	2.96	8.34	38.3	*158.0*	29.5	49.0	61.1	12.3	32.7	*13.0*	16.0	....

* Data of U.S. Department of Agriculture and International Institute of Agriculture. Figures in italics are unofficial approximations. Dots (...) indicate no data available.

[a] As of about Sept. 20, 1939.
[b] As of about Jan. 20, 1940.
[c] New boundaries.
[d] Including Luxemburg.
[e] Including the Sudeten area.
[f] Bohemia-Moravia and Slovakia.
[g] Syria and Lebanon, Palestine, Cyprus.

TABLE III.—WHEAT RECEIPTS IN NORTH AMERICA, MONTHLY, JULY–DECEMBER, 1934–39*

(*Million bushels*)

Year	United States (13 primary markets)							Canada (country elevators and platform loadings)						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	July-Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aug.-Dec.
1934.....	49.7	23.0	19.1	12.9	9.2	7.8	121.7	10.9	30.8	55.6	50.8	23.6	12.5	173.3
1935.....	28.9	48.2	42.3	27.9	14.5	9.9	171.7	12.6	13.3	73.2	60.0	21.0	14.2	181.7
1936.....	84.2	29.5	10.6	15.2	10.7	10.4	160.6	4.0	42.9	53.4	21.9	8.5	8.1	134.8
1937.....	111.9	62.2	35.2	22.6	16.1	10.6	258.6	3.1	20.5	45.0	17.8	9.8	5.3	98.4
1938.....	101.2	61.1	38.5	27.3	19.1	14.9	262.1	3.1	39.6	122.2	62.0	21.2	9.5	254.5
1939.....	99.0	43.9	39.0	19.8	12.2	11.5	225.4	8.0	54.0	176.4	80.2	36.8	15.0	362.4

* United States data unofficial, compiled from *Survey of Current Business;* Canadian data computed from official figures given in *Canadian Grain Statistics.*

TABLE IV.—WHEAT VISIBLE SUPPLIES, AUGUST–JANUARY 1939–40, WITH COMPARISONS*

(*Million bushels*)

Date	Total	United States grain		Canadian grain		Total North America	Afloat to Europe	U.K. ports	Total U.K. and afloat	Australia	Argentina
		United States	Canada	Canada	United States						
Aug. 1											
1934.....	423.2	115.9	.0	177.6	9.8	303.3	34.8	13.6	48.4	52.0	19.5
1935.....	302.2	34.7	.0	186.8	10.5	232.0	16.9	8.8	25.7	32.0	12.5
1936.....	237.4	67.3	.0	99.5	19.3	186.1	20.6	9.6	30.2	11.5	9.6
1937.....	180.1	89.3	.1	27.8[a]	4.1	121.4	25.6	12.0	37.6	14.5	6.6
1938.....	197.5	96.4	.3	17.1[a]	1.0	114.8	36.5	14.1	50.6	21.5	10.6
1939.....	343.2	149.3	.5	84.9[a]	6.6	241.3	34.9	25.5	60.4	18.0	23.5[b]
Jan. 1											
1935.....	447.8	91.0	1.0	230.2	27.6	349.8	25.4	16.1	41.5	45.5	11.0
1936.....	441.5	76.7	.0	226.4	34.8	337.9	20.2	10.3	30.5	68.0	5.1
1937.....	267.1	62.4	.0	81.6[a]	27.8	171.8	35.9	9.0	44.9	44.5	5.9
1938.....	283.7	94.5	1.9	49.2[a]	4.7	150.3	31.4	13.0	44.4	82.0	7.0
1939.....	430.4	128.8	.4	157.1[a]	7.9	294.2	24.7	18.4	43.1	82.7	10.4
1939-40											
Sept. 1.....	402.8	166.3	.6	131.5[a]	7.2	305.6	29.9	28.8[c]	58.9	13.5	25.0[b c]
Oct. 1.....	.....	162.0	1.4	237.1[a]	11.6	412.1	....	....	....	10.0	....
Nov. 1.....	.....	151.0	1.0	302.4[a]	16.1	470.5	....	....	....	5.0	....
Dec. 1.....	.....	142.0	.8	301.3[a]	33.9	478.0	....	....	....	7.2	....
Jan. 1.....	.....	132.8	.8	301.0[a]	38.4	473.0	....	....	....	82.7	....

* Selected, for dates nearest the first of each month, from weekly data in *Commercial Stocks of Grain in Store in Principal U.S. Markets, Canadian Grain Statistics,* and (for stocks outside North America) Broomhall's *Corn Trade News.* Dots (...) indicate that data are not available.

[a] Excluding, for comparability, stocks in transit by rail which are now included in published totals.

[b] Approximate; see WHEAT STUDIES, May 1939, XV, 368.

[c] August 26.

TABLE V.—UNITED STATES FLOUR PRODUCTION, EXPORTS, AND NET RETENTION, MONTHLY, JULY–DECEMBER 1939, WITH COMPARISONS*

(*Thousand barrels*)

Month or period	Production						Net exports and shipments to possessions			Estimated net retention		
	All reporting mills			Estimated total								
	1937	1938	1939	1937	1938	1939	1937	1938	1939	1937	1938	1939
July	8,415	8,507	8,432	8,914	9,021	8,942	308	447	988	8,606	8,574	7,954
Aug.	8,678	9,160	9,522	9,193	9,714	10,098	430	452	698	8,763	9,262	9,400
Sept.	9,234	9,699	11,191	9,782	10,285	11,867	496	444	746	9,286	9,841	11,121
Oct.	9,446	9,634	9,428	10,006	10,216	9,997	533	572	663	9,473	9,644	9,334
Nov.	8,698	8,838	8,298	9,234	9,372	8,800	512	466	612	8,722	8,906	8,188
Dec.	8,168	8,416	.....	8,670	8,925	10,000[a]	510	607	650[a]	8,160	8,318	9,350[a]
July-Dec. ...	52,638	54,254	.....	55,799	57,533	59,704[a]	2,789	2,988	4,357[a]	53,010	54,545	55,347[a]
July-June[b] ..	100,974	104,638	.....	107,147	110,963	.....	5,649	7,172	....	101,498	103,790	101,143[a]

* Reported production and trade data from U.S. Department of Commerce, *Wheat Ground and Wheat Milling Products, Monthly Summary of Foreign Commerce,* and Statement No. 3009. Total production and net retention are our estimates.

[a] Preliminary estimate.

[b] Twelve months beginning in year stated.

TABLE VI.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY FROM SEPTEMBER 1939*

(Million bushels)

Week ending	Total[a]	Shipments from							Shipments to Europe				To ex-Europe		
		North America	Argentina[b]	Australia[c]	South Russia	Danube	India	Other countries	Total	United Kingdom	Orders	Continent	Total	Brazil	Others
Sept. 2	6.91	2.62	2.78	.29	.19	.70	.00	.33	5.73	1.79	1.14	2.80	1.18	...	...
9	10.27	4.80	4.67	...	.00	.71	.00	.09	9.05	5.92		3.13	1.22	...	...
16	6.21	2.35	2.83	...	.00	1.03	.00	.00	5.03	...	...	...	1.18	...	...
23	7.59	3.10	2.98	...	.00	1.51	.00	.00	5.81	...	...	...	1.78	...	...
30	8.55	5.02	2.93	...	.00	.60	.00	.00	6.85	...	...	...	1.70	...	...
Oct. 7	7.33	3.83	1.84	...	.00	1.66	.00	.00	6.19	...	...	...	1.14	...	...
14	6.19	1.74	2.69	...	.46	1.30	.00	.00	4.42	...	...	...	1.77	...	...
21	6.32	2.51	2.70	...	.00	1.11	.00	.00	4.54	...	...	...	1.78	...	...
28	7.30	2.04	3.97	...	.00	1.29	.00	.00	5.87	...	...	...	1.43	...	...
Nov. 4	7.22	2.04	3.90	...	.00	1.28	.00	.00	6.25	...	...	...	.97	...	...
11	10.62	3.55	5.15	...	.00	1.87	.00	.05	9.25	...	...	...	1.37	...	...
18	8.70	4.21	3.09	...	.00	1.32	.00	.08	7.81	...	...	...	.89	...	...
25	10.43	4.41	4.33	...	.00	1.60	.00	.09	8.52	...	...	...	1.91	...	...
Dec. 2	12.23	6.41	4.07	...	.00	1.63	.00	.12	10.98	...	...	...	1.25	...	...
9	11.01	4.65	4.27	...	.00	2.06	.00	.03	10.15	...	...	...	.86	...	...
16	6.55	2.66	2.44	...	.00	1.45	.00	.00	4.97	...	...	...	1.58	...	...
23	9.06	1.41	5.78	...	.00	1.82	.00	.05	7.32	...	...	...	1.74	...	...
30[d]	8.62	3.31	3.37	...	.00	1.40	.00	.54	7.20	...	...	...	1.42	...	...
Jan. 6[d]	6.07	2.47	2.74	...	.00	.79	.00	.07	5.43	...	...	...	.64	...	...
13[d]	7.54	2.45	3.65	...	.00	1.24	.00	.20	6.35	...	...	...	1.19	...	...

* Here converted from data in Broomhall's *Corn Trade News*. Dots (...) indicate that data are not available.

[a] Excluding Australia after September 2.
[b] Including Uruguay.
[c] Not received after September 2.
[d] Preliminary.

TABLE VII.—NET IMPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1939*

(Million bushels)

Month or period	United Kingdom	Eire	France[a]	Italy	Germany	Bohemia-Moravia	Switzerland	Belgium[b]	Netherlands	Denmark	Norway	Sweden	Portugal
Aug.	20.98	1.05	...	...	...	2.80	1.34	2.81	3.04	.43	.72	.23	.11
Sept.	...	...	...	...	...	...	1.68	2.38	1.65	.29	1.12	.14	
Oct.	...	...	...	...	...	...	2.07	5.11	2.09	.51	1.04	...	...
Nov.	...	...	...	...	...	...	2.15	...	2.95	.38	...	...	...
Aug.-Nov.													
1939	...	...	...	...	...	...	7.24	15.00	9.73	1.61	3.70	...	...
1938	73.72	5.46	2.97	1.99	21.43	.64	6.42	15.14	10.62	2.33	3.41	1.00	.88

Month or period	Lithuania	Latvia	Estonia	Finland	Greece	Syria, Lebanon	Egypt	Japan	Manchukuo	China	Cuba[c]	South Africa	New Zealand
Aug.	.00	.00	.00	.15	1.66	(.02)	.02	(1.74)	...	2.84	.51	...	.31
Sept.	...	...	...	...	.92	...	.01	(1.28)	...	.99	.69	...	.03
Oct.	...	...	...	...	.91	...	.01	(.79)	...	2.83[d]	.29	...	.02
Nov.	...	...	...	...	...	...	...	(1.31)	...	...	.24	...	.02
Aug.-Nov.													
1939	...	...	...	...	4.30	...	...	(5.12)	...	...	1.73	...	.38
1938	(.26)	.18	.02	1.32	3.80	.19	.03	(5.41)	5.30	4.81	1.65	1.71	.53

* Data from official sources and International Institute of Agriculture. Dots (...) indicate that data are not available. November figures preliminary for some countries; August-November 1939 includes our estimates for missing monthly data. Figures in parentheses represent net exports.

[a] Net trade in "commerce général."
[b] Including Luxemburg.
[c] Gross imports of flour from the United States.
[d] Gross imports.

TABLE VIII.—NET EXPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1939*

(*Million bushels*)

Month or period	United States[a]	Canada	Australia	Argentina	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis	Turkey	India	USSR
Aug.	8.24	11.95	4.45	16.06	5.86	2.39	1.54	.48	...	...	.12	.08	.17	...
Sept.	5.32	17.45	3.67	14.10	4.78	.43	1.70	.30	...	...	.01	.01	.36	...
Oct.	3.89	18.78	5.74	14.76	5.06	1.38	2.97	.25	...	...	...	...	.38	...
Nov.	3.25	23.21[b]	...	17.06	...	...	...	...	...	...	...	...	...	...
Aug.-Nov.														
1939	20.70	71.39	19.00	61.98	20.00	5.50	11.00	1.50	...	...	...	...	...	...
1938	27.43	71.49	24.87	18.01	13.12	3.83	16.71	.00	2.06	.32	.81	.92	2.18	30.50

* For general notes see Table VII. Here, figures in parentheses represent net imports.

[a] Including shipments to possessions.

[b] Gross exports for December were 38.5 million bushels.

TABLE IX.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1934–35*

(*Million bushels*)

Year	Domestic supplies			Domestic utilization				Surplus over domestic use[c]	Net exports			Year-end stocks
	Initial stocks	New crop	Total	Milled (net)	Seed use	Balancing item[a]	Total[b]		Total	To Nov. 30	From Dec. 1	
	A. UNITED STATES (JULY–JUNE)											
1934-35	274	526	800[d]	450	82	+121	653	147	(1)[e]	2	(3)[e]	148
1935-36	148	626	774[d]	466	88	+106	660	114	(28)[e]	(15)[e]	(13)[e]	142
1936-37	142	627	769[d]	471	97	+141	709	60	(23)[e]	(18)[e]	(5)[e]	83[f]
1937-38	83[f]	876	959	468	95	+136	699	260	107	31	76	153[f]
1938-39	153[f]	932	1,085	475	78	+169	722	363	109	40	69	254[f]
1939-40[g]	254[f]	736	990	475	85	+145	705	285	...	...	...	...
1939-40[h]	254[f]	755	1,009	472	80	+127	679	330	40	27	13	290
	B. CANADA (AUGUST–JULY)											
1934-35	193	276	469	43	32	+27	102	367	165	80	85	202
1935-36	202	282	484	45	34	+43	122	362	254	102	152	108
1936-37	108	219	327	44	34	+21	99	228	195	109	86	33
1937-38	33	180	213	43	33	+26	102	111	87	42	45	24
1938-39	24	360	384	48	35	+41	124	260	165	71	94	95
1939-40[g]	95	449	544	43	35	+31	109	435	...	...	...	...
1939-40[h]	95	490	585	48	35	+42	125	460	190	71	119	270
	C. AUSTRALIA (AUGUST–JULY)											
1934-35	84	133	217	32	13	+ 6	51	166	109	34	75	57
1935-36	57	144	201	33	13	+10	56	145	102	29	73	43
1936-37	43	151	194	32	15	+ 6	53	141	102	24	78	41
1937-38	41	187	228	30	15	+ 7	52	176	126	21	105	50
1938-39	50	154	204	34	14	+10	58	146	96	25	71	50
1939-40[g]	50	160	210	34	13	+ 8	55	155	...	...	...	...
1939-40[h]	50	187	237	34	13	+10	57	180	80	19	61	100
	D. ARGENTINA (AUGUST–JULY)											
1934-35	118	241	359	69	17	+ 6	92	267	182	63	119	85
1935-36	85	141	226	69	21	0	90	136	70	35	35	66
1936-37	66	249	315	67	23	+12	102	213	162	19	143	51
1937-38	51	185	236	71	25	+ 3	99	137	72	12	60	65
1938-39	65	336	401	72	21	+11	104	297	122	18	104	175
1939-40[g]	175	235	410	71	22	+ 7	100	310	...	...	...	...
1939-40[h]	175	147	322	73	22	+ 7	102	220	135	62	73	85

* Based on official data so far as possible; see WHEAT STUDIES, December 1939, Table XXX.

[a] Total domestic utilization minus quantities milled for food and used for seed.

[b] Total domestic supplies less surplus over domestic use.

[c] Summation of net exports and year-end stocks.

[d] Not including net imports.

[e] Net imports.

[f] Excluding new-crop wheat in some positions.

[g] Estimates as of September 1939.

[h] Estimates as of January 1940.

TABLE X.—SELECTED WHEAT PRICES, WEEKLY FROM SEPTEMBER 1939*

(*U.S. cents per bushel*)

Week ending	Futures							United States cash					
	Winnipeg		Buenos Aires		Chicago			Basic cash (Chi.)	No. 2 H.W. (K. C.)	No. 2 R.W. (St. L.)	No. 1 Dk. N.S. (Mnpls.)	No. 2 Hd. A.D. (Mnpls.)	Western White (Seattle)
	Dec.	May	Oct. (Feb.)	Nov.	Dec. (Sept.)	May	July						
1939													
Sept. 2	59.6	62.8	55.1	...	70.3	71.0	...	71.3	68	73	81	83	71
9	73.0	76.1	54.3	...	84.9	85.9	...	86.3	87	94	95	98	84
16	70.3	74.0	53.4	...	85.4	86.6	...	86.5	86	90	94	96	81
23	68.8	72.9	53.9	55.8	85.8	86.8	...	87.3	86	90	93	94	81
30	65.9	70.2	54.2	55.8	84.4	85.0	84.1	86.4	85	88	90	93	80
Oct. 7	63.6	67.8	53.6	54.0	81.8	82.0	80.5	83.8	82	86	88	91	77
14	65.2	69.4	52.3	52.3	82.6	82.2	80.4	83.9	82	86	86	89	79
21	65.0	69.3	53.2[a]	51.4	85.3	84.4	82.6	86.8	83	90	89	91	82
28	63.7	68.1	53.5	50.4	85.0	84.7	83.2	86.5	83	89	90	89	81
Nov. 4	62.8	67.2	54.7	50.2	86.7	86.1	84.6	88.2	85	92	91	92	81
11	62.3	66.8	55.1	51.8	87.8	86.4	84.5	89.3	87	93	92	91	81
18	61.8	66.0	55.1	51.2	87.6	85.6	83.5	89.4	86	91	90	88	80
25	60.9	65.0	56.4	51.5	88.4	86.0	83.6	89.4	86	91	90	86	79
Dec. 2	64.0	67.9	59.4	...	90.6	88.1	85.7	90.6	86	94	93	92	82
9	69.2	72.9	62.7	...	96.5	93.2	91.1	96.5	93	97	98	99	84
16	71.7	75.3	67.7	...	101.6	99.2	97.2	101.6	98	105	101	102	86
23	75.4	78.6	67.9	...	108.8	105.1	103.0	106.9	104	109	108	106	...
30	75.2	78.4	68.1	...	99.9[b]	103.3	100.7	104.7	101	105	106	103	...
1940													
Jan. 6	...	77.9	67.4	...	102.2	105.2	102.8	106.2	104	109	110	104	...
13	...	76.0	65.0	...	97.4	100.6	98.1	101.6	...	...	...	...	...

Week ending	Antwerp sales[c]					European domestic				Winnipeg		Buenos Aires	
	Arg. Rosafé		No. 2 Man.	No. 3 Man.	No. 1 Hard Winter	Great Britain	France[d]	Germany[d]	Italy[d]	Wtd. average	No. 3 Man.	Domestic 78-kilo	Export price[e]
	Afloat	Arrived											
1939													
Aug. 5	51	...	65	61	53	55				51	46	59	...
12	51	...	66	60	53	56	140	213	212	51	45	59	...
19	50	50	69	...	55	56	(197.5)	(196)	(148)	50	45	59	38
26	54	...	72	69	60	51				56	51	58	38
Sept. 2	59	...	90	...	...	47				57	52	55	...
9	78	80	110	108	99	48				71	66	52	46
16	86	91	111	110	104	48	122	215	207	67	64	52	46
23	89	94	110[f]	109	107	56	(197.5)	(198)	(148)	66	63	53	46
30	91	98	114	112	110	60				63	60	54	46
Oct. 7	88	93[f]	108	...	109	61				61	58	52	46
14	87[f]	92	106	...	...	63	123	218	203	63	59	52	49
21	88	92[f]	107[f]	106	...	63	(199.0)	(200)	(148)	63	60	49	49
28	81	88[f]	103	...	103	64				62	59	49	49
Nov. 4	83	86[f]	102	...	...	69				61	59	49	49
11	83	87	103	...	101	74	121	221	203	61	59	50	49
18	84[f]	84	103[f]	102	...	74	(200.5)	(202)	(148)	61	59	50	49
25	84	...	99	98	...	75				61	58	50	...
Dec. 2	94	...	108	...	106	75				64	61	53	53
9	108	...	119[f]	118	115	74				68	64	56	55
16	120	...	128	...	...	75	122	223	203	70	66	...	62
23	130	...	136	...	...	75	(202.0)	(204)	(148)	74	69	...	...
30	124	...	136	...	...	75				74	69	...	61
1940													
Jan. 6	121	...	134	...	...	75				73	70	...	66

* For methods of computation see WHEAT STUDIES, December 1939, XVI, 200–201. For Canada, prices are from *Grain Trade News* and *Canadian Grain Statistics;* Buenos Aires, *Revista Oficial,* and Broomhall's cables; United States, *Daily Trade Bulletin* and *Crops and Markets;* Belgium, *The London Grain, Seed and Oil Reporter;* Great Britain, *The Economist;* France, *Bulletin de l'office des renseignements agricoles;* Germany, *Wirtschaft und Statistik;* Italy, International Institute of Agriculture, *Monthly Crop Report.* ... Dots (...) indicate no quotations.

[a] February future from October 16.

[b] September future from December 26.

[c] Sales made late in the week or sometimes early in the following week. Quotations for different wheats sometimes apply to different dates, but are closely comparable.

[d] Fixed prices. Data in parentheses are prices in francs, marks, and lire per quintal, respectively.

[e] Approximations based chiefly on irregular quotations issued by Broomhall's New York office; see text, p. 222.

[f] Our interpolation.

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