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

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DECEMBER 1936

THE WORLD WHEAT SITUATION, 1935-36

A REVIEW OF THE CROP YEAR

DISASTERS to crops of North American spring wheat and in Argentina more than offset good outturns in many importing countries. Hence the 1935 world crop ex-Russia was little larger than the small crop of 1934. Total wheat utilization again exceeded the year's production, and drafts upon stocks reduced the world carryover ex-Russia to the lowest point since 1928.

International trade in wheat and flour shrank below the low level of 1934-35, as import demand from the Orient fell off and that of Europe again disappointed expectations. Net exports of net-exporting countries totaled some 525 million bushels. Canada, resuming her role of premier wheat exporter, supplied nearly half of the total. Contributing to this outcome were the huge Canadian carryover, limited supplies of good milling wheat in the United States, the short crop in Argentina, and a change in Canadian Wheat Board personnel and policy in December 1935. Australia, with new wheat of excellent quality, shared in dominating open world markets after the Argentine crop debacle. The United States, with a moderate carryover but a small crop of inferior quality, imported bread wheat heavily. Our net imports were exceeded only by those of the United Kingdom, Belgium, and Brazil.

Prices of British import wheats averaged 14 per cent higher than in 1934-35, reflecting the definite passing of a period of abundant supplies. Price advances were even larger in Argentina and Australia, but much smaller in the United States and Canada. In many countries, prices were fixed or supported at levels stimulating further expansion of wheat acreage. In June-July 1936, however, adverse weather again led to sharp advances in open market prices, correctly presaging another short world crop.

STANFORD UNIVERSITY, CALIFORNIA

December 1936

WHEAT STUDIES

OF THE

FOOD RESEARCH INSTITUTE

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THE WORLD WHEAT SITUATION, 1935-36

A REVIEW OF THE CROP YEAR

The period under review was marked by further economic recovery on a wide front, one minor war, and fears of a major war; but none of these developments proved to have large influence on the wheat situation. Much more important were serious crop disasters both early and late in the year. With a small 1935 wheat crop ex-Russia and generally ample supplies of other grains, international trade in wheat and flour was exceptionally light, and further important reductions were made in surplus carryovers. Very complex price structures and movements characterized the crop year, with British import prices averaging 14 per cent higher than in the year that had preceded.

Wheat supplies for 1935-36, for the world ex-Russia, were the smallest since 1927-28. When the year opened, stocks were the lowest since 1928, though still much above a normal level. The world crop ex-Russia was relatively short, much as in 1934. Russian exports, though by no means negligible as in 1934-35, were small compared with those following the Russian crops of 1930 and 1931, which were not so large as that of 1935. With two big crops of maize in Argentina, and at least fairly good crops of rye and feed grains in the United States and most of Europe in 1935, the feed grain position was much easier except in Germany.

The 1935 wheat crop was only a little larger than that of 1934. This was due mainly to heavy abandonment of sown area in two or three countries and an extremely severe rust epidemic in the North American spring-wheat belt. In quality the North American spring-wheat crops ranked extremely poor, the United States winter wheats east of the Rockies much below average, and the Australian crop outstandingly good.

In geographical distribution the 1935 world

crop was, by and large, strikingly similar to that of the preceding year. Among the countries that are normally the chief exporters, Argentina's crop was notably short; but the United States crop increased over that of 1934 by about the same amount as the Argentine outturn was reduced. Increases in harvests in the Lower Danube countries practically offset

reductions in other Europe plus French North Africa. Harvested acreage was held down by extensive abandonment in the United States, Argentina, and probably Canada. Yields were low in all three, as also in three of the seven exporting countries of the Lower Danube and French North Africa. In most countries that normally

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import wheat, acreages and yields were generally above average and in many instances at or near record levels.

World wheat disappearance ex-Russia has varied little for four years. In 1935-36 it was perhaps not quite so low as in 1934-35. Net increases in food and seed use offset relatively considerable reductions in feed use and in net exports outside the area that we call "world ex-Russia." Low quality of wheat was responsible for fairly heavy feed use in North America, and shortage of funds for importing cheaper feedstuffs led to extensive diversion of wheat to feed use in Germany. In Europe ex-Danube as a whole, increased food use hardly sufficed to offset the net contraction in feed use, which was reduced materially in Great Britain and Denmark. Outside Europe there were slight increases in food use in several countries, but important reductions in Manchukuo and China.

Carryovers were generally reduced during the crop year, in total by something like 180 million bushels—a larger reduction than in any recent year except 1934-35. The most impressive reduction was made in Canada, yet

stocks of Canadian wheat in North America remained over twice as large as the average in 1923-27. At about 725 million bushels, the 1936 world carryover ex-Russia was 20 per cent above the average for the same pre-depression period. With fears of war widespread, and poor crop prospects for 1936, there were few countries in which the year-end stocks were considered excessive.

Governmental controls continued to exert powerful influence on wheat acreage, marketing, prices, and consumption. Here and there, temporary relaxations of earlier regulations were made, and in a few instances there were more substantial shifts in policy in the direction of less excessive protection to wheat growers. In several countries more important from the standpoint of world wheat trade, if not production, the drift of policy continued toward self-sufficiency in wheat and toward benevolent regimentation of wheat production and trade. The most startling market announcement was the boosting of the "board buying price" for wheat in Argentina on December 12, from 5.75 to 10 pesos per quintal. The most important change in policy occurred a few days earlier, when the Canadian Wheat Board was reconstituted under leadership determined to sell wheat.

International trade in wheat and flour again disappointed expectations. Total reported shipments fell below 500 million bushels for the first time since 1917-18, and net exports of net-exporting countries totaled only about 525 million. Net imports of Europe ex-Danube were the smallest in several decades; imports from overseas countries (chiefly Canada, Australia, and Argentina) amounted to only about 265 million bushels, of which around 180 million went to the British Isles. Because of qualitative deficits rather than deficient quantities, the United States was a substantial net importer, ranking after Belgium and Brazil as the most important outside the United Kingdom. Other ex-European takings were the smallest in a decade, with Oriental markets taking less than for several years.

Canada again ranked as the outstanding world wheat exporter; from huge stocks supplementing her small crop, she exported 254 million bushels net. Australia, from mod-

erate stocks and a crop below average in size, shipped less heavily to the Orient but more to Europe than in the preceding season. Argentine exports moved much as usual in the early months, but after the extremely small new crop came in, practically all the commercially available surplus wheat went to Brazil. Russia's net exports of 28.5 million bushels exceeded the combined total of the four exporting countries of the Lower Danube, whose exports moved chiefly under special trade agreements. France, Sweden, and Portugal made surplus-disposal exports.

Wheat prices were again extremely complex in 1935-36. Relative scarcity or abundance of particular types and qualities played a larger role than usual. The predominating factors, however, were divergent national policies and certain changes in these. The crop disasters that marked the early part and the end of the crop year forced prices up sharply in markets that were free to move. In between there were extended periods of sagging prices. In the United Kingdom imported wheat was substantially dearer than in any year since 1929-30, but its purchasing power over commodities in general was much lower than in pre-depression and prewar years.

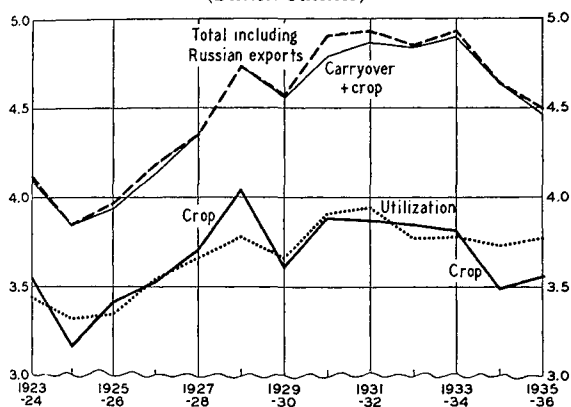
In the United States, wheat prices were above an export basis throughout the year, even in the Pacific Northwest; in terms of broad averages they were much the same as in 1934-35. In Canada the Wheat Board took delivery from growers at scheduled prices based on 87.5 cents for No. 1 Manitoba Northern at Fort William. The board did not peg market prices, which averaged somewhat below its schedule, grade for grade. As compared with the preceding crop year, prices of the better grades averaged a few cents higher, but quality factors brought the weighted average price lower. In Australia, prices averaged considerably higher, and in Argentina much higher, than in 1934-35.

Thanks to the favor of nature and/or to governmental aids in various forms, 1935 wheat crops were profitable for farmers in most countries except Canada. Expansion of acreage sown for 1936 was general, and in the United States the sown area was nearly up to the record level of 1919.

I. SUPPLIES FOR THE YEAR

In 1934-35, when initial stocks of wheat were of record size, the world crop ex-Russia was short and Russian exports were negligible; total wheat supplies for the world ex-Russia were about 4,640 million bushels, the smallest since 1929-30. In 1935-36 initial stocks were sharply lower, the world crop ex-Russia was not much larger, and Russian exports were only moderate; consequently, total supplies for the world ex-Russia were about 4,480 million bushels—something like 160 million less than in 1934-35 and the smallest since 1927-28. Chart 1 brings into relief

CHART 1.—WHEAT CROP, TOTAL SUPPLIES, AND UTILIZATION, EX-RUSSIA, FROM 1923-24*
(Billion bushels)



* Data in Table XXXII.

the notable changes in the supply position during the past two completed crop years, and shows that in both years wheat utilization exceeded production. Consequently, carryovers shrank in marked degree (see Chart 12, p. 163).

THE 1935 WHEAT CROPS

The 1935 world wheat crop ex-Russia is now appraised at around 3,545 million bushels, if one includes Manchukuo, Turkey, and several other countries chiefly in the Near East, for which fairly satisfactory figures are now at hand for a decade or more.¹ From such totals, as heretofore, we exclude not only Russia but China, both of which can best be considered separately, and for which fully comparable data are not available even for

recent years.² We also continue to leave out of account Iran (Persia) and Iraq, for which data are not regularly published, and a few very minor producers for which crop statistics are either lacking or negligible.

Early prospects for the 1935 world crop were promising. Despite heavy abandonment of winter wheat in the United States, the world crop ex-Russia seemed likely to be as large as that of 1933.³ But an unparalleled rust epidemic blasted the important North American crop of spring wheat; severe and protracted drought, extending through September, adversely affected both acreage and yields in Argentina, and with excessive rains and heat in December her crop proved the smallest since 1916; and various other crops suffered damage affecting yields and quality.⁴

The 1935 world crop, however, now appears 80-odd million bushels larger than it did toward the end of the summer of 1935. For the United States, most of the change was part of a recent general revision of estimates covering a dozen years.⁵ The greater part of the net increase in the world total resulted, as usual, from upward revisions in a number of European countries, but only in France and Hungary was the increase as much as 10 million bushels. Standing crop estimates are appreciably below those of early September 1935 for Canada and Poland (unofficial), and fractionally lower in a few other countries. The

¹ With this issue we begin to include these countries in our "world ex-Russia" totals; see Appendix Note A. Manchukuo includes, in addition to the three provinces that long comprised Manchuria, the former province of Jehol; but Jehol was and is a very small producer of wheat.

² On Russia and China see below, pp. 150, 185.

³ The usual table in *World Wheat Prospects* (Bureau of Agricultural Economics, Washington, D.C.), July 24, 1935, showed an estimated world total ex-Russia ex-China (which rested heavily on forecasts or provisional estimates) of 3,787 million bushels, identical with the total for 1933 and 321 million larger than that for 1934 crops. In the October 1936 issue of the same periodical survey, the corresponding 1935 total is given as 3,554 million, only 41 million larger than the revised total for 1934.

⁴ See our "Survey and Outlook" issues for September 1935 and January 1936, *WHEAT STUDIES*, XII, 1-5, 184-85.

⁵ See Appendix Note B (1).

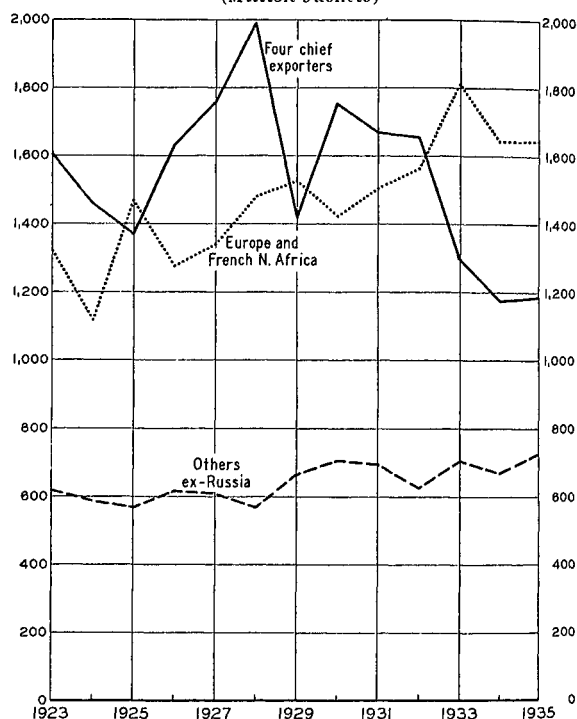
net increase, though by no means negligible, appears moderate in comparison with those for the crops of 1928, 1931, and 1934, and far smaller than the extreme upward revisions that were made in estimates of 1933 harvests.¹

Two successive crops are rarely so nearly similar both in the aggregate and in broad distribution as those of 1934 and 1935 (Table I). The combined crops of North America, Australia, and Argentina were almost identical in the two years: an increase in the United States crop approximately offset the striking reduction of 100 million bushels in Argentina; the two Canadian crops were equally small; and Australia, despite excellent late rains following a poor early season, harvested only 10 million bushels more in 1935. The combined crops of Europe ex-Russia and French North Africa were practically the same in the two years: increases of 52 million bushels in the exporting countries of the Lower Danube offset aggregate decreases in Europe ex-Danube and the French dependencies. Minor changes in India and elsewhere resulted in a net increase of about 50 million bushels in the rest of the world ex-Russia.

Chart 2 brings out the striking curtailment of wheat production in recent years in what have been the four chief exporting countries (Canada, United States, Argentina, Australia), as a group; and the upward trends of production in Europe and French North Africa as a whole, and in other countries (including the Near East) taken as a composite group. In the contraction of output in the first group, nature has been the prime factor, economic forces a secondary one, and government policy a poor third.² In the upward trend of output elsewhere, government policies influencing

economic forces have commonly been the predominant factors, while improvement in yields has been important and nature has played only a minor role. In individual countries and in particular years, however, favorable weather conditions have exerted a powerful influence, relatively most important, perhaps, in France.

CHART 2.—WHEAT PRODUCTION EX-RUSSIA, BY GROUPS OF COUNTRIES, 1923-35*
(Million bushels)



* Based on data mainly in Table I.

Chart 3 gives some details of the same picture. Conspicuously small crops were harvested in 1935 only in Canada and Argentina. The United States crop, however, was small compared with all but those of 1933 and 1934, and the Australian crop was well below the average of recent years. While Europe has not since harvested a crop equal to that of 1933, the aggregate crop of Europe ex-Danube was large in 1935.

Relatively large crops were harvested in Italy, Portugal, Lithuania, Greece, Tunis, and Chosen (Table II); and crops of record size (at least for postwar years) were obtained in the following countries, most of them small

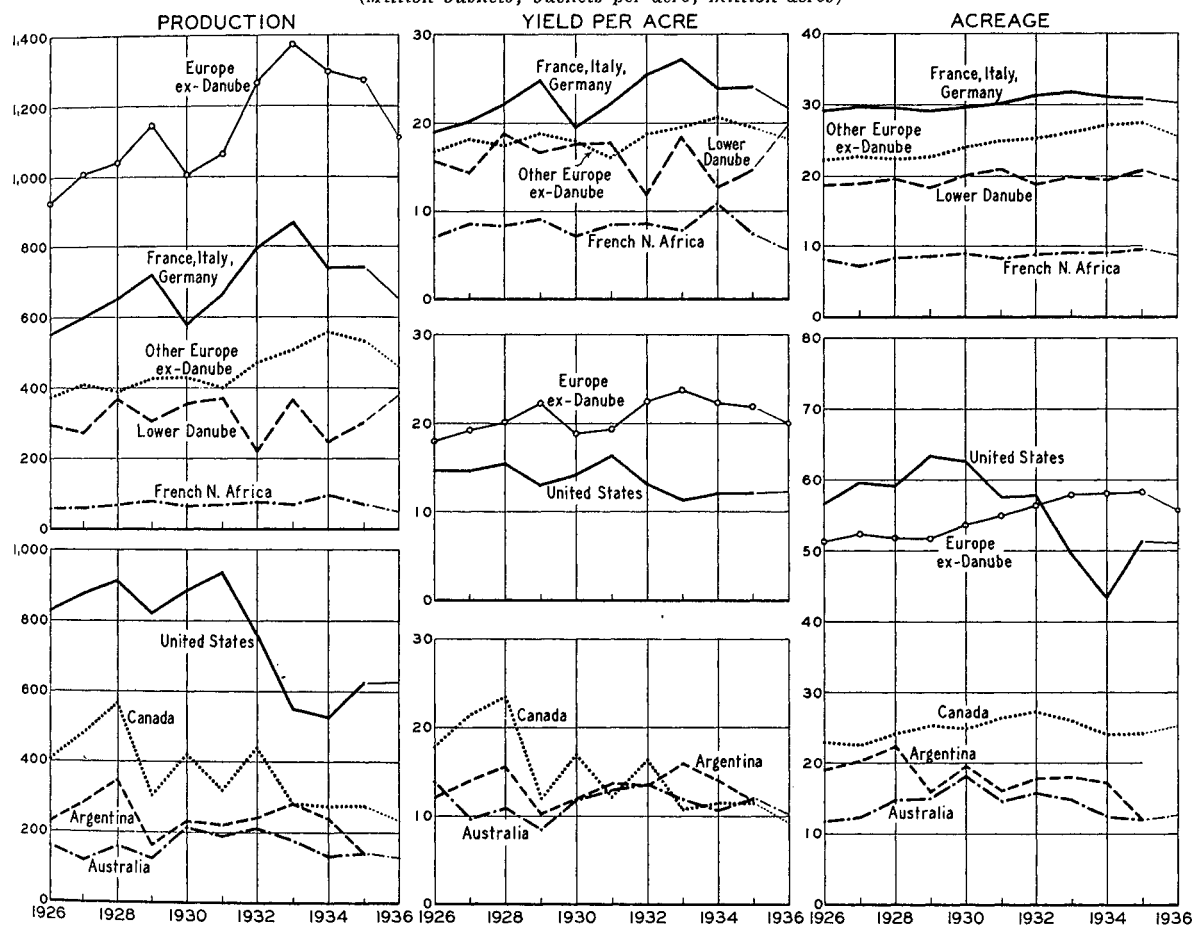
¹ Selected figures for that crop as published in *WHEAT STUDIES* are as follows, in million bushels: Sept. 1933—3,297; Jan. 1934—3,482; Sept. 1934—3,583; Sept. 1935—3,616; Sept. 1936—3,638. Table I now shows a larger figure for 1933, only because of the inclusion of additional countries.

² On the relative influence of weather conditions and the AAA on the United States crops of 1933-35, see J. S. Davis, *Wheat and the AAA* (Brookings Institution, 1935), pp. 347-54. Later investigation by the author, with the aid of more adequate information, broadly bears out the conclusions there presented while indicating various corrections in detail. See also below, p. 206.

producers: the Irish Free State, Denmark, Norway, Finland, Switzerland, Austria, Japan, the Union of South Africa, and a Near East group comprising Syria-Lebanon, Palestine, and Cyprus. In the past two years the striving toward self-sufficiency in wheat, and accompanying expansion of wheat area, have

1925-35; except for Canada, the data are for the most part *harvested* acreage. Comparisons between 1925 and 1935, and between 1930 and 1935, bring out impressive contrasts between the net reduction in wheat acreage in the four chief exporting countries and the net expansion in most other groups of countries. A few

CHART 3.—WHEAT PRODUCTION, YIELDS PER ACRE, AND ACREAGE IN MAJOR AREAS EX-RUSSIA, 1926-36*
(Million bushels; bushels per acre; million acres)



* Data in Tables I-IV. Data for 1936 are preliminary.

been more pronounced in numerous net-importing countries that have been small producers of wheat. In France, Germany, and Italy, which are much more important as wheat producers, as well as in Sweden, expansion of acreage and production took place earlier, and there has been little expansion and some contraction since 1933.

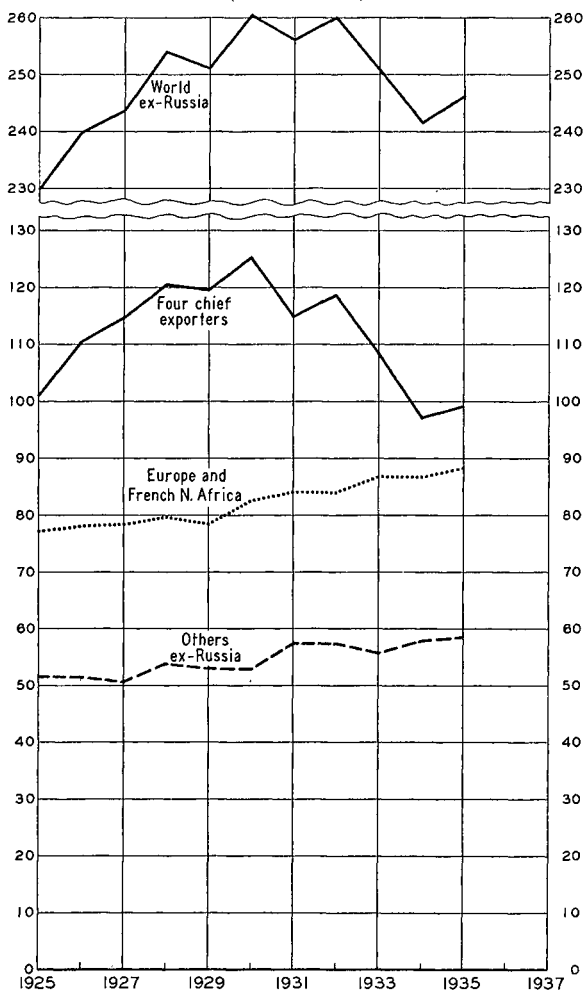
Chart 4 (p. 146) shows, for the world ex-Russia and the groups of countries used in Chart 2, the course of total acreage during

significant group totals are given in the following tabulation, in million acres.

Year	World ex-Russia	Four chief ex-ports	All others ex-Russia	Lower Danube	Other Europe and Fr. N. Africa	Others ex-Russia
1925....	229.7	101.0	128.7	18.5	58.7	51.5
1929....	251.1	119.5	131.6	18.3	60.2	53.1
1930....	260.5	125.2	135.3	20.0	62.5	52.8
1934....	241.6	97.1	144.5	19.5	67.1	57.9
1935....	246.7	99.1	147.6	20.7	67.8	59.1

In 1935 as in 1934, the small world crop resulted from low average yields on an acreage restricted largely by adverse weather, primarily in overseas exporting countries. Sowings

CHART 4.—WHEAT ACREAGE EX-RUSSIA, TOTAL AND BY GROUPS OF COUNTRIES, 1925-35*
(Million acres)



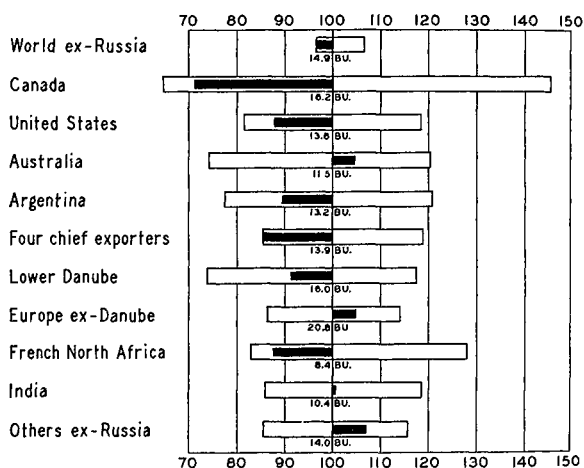
* Data in Table I. Mainly harvested acreage, except for Canadian spring wheat.

in the North American spring-wheat belt, Australia, and Argentina were held down by adverse natural conditions, and abandonment was heavy in Argentina and the United States, presumably also in the Prairie Provinces of Canada.¹ In Australia, competition from wool-growing² constituted an additional factor restricting wheat acreage, which proved the smallest since 1926. In Germany and Sweden, government policies tended slightly in the

same direction (see p. 200). Generally elsewhere, however, harvested acreage was larger than in 1934. Indeed, wheat acreages were near or above their postwar peaks, if not at record heights, in most countries of Europe, in Morocco and Algeria, and also in Japan, Uruguay, and South Africa (Table III).

Yields per harvested acre, for the world ex-Russia, averaged about the same as in 1934 and 1929; with these two exceptions the average was the lowest since 1924 (Table I) despite the definite and substantial upward trend of yields in Europe in the interval (Chart 3). The low average was due predominantly to low yields in North America and Argentina, as suggested by Chart 5. In

CHART 5.—WHEAT YIELDS EX-RUSSIA, 1935, COMPARED WITH RANGES AND AVERAGES*
(Percentages of 1925-34 averages)



* Based on data in Tables I and IV. Hollow bars indicate maximum and minimum yields in 1925-34, solid bars the 1935 yields, expressed in terms of average yields in 1925-34.

the Lower Danube area, where yields had been exceptionally low in 1934, they were much better in 1935 (indeed, slightly above average) in Hungary and Bulgaria, but only slightly better than in 1934 in Yugoslavia and Rumania. In French Morocco where the yield

¹ See Table VII, and Chart 27, p. 206. For Canada, acreage data for spring wheat are available only for the area sown; hence heavy abandonment is reflected only in data on yields (per sown acre). This helps to account for the extremely wide range of yield data for Canada shown in Chart 5.

² Wool prices had been lower in 1934-35, but were sharply higher in 1935-36. *Commercial Intelligence Journal* (Ottawa), Aug. 22, 1936, p. 387.

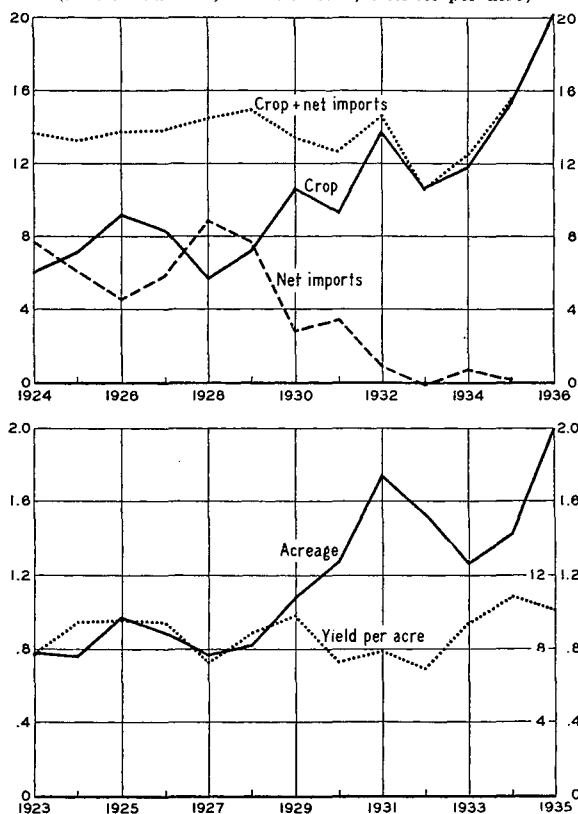
had been exceptionally high in 1934, it was exceptionally low in 1935.

Elsewhere yields were generally, and in the aggregate, higher than in 1934 (Table IV). Yields were above the ten-year average in Australia, and generally in Europe ex-Danube except in France, Belgium, and the Netherlands, and in Poland and most of the Baltic states, where they were not far below average. What were probably record yields were obtained in the Irish Free State, Norway, Switzerland, Tunis, some countries of the Near East, Japan, and Chosen; and yields were not far below peak levels in Denmark, Sweden, Austria, Italy, New Zealand, and South Africa. In 1934 the Netherlands led the world with an average yield of 49.1 bushels per acre; in 1935 Denmark led with 47.3 bushels.

The most spectacular crop of 1935, in relative terms rather than in absolute size, was that of the Union of South Africa.¹ Chart 6 shows how, under a protective system vigorously applied for several years, with some favor from nature, a country noted for low wheat yields has moved from a wheat-deficit basis through self-sufficiency to surplus. Maintenance of a high level of prices has operated to restrict wheat consumption and to stimulate acreage expansion. A bumper crop in 1934, due largely to a record yield per acre, created a serious surplus problem; but in 1935, in spite of official warnings, acreage increased to more than double the pre-depression level. With so large an acreage, the harvest was fully 50 per cent above the usual domestic requirements. The Wheat Control

Board undertook to store the surplus grain against a price guarantee to producers, with a processing tax to supply funds to cover anticipated losses. Drought and rust in 1936 have contributed to lighten the burden.

CHART 6.—WHEAT SUPPLIES AND PRODUCTION IN SOUTH AFRICA, ANNUALLY FROM 1924*
(Million bushels; million acres; bushels per acre)



* Calendar year net imports, given mainly in Table XXV, plotted with data on crops harvested late in the preceding year, given mainly in Tables II-IV. In the lower section, acreage and yield per acre (inset scale at right) are shown according to calendar year of harvest. Newly revised data for 1935 (Tables III-IV) show acreage 2.5, yield 8.1.

* TYPE AND QUALITY IN 1935-36

Type.—Soft wheats, as in 1933 and 1934, continued strongly to predominate in the world wheat crop of 1935, and hard bread wheats were in notably short supply. Production of hard red spring was again small in Canada and the United States. The American crop of hard red winter was also small; though somewhat larger than in 1933, it was little over half the average for 1928-32 (Table VI). The crop of hard white wheat in the Pacific Northwest was of fair size,² but of course

¹ An excellent official publication of broad scope is F. R. Tomlinson, *Expansion of Wheat Production in South Africa 1910 to 1934* (Science Bulletin No. 145, Pretoria, 1935). See also S. H. Frankel, "Some Comments on Price and Marketing Control in South African Agriculture," *South African Journal of Economics*, September 1934, II, 324-31; C. S. Richards, "Subsidies, Quotas, Tariffs and the Excess Cost of Agriculture in South Africa," *ibid.*, September 1935, III, 365-403; U.S. Department of Agriculture press release, July 6, 1935; numerous issues of the *Commercial Intelligence Journal*; and *Northwestern Miller*, Dec. 9, 1936, p. 657.

² Under the federal grading system in force from July 2, 1934, 31 per cent of the inspected receipts of white wheat in the Far Western states graded Hard White—a smaller percentage than usual. This includes, however, fair quantities of varieties (such as Federation) that the trade does not ordinarily classify as hard milling wheats.

small in absolute amount; and the same was true in Australia.¹ Of the small Argentine crop the percentages officially classed as hard

¹ In New South Wales, with a view to stimulating increase in production of hard white wheat and improvement in its quality, arrangements were made for separate handling of this type in 1935-36. *Commercial Intelligence Journal*, Mar. 7, 1936, p. 377. See also *The Land* (Sydney), Oct. 16, 1936, p. 5, and *Milling* (Liverpool), Oct. 31, 1936, pp. 469-70.

² Under an act of Sept. 28, 1935 (Law 12,253), setting up the Comisión Nacional de Granos y Elevadores, the first official system of grain grades was promulgated on Nov. 16, 1935. The trade has hitherto designated as Rosafé, Baril, and Barusso, respectively, wheats from the producing zones tributary to Rosario and other up-river ports, Buenos Aires, and Bahia Blanca. Grain from these three zones will continue to be distinguished. Specified varieties are classed as Hard, Semi-hard, and Soft, and certain varieties which the government seeks to discourage are excluded from official classification. Provision is made for three grades in each official class. Seed control and distribution are also being provided for, with a view to promoting shifts to the more desirable varieties appropriate to the different zones and districts.

For recent crops, the percentages falling within the three classes named are reported by zones as follows:

Year	Hard			Semi-hard			Soft		
	Rosafé	B.A.	B.B.	Rosafé	B.A.	B.B.	Rosafé	B.A.	B.B.
1932-33..	....	15.6	50.8	....	16.1	7.6	...	33.4	13.5
1933-34..	14.6	23.3	55.8	49.7	15.5	13.0	9.4	26.5	8.9
1934-35..	23.7	43.1	57.7	68.5	26.5	23.3	8.2	12.5	4.1
1935-36..	14.2	23.0	33.6	68.6	33.9	40.8	8.0	19.8	8.4

See *Revista Oficial* (Buenos Aires), Nov. 19, 1935, pp. 1-5; *Northwestern Miller*, Jan. 1, 1936, p. 41; *Commercial Intelligence Journal*, Nov. 23, 1935, pp. 911-13, Mar. 7, 1936, p. 402, and Sept. 26, 1936, p. 622.

³ Inspections in the Western Division, reported in *Canadian Grain Statistics*, show the following number of carloads:

Year	Total durum	No. 1 Amber	No. 2 Amber	No. 3 Amber	No. 4 Amber	Other
1932-33.....	8,826	5,621	2,225	561	11	408
1933-34.....	6,281	4,254	1,249	321	26	431
1934-35.....	5,958	4,306	857	285	55	455
1935-36.....	8,866	480	1,132	3,161	1,804	2,280

⁴ *World Wheat Prospects*, May 29, 1936, p. 14, Aug. 31, 1936, p. 14. The corresponding crops of 1936 were materially lower still, and especially small in Northern Africa.

⁵ On this paragraph and the next, see the fuller summary report of the Bureau of Agricultural Economics, Grain Division, on *Quality of the 1935 Crops: Wheat, Barley, Oats, Rye, and Grain Sorghums* (November 1935), based on inspected receipts at representative markets in the first quarter of the crop year.

⁶ Clement, Curtis & Co., *Monthly Grain and Cotton Report*, Sept. 4, 1935. Developments in milling technique presumably raised this percentage considerably; see below, p. 156. The corresponding percentage for the 1936 crop was given as 91.5 per cent.

wheat were not high,² and even the wheat so classed is much inferior in hardness to North American spring wheat.

Altogether, the 1935 crop ex-Russia was unprecedentedly short in bread wheats up to customary milling standards. Supplies carried into the crop year, however, included a large proportion of high-quality hard wheat, chiefly in the huge Canadian carryover. Trade barriers greatly restricted the outlet for hard wheat on the continent of Europe. In the British market, hard wheat was relatively more abundant than for many years and sold at greatly reduced premiums (pp. 195-96).

Durum wheat, being highly rust-resistant, suffered comparatively little from the epidemic of rust in the spring-wheat region of North America. In the United States the durum crop was well in excess of customary domestic requirements, though not half so large as the average for 1928-32 (Table VI). The Canadian durum crop was nearly 50 per cent larger than in the preceding year and among the largest in recent years, though it graded much lower than usual.³ In the Mediterranean countries, where the bulk of the durum wheat is produced and consumed, the aggregate outturn in 1935 was but little below the 1930-34 average.⁴

Quality.—Generalizations as to the quality of crops are unsafe, but quality differences in several particular crops of 1935 were so great as to warrant more discussion than is ordinarily appropriate.

In the United States, regional variations in quality were unusually large.⁵ Such damage was done by drought and rust that early reports of crop correspondents of one grain firm indicated that only 75 per cent of the crop was suitable for milling.⁶ One area, however, was highly fortunate. In Montana, Idaho, Washington, and Oregon, the hard red spring wheat was of exceptional quality. In the same states the hard red winter wheat crop was "of distinctly superior quality." Excellence of quality also characterized the Pacific Northwest crops of soft red winters and the more important white wheats, though White Club, a less desirable class from the milling standpoint, constituted about a third of inspected receipts.

East of the Rocky Mountains the quality of the 1935 crop was generally inferior, and exceptionally poor where drought and rust were severe. As a result of excessive rainfall during harvesting and threshing seasons, much of the soft red winter wheat was graded "tough," and excessive moisture and sprout damage caused a liberal percentage to be classed as "sample" grade. The hard red winter wheat was inferior in kernel texture, test weight, and protein content; the percentages grading Dark Hard Winter and No. 2 or better were much below average. Rust and hot winds caused the durum wheat crop to have abnormally low test weight per bushel; though 98 per cent of inspected receipts graded Hard Amber Durum, the percentage grading No. 2 or better was very small and that grading below No. 3 was unusually large. Hard red spring wheat east of the Rockies was of outstandingly low quality,¹ though the protein content was fairly high and the kernel texture such that almost the whole crop graded Dark Northern Spring. Owing chiefly to widespread rust, drought in some areas, and unusual rainfall on grain in the shock, the wheat was exceptionally light and the percentage grading below No. 3 was three times as large as that grading No. 2 or better. In gluten quality the crop was outstandingly poor.

¹ See also our "Survey" for September 1935, *WHEAT STUDIES*, XII, 4-5; and below, pp. 156-57.

² C. E. Mangels and T. Sanderson, "The 1935 North Dakota Wheat Crop," *Northwestern Miller*, Jan. 22, 1936, pp. 255-62. Milling tests reported by these scientists yielded results similar to those reported by U.S. Department of Agriculture investigators. Of the two principal varieties grown, the newer Ceres averaged higher in test weight than the older Marquis in all sections surveyed: the averages were 48.9 pounds for Ceres and 45.3 for Marquis, despite the fact that "Ceres was grown and sampled more extensively in those sections of the state where the crop and acreage was greatest."

³ In 1933 a competent observer, Miss E. Cora Hind, was disposed to congratulate Western Canada on the success of its fight against stem rust. *Milling*, June 10, 1933, p. 633. As pointed out in our "Survey" for September 1935 (p. 5, footnote 1), the 1935 infestation was of an "epidemic" rather than a "sporadic" character, due to windborne spores from far to the south. Against such invasion, there was no means of protection.

⁴ *Commercial Intelligence Journal*, Mar. 7, 1936, p. 377, and *Wheat and Grain Review* (Melbourne), Feb. 10, Mar. 9, 1936. Some samples tested 68 pounds or more to the bushel.

For North Dakota, the leading spring-wheat state, the best comparative data are available. Late in June 1935 prospects pointed to a bumper crop, in spite of late seeding and late emergence of the plant. The weather had been ideal, with ample rainfall and low temperatures. In July, however, came a sudden change, and continuous hot weather was accompanied by heavy infestation with black stem rust. The result, as under similar conditions in 1904 and 1916, was a short crop of very light-weight grain. Sample studies in 1923-30 had showed average test weights ranging from 56 to 61 pounds per bushel, most commonly around 59 pounds; in 1935 the average was little over 48 pounds.²

In Canada, also largely owing to the ravages of black stem rust,³ only 53 per cent of the inspections graded No. 3 Manitoba Northern or better, as compared with 70-94 per cent of the six crops preceding; the protein content of this wheat averaged high, perhaps even higher than in 1932 and 1934 (Table IX). Exceptionally large percentages fell into Nos. 4-6 and feed grades. Comparatively little wheat graded tough and damp, but rejected, condemned, and sample grades constituted the highest percentage in several years.

In much of Argentina the wheat was damaged by frequent rains during harvesting and threshing, and the quality was consequently variable. In several districts, however, notably in the northern and central zones of Buenos Aires, and neighboring sections of Santa Fé and Cordoba, excellent quality was reported.

Unusual excellence of quality characterized the Australian crop. This is partially reflected in the exceptionally high standards fixed for weight per measured bushel; for three of the wheat states the f.a.q. standard was set at 63½ pounds per imperial bushel, and for New South Wales at 64. "For every State to have such uniform high quality is without precedent." Some 300 representative samples from all over the New South Wales wheat belt averaged 64.7 pounds per imperial bushel for bulk wheat and 64.4 pounds for sacked wheat; and the wheat was declared "bright and plump and outstanding for natural weight and cleanliness." In quality the crop of this state was considered equaled only in 1913.⁴

In Europe, the quality of the wheats ranged from very good in the Irish Free State and northern and central Italy, to good in Central Europe, good but somewhat poorer than 1934 in the United Kingdom and Scandinavia, spotted in Spain, unsatisfactory in southern Italy, and poor in France and the Baltic States.¹ In Germany, where considerations of quality of the domestic crop have assumed greater importance with the drastic contraction of imports, the crop was broadly inferior in protein content to the good crops of 1933 and 1934, but higher in test weight and slightly superior in gluten quality.²

RUSSIAN CROP AND EXPORTS³

The USSR had large harvests in 1935. For wheat, barley, and five grains combined, the latest estimates for 1935 slightly exceed those for 1933 or 1934, and appear the highest on

¹ *World Wheat Prospects*, Sept. 26, 1935, p. 11, and Nov. 30, 1935, p. 3.

² P. Pelshenke, "Die Qualität der Deutschen Weizenerte 1935," *Das Mühlenlaboratorium*, October 1935; N. Jasny, "Wheat Problems and Policies in Germany," *WHEAT STUDIES*, November 1936, XIII, 75-79.

³ Our discussion is based on V. P. Timoshenko's study of Russian and other sources.

⁴ The 1935 yearbook on agriculture of the USSR (*Sel'skoe Khoziaistvo SSSR*) yields the following data on acreage and production:

Year	Two bread grains	Wheat ^a	Rye ^a	Barley	Oats	Malze	Five grains	Grains and legumes
AREA (Million acres)								
1933.....	144.9	82.1	62.7	17.9	41.2	9.8	213.8	250.9
1934.....	146.5	87.1	59.4	21.0	44.5	9.1	221.0	258.7
1935.....	149.6	91.6	58.0	21.6	45.3	8.0	224.5	255.6
Average 1928-32..	145.7	80.4	65.4	18.0	43.0	9.6	216.3	244.2
PRODUCTION (Million units of 60 lbs.)								
1933.....	1,908	1,019	889	288	566	176	2,939	3,300
1934.....	1,857	1,117	740	251	694	141	2,944	3,285
1935.....	1,918	1,133	785	300	671	102	2,991	3,311
Average 1928-32..	1,586	798	788	219	522	126	2,453	2,704

^a Exclusive of area winterkilled.

⁵ Early in the season, some foreign observers thought the total might reach 50 million bushels. *World Wheat Prospects*, Sept. 26, Oct. 29, 1935. Broomhall's early forecast, however, was only 24 million, and his revision on Dec. 18 was to only 28 million. Our own forecast was 30-40 million in September 1935, and 35 million in January 1936. Contrary to experience in other years, there was no secondary peak in Russian exports in the spring.

record.⁴ Beginning with 1933, however, these official estimates are on a different basis from earlier ones in Russia and from estimates in other countries generally. They represent not, as formerly, quantities collected and effectually available for use ("barn crop"), but rather the "normal economic crop"; this is defined as equal to the "biological" or unharvested crop, less the "technically inevitable" loss in harvesting. It is clearly recognized that actual losses from delays in harvesting, threshing, etc., materially exceed the allowance for technically inevitable losses, and vary from year to year; even in 1935 they may have been around 20 per cent of the biological crop as compared with an estimate (for the 1933 crop) of 10 per cent as technically inevitable.

The 1935 wheat crop, which the final estimate put at 1,133 million bushels, was clearly a good one, and it was probably conservatively estimated on the present basis. As compared with other years since the wholesale collectivization in 1930, both fall and spring sowings were completed early on an increased acreage, with draft power and equipment in better supply; and the quality of the work was higher. Winterkilling was rather small, and weather conditions in spring and summer were more favorable than in 1934. The wheat acreage harvested slightly exceeded the previous record set in 1931 (Table I). For winter wheat the yield per acre is reported higher than in 1934 but lower than in 1933, and for spring wheat lower than in 1934 but higher than in 1933. Probably the effective crop exceeded that of 1934 by a larger margin than is suggested by data for "normal economic crop."

Government collections of wheat, and of grains as a whole, were larger than in any previous year, particularly if government purchases following obligatory deliveries are included. The grain-procuring campaign was completed with greater promptness than heretofore. The regions accessible to export had larger crops than in 1934, and completed their deliveries early.

Despite such conditions favorable for large wheat exports, Russian exports in 1935-36 totaled only about 30 million bushels gross and 28.5 million bushels net.⁵ In the past two years combined, net exports totaled only 30

million bushels as compared with 179 million in the crop years 1930-31 and 1931-32, when government collections were much smaller.

Several factors account for the limited exports in 1935-36. The population has been growing apace. Bread consumption per capita has probably risen since bread rationing was abolished at the end of 1934, although bread prices, even after material reductions in September 1935, have been higher than prices of bread purchased on ration cards in 1934. Furthermore, the government has emerged from the extreme pressure for foreign exchange that was associated with the heavy wheat exports of a few years ago. By the end of 1935 it had practically paid off 1,400 million rubles of short-term commercial debt that had accumulated at the end of 1931; and on July 30, 1936, the Soviet Trade Representation succeeded in concluding an agreement with the British Export Credits Guarantee Department, somewhat similar to arrangements made a year or more previously with Germany and Czechoslovakia.¹ With increasing industrialization of the USSR, there is less urgent need for imports of machinery and other producers' goods. Gold production has been notably in-

creased, to a level in 1935 (5,650,000 fine ounces) over half of that of the Transvaal; and Soviet plans call for doubling this output by 1939.² Finally, there are indications that the government has been building up substantial reserves of grain against "unforeseen circumstances" such as crop shortage or war. In a word, the Soviet government could have exported much more wheat in 1935-36, but was under no pressure to do so; and it chose rather to limit exports, build up stocks, and permit consumption to expand.

The principal buyers of Russian export wheat were the United Kingdom (Table XXIV) and the Netherlands, but shipments to several other countries were reported;³ among the early shipments were some to the Italian colonial port, Massaua, presumably for the attacking forces in Ethiopia. In Western Europe Russian wheat commanded respect for its milling quality. This does not necessarily imply that the average quality of the USSR crop of 1935 was exceptionally high, even in the export regions; for presumably good wheat was selected for export to meet the competition of hard Canadian wheat and unusually excellent Australian grain.⁴

II. UTILIZATION

Wheat disappearance or utilization, for the world ex-Russia, appears to have been slightly larger in 1935-36 than in 1934-35, but otherwise the lowest since 1929-30, and 180 million bushels less than in 1931-32.⁵ In the aggregate, in the second of the past two crop years, relatively substantial curtailment in feed use

of wheat, and in net exports to areas outside the world ex-Russia (chiefly China), nearly offset relatively slight net expansion in food use and seed use.⁶ Per capita food use, though perhaps slightly higher than in 1934-35 in a few individual countries, remained generally well below pre-depression levels.⁷ The notable

¹ *Economist* (London), Apr. 13, 1935, p. 850; June 22, 1935, p. 1432; Aug. 1, 1936, p. 225.

² See Walter B. Kahn, "Trends in Gold Production and Monetary Stocks," *Foreign Affairs*, July 1936, XIV, 702-5.

³ *World Wheat Prospects*, Sept. 26, Nov. 30, 1935, and Apr. 30, 1936.

⁴ On the quality of Russian wheat, see the following excerpt from *ibid.*, May 29, 1936, p. 7: "A recent Soviet dispatch . . . states that the quality of Russian wheat is so improved and standardized that certificates of the State Grain Inspection Service are now sufficient in England for closing wheat sales with British importers in contrast with the sample method which has been required heretofore. It is likewise maintained that the quality of Russian wheat now surpasses that of both Argentina and Australia, and that Siberian

spring wheat is equal to Canadian Manitoba." We venture no comment on this dispatch, except to say that we are not aware that Russian certificates are accepted in the United Kingdom.

⁵ For our approximations, see Table XXXII, Chart 1, page 143, and Chart 16, p. 174. For different but roughly concordant computations by the Bureau of Agricultural Economics, see *World Wheat Prospects*, October 1936, p. 14.

⁶ As Table XXX suggests, increases in seed use are indicated in each of the "four chief exporting countries," mostly in the United States and Argentina, aggregating 11.4 million bushels; but elsewhere the net change seems to have been slight.

⁷ For a broad analysis of trends and factors, see M. K. Bennett, "World Wheat Utilization since 1885-86," *WHEAT STUDIES*, June 1936, XII, No. 10.

reduction in year-end stocks was thus due, in the main, to short crops in 1935 rather than to expansion of world wheat utilization.

SPECIAL FACTORS RELATED TO UTILIZATION

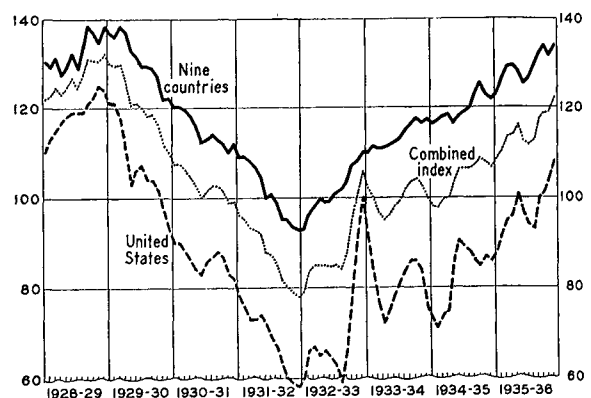
Before summarizing the evidence and other indications of the volume of wheat utilization in 1935-36, it is appropriate to pass in brief review two factors that have more or less bearing upon it: economic recovery in general, and supplies of other grains and potatoes. Certain types of government measures are touched upon in the subsequent discussion.

Recovery.—By and large, 1935-36 was unquestionably a year of economic recovery and advance. This is evidenced by numerous indexes of industrial production, business activity, employment or unemployment, prices of stocks, etc. In a few countries, particularly those that adhered to the gold standard, the improvement was slight or negligible. In most countries improvement was substantial, and in several it was such as to carry significant indexes above the 1929 level.¹

Chart 7 shows, for eight years ending July 1936, a new monthly index of industrial production published by the Bureau of Agricultural Economics,² which combines indexes for the United States and nine foreign countries on the basis of their relative importance as consumers of leading raw materials and foodstuffs that figure heavily in international trade, among which agricultural products loom large. The Federal Reserve Board index for the United States, and that for the other nine countries combined, are shown separately as well as in combination. Each is expressed in

terms of its 1923-25 average, which accounts for the lower level of the United States index. The curves yield good evidence of substantial recovery from the depths of depression in the middle of 1932, and of the facts that 1935-36 was a recovery year and that, at its close, industrial production in these nine countries outside the United States averaged nearly as high as at the pre-depression peak.

CHART 7.—INDEXES OF INDUSTRIAL PRODUCTION IN THE UNITED STATES AND NINE OTHER COUNTRIES, MONTHLY FROM JULY 1928*
(Average 1923-25 = 100)



* For the United States, Federal Reserve Board index; for other nine countries, and combined index, as computed by the Bureau of Agricultural Economics. Charts for the ten individual countries appear on the front cover of the October 1936 issue of the Bureau's monthly, *The Price Situation*.

Other more or less comprehensive indexes and surveys, such as those of the League of Nations³ and the Institut für Konjunkturforschung, afford concordant evidence. An international index of unemployment (based on data for sixteen of the most important countries), which rose sharply from late in 1929 to late in 1932, has declined rather continuously in the past four years, though it still stands much above the 1929 average.⁴

There are grounds for caution against accepting such indexes, and others readily available by individual countries, at their full face value as evidences of genuine recovery. In many countries increasing efforts were directed toward building up armaments (in Italy there were active military operations as well) which do not provide usable consumers' goods or economic capital in the ordinary sense. In some countries also a good deal of

¹ See especially the *Economist* (London), and its occasional Trade Supplement, e.g., issues of Aug. 29, Sept. 5, 1936; and the *Oriental Economist* (Tokyo), October 1936.

² Norman J. Wall, *Monthly Index of World Industrial Production, 1920-1935: A Preliminary Report*, June 1936. In the total index for ten countries, the approximate weight of the United States is 42, and that of the United Kingdom 14 per cent.

³ See *World Economic Survey . . . 1935-36*, prepared by J. B. Condliffe and issued by the Economic Intelligence Service of the League of Nations, with preface dated Aug. 28, 1936.

⁴ *International Labour Review*, October 1936 XXXIV, 516-17; and see accompanying data on employment and unemployment by countries.

work was devoted to other relatively uneconomic ends, to keep otherwise idle workers busy. Yet there can be little doubt that real incomes registered improvement in many nations and in the world at large in 1935-36.

Considering the record of economic recovery in 1935-36, however, one finds difficulty in discovering significant responses to it either in wheat prices or in wheat utilization. This should not occasion surprise, but the fact itself is worth noting. It should be added that industrial recovery in most countries has been of such character that the physical volume of international trade has recovered but slightly. The case of wheat is by no means unique among staple international products.

Other grains and potatoes.—In spite of moderate crops of non-wheat cereals in Europe in 1935, feed supplies were generally relatively abundant in most of 1935-36, whereas in the preceding crop year they had been comparatively short.

In the United States, good crops of oats, barley, and hay were harvested in 1935, in notable contrast to the very small crops of 1934; that of corn was also sharply higher than the short harvest of 1934, though it was distinctly inferior in quality; the rye crop, while small in absolute amount, was the largest in a decade.¹ Canadian crops of oats, barley, and rye were the largest since 1930, though not up to pre-

depression levels. Crops of potatoes, however, turned out badly in the United States² and Canada.

Europe ex-Russia had a rye crop equal to the moderate crop of 1934, 11 per cent lower than the big crop of 1933 but much larger than the short crop of 1931 (Table V). In most countries the 1935 crop was below the average for the preceding five years, but in Poland, Austria, Scandinavia, and the Netherlands, it was slightly above average.

European crops of potatoes were generally much lower than in recent years, and substantially lower in Germany, where this crop is of special importance for food, feed, and industrial uses. In Poland, however, the important potato crop was not much smaller than the bumper crop of 1934.

European crops of barley and oats were the lowest in several years, but yet not strikingly low. In connection with the oats crop in particular, it should be realized that in various countries of Europe, as well as in the major exporting countries, the past decade has seen considerable expansion in the use of tractors, trucks, and electricity in agriculture, and a more or less marked decline in the number of horses.³ Germany suffered acutely from feed shortage in both 1934-35 and 1935-36 primarily because, with moderately small crops of oats, barley, potatoes (in 1935), and rye, she was financially unable to draw freely upon world supplies of feedstuffs.⁴

The European maize crop was one of the smallest in recent years. In Rumania it was above average, but in Hungary, Yugoslavia, and Italy, where also it is important for both food and feed use, the crop was short.

Abundant supplies of maize, however, were available for world markets from Argentina, which exported in April-March 1935-36 the huge total of 312 million bushels. The bumper harvest of March-May 1935 is now estimated at 452 million bushels, whereas four of the five preceding crops had each been under 300 million. A record area, estimated at 18,854,000 acres, was planted for the next crop; but drought, heat, and winds greatly reduced yields, and in the heart of the corn belt excessive rains delayed picking and injured the quality. Nevertheless, the latest crop is esti-

¹ Latest data on production of these grains run as follows, in million bushels:

Year	Corn ^a	Oats	Barley	Rye
1909-13 av.	2,632	1,080	163	33.8
1928-32 av.	2,553	1,215	281	38.2
1933	2,307	733	154	21.4
1934	1,478	542	117	17.1
1935	2,297	1,195	286	58.6
1936 ^b	1,524	789	147	25.6

^a Grain equivalent on entire acreage.

^b December estimate.

² Because of quality factors, the reduction in the effective crop was greater than is suggested by the figures in Table V. Prices rose substantially late in 1935, and prices of old-crop potatoes rose to high levels in the early summer.

³ Data for the United Kingdom, Germany, and Italy, with discussion, are given in an article by Curt Kappstein in the *International Review of Agriculture*, August 1935, XXVI, E 298-314. Wheat combines are even being used in the United Kingdom.

⁴ See Jasny, *op. cit.*, WHEAT STUDIES, November 1936, XIII, 111; and below, p. 155.

mated (October 1936) at 392 million bushels. While rains delayed the movement of the new crop, exports were on the whole well maintained during the spring and summer of 1936.¹ With a carryover on April 1, 1936, estimated at 38.3 million, Argentine exports may again exceed 300 million bushels in April-March 1936-37.²

Largely because of good crops of other grains than wheat in the United States in 1935,³ and abundant supplies of maize in Argentina, the international position of feed grains was markedly easier in 1935-36 than in 1934-35. This easing partially counterbalanced the shortened supplies of wheat in the later year.

FEED USE OF WHEAT

Data on disposition of wheat for feed are limited and unsatisfactory; hence estimates of the quantities fed can be safely made for only a few leading countries, not for the world except Russia as a whole. At present we judge that less wheat was used for feed in 1935-36 than on the average in the three to five years preceding, but that special circumstances caused the volume so used to be greater than in almost any year prior to 1930-31.⁴

Firm or higher prices for wheat of desirable qualities, less denaturing of wheat in France and Sweden, and greater abundance of feed

supplies tended generally to reduce feed use of "merchantable" wheat in 1935-36. On the other hand, the large volume of low-grade wheat in the United States and Canada, with heavy discounts for off-quality, made for extensive use of such wheat for feed there. These were the principal factors involved, though others operated in individual countries.

In the United States it was primarily poor quality of much of the 1935 wheat crop, rather than shortage of feedstuffs, that caused such large amounts to be fed on farms (see pp. 148-49), though in some areas wheat was presumably fed until cheaper corn was available late in 1935. The heavy discounts on low-grade wheat must have led farmers to feed wheat that could have been made into flour, as well as unmillable wheat. The latest official estimates give 98 million bushels as fed on farms where grown (Table XXX). While much lower than in the three years following the crops of 1930-32, when wheat prices were very low and the short corn crop of 1930 gave additional stimulus to feeding wheat, this is a higher figure than for any other year covered by official estimates. Feed use of domestic wheat on other farms, or off farms, was probably less than in 1934-35, when feed supplies were very short, or than in some of the years of extremely low wheat prices.⁵ Yet it must have amounted to 10-20 million bushels. It seems safe to assume that most of the 9.2 million bushels of wheat imported as "unfit for human consumption" (Table XVIII) went directly or indirectly to feed use. All told, probably around 125 million bushels of wheat were fed in this country during the crop year.

In Canada also, relatively substantial amounts of the abundant low-grade wheat, salable only at heavy discounts,⁶ went into feed use. Unmerchantable wheat was estimated at nearly 10 million bushels, the highest figure since 1928-29, and merchantable wheat fed on farms where grown was put at 23 million, the highest figure since 1931-32 (Table XXX). Doubtless some wheat found its way into other feed outlets in Canada, in addition to the amounts shipped to the United States over the 10 per cent duty.

In Australia, because of unusual excellence of quality of the 1935 crop, feed use of wheat

¹ Table XX, as now revised, shows international shipments of maize by August-July years, in million units of 60 lbs. On this basis the increase in 1935-36 is less sharp.

² Before the new crop began to move, the "board buying price" was raised from 4.40 pesos per quintal to 5. *Revista Oficial* (Buenos Aires), Mar. 24, 1935.

³ Since the United States imports of corn (mainly from Argentina) were heavy in the summer and autumn of 1935, the net imports for July-June 1935-36 ran to the record figure of 30.5 million bushels as compared with 18.1 million in 1934-35. Compare footnote table in *WHEAT STUDIES*, December 1935, XII, 112.

⁴ See our discussion in *ibid.*, pp. 135-36, 139-40.

⁵ Note in Table XXX the higher residuals in 1933-34 and 1934-35, and in some other years, in which such feed use is among the items covered.

⁶ See, for example, the chart covering prices from Aug. 1, 1935 to mid-January 1936, in *WHEAT STUDIES*, January 1936, XII, 202. During much of the autumn and winter, market prices were below the board's buying prices.

was presumably less than in most other recent years, though probably at least 6 million bushels.¹ In Argentina, where very little wheat is ever fed, such use was presumably at a minimum.

In the United Kingdom, Denmark, and the Netherlands, feed use of domestic wheat has been important, and considerable imported wheat (and some low-grade imported flour) has been used for feed in recent years, most notably in 1934-35. All three countries cut down this use in 1935-36. Indeed, the reduction of 10 million bushels in Danish imports (Table XXII) largely represented contraction in imports of feed wheat; and in June 1936 Denmark temporarily prohibited imports of feed wheat, barley, and oats in order to permit absorption of domestic stocks of barley.² Presumably, however, most of the wheat exported by Sweden and Portugal, and part of the wheat and flour exported by France, went into feed channels in Europe.³ In Germany, moreover, the feed shortage was so acute and wheat relatively so abundant that wheat was officially directed into feed use; and the total

fed is estimated at the unprecedented figure of 22.5 million bushels.⁴

Altogether, we hazard the guess that, including tail wheat in many countries, probably 250-275 million bushels of wheat were fed to livestock in 1935-36, as compared with our earlier "guestimates" of 300-350 million in 1934-35 and an average of 200 million a year in the three years ending with 1929-30. Variations of such magnitude are too large to be ignored, but in the world disposition of wheat the feed fraction is very small compared with food use.

FOOD USE OF WHEAT

For but one country — Manchukuo — are there clear indications that food use of wheat fell off sharply in 1935-36; but data for China strongly suggest that relatively substantial reductions in food use of wheat took place there also, and relatively smaller reductions may have occurred in several other countries.⁵ While adequate basis for confident statement is lacking, there are reasonable indications of higher food use of wheat in the United States, Argentina, Germany, the Netherlands, the Lower Danube countries as a group, Greece, Japan, and Brazil; and probably some other countries should be added to this list. In the aggregate, however, the expansion in food use was small, and there are no signs of a return to the higher levels of per capita consumption that prevailed prior to the depression.

United States.—Working's latest calculations point to total domestic flour "retention" or "disappearance" (i.e., disregarding changes in flour stocks) amounting to 95 million barrels in 1933-34; 97 million in 1934-35; and about 99 million in 1935-36 (Table XXVIII). The last figure, however, is lower than any comparable total since 1921-22. The upper section of Chart 8 (p. 156) reveals, by semiannual data corresponding to annual data in Table XXVIII, the substantial decline in domestic disappearance and estimated consumption of flour during the depression,⁶ and also the moderate recovery during the past two years as indicated by revised estimates. Apparently only slight influence toward recovery in flour consumption was exerted in 1935-36 by improvement in business and incomes, high prices of

¹ Revised official estimates put the average at 8.6 million bushels per annum, mostly for poultry. See *Official Year Book of . . . Australia*, 1935, pp. 714-15.

² *Foreign Crops and Markets*, June 15, 1936, p. 736.

³ See below, pp. 177-78. A considerable fraction of the French wheat exports in 1934-35, and a smaller fraction of the smaller exports of 1935-36, consisted of denatured wheat; but precise details are not yet available to us. A little wheat from Portugal and Germany moved to China.

⁴ Jasny, *op. cit.*, WHEAT STUDIES, XIII, 92, 110-11, 136.

⁵ See M. K. Bennett's approximations to total domestic utilization, in Table XXXI.

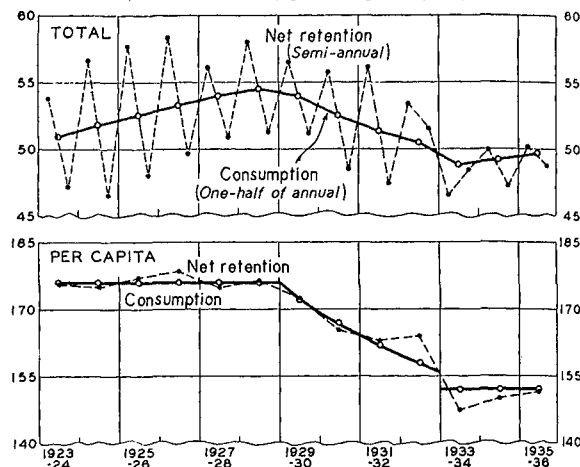
⁶ The characteristically sharp differences in semiannual disappearance figures between the two halves of the crop year reflect the tendency to heavier flour production in the first half-year for seasonal accumulation of flour stocks. The figure for the first six months of 1931 was abnormally depressed owing to postponement of flour production and purchase in anticipation of lower prices after the Farm Board ended its stabilization purchases, and the figure for the last six months was correspondingly elevated owing to taking up of this slack. The peculiar departure from this tendency in the calendar year 1933 was due to heavy milling and flour purchases preceding the imposition of the processing tax on July 9, and the low level of the ensuing six months when heavy stocks remained to be absorbed. Seasonal variation in flour disappearance has been notably small in the last three years owing to avoidance of heavy accumulation of flour stocks during the autumn.

corn meal and potatoes through much of the crop year, an extensive advertising campaign, and the removal of the processing tax from January 6, 1936.¹

The lower section of Chart 8 shows Working's estimates of annual net retention and consumption per capita. This brings out more clearly the marked decline from the pre-depression level,² considerably greater though less sharp than that which occurred during the World War.³ The trend line run through the successive crop-year averages represents Working's best approximation to the course of flour consumption per capita since the middle of 1929. Regardless of the degree of accuracy of this approximation, it is certain that the changes in net retention afford an unsafe guide to changes in flour consumption. In the past two years the decline in per capita consumption appears to have stopped, but

if there has been any recovery it must have been slight.

CHART 8.—FLOUR CONSUMPTION IN THE UNITED STATES, 1923-24 TO 1935-36*
(Million barrels; pounds per capita)



* Revised estimates of Holbrook Working; crop-year data in Table XXVIII. See text for explanation.

¹ This had no obvious influence on the price of wheat, though it was naturally followed by narrower spreads between prices of flour and of wheat. The federal government subsequently undertook, through new tax legislation, to compel millers to pay into the Treasury the equivalent of most of the unpaid processing taxes that had been levied prior to the Supreme Court decision, except in so far as millers might reduce their liability by refunds to flour buyers. The trade journals have been full of discussions of the knotty problems involved; but the subject cannot yet be treated definitively, and the matter has too little bearing on the wheat situation to justify further consideration here.

This particular phase is not dealt with in a recent article of considerable value: M. Slade Kendrick, "The Processing Tax on Wheat," *American Economic Review*, December 1936, XXVI, 621-36.

² Probably there were, in some pre-depression years, slight divergences from the average of 176 pounds here used for each of the seven crop years ending with 1928-29, but no trustworthy basis has been found for measuring them. The level in 1933-34 was about 16 per cent below this level. In each of the intervening years per capita consumption fell about 2.5-3.0 per cent below that of the preceding year; but in 1933-34 the fall was larger—around 3.8 per cent—owing to marked advances in flour prices under the joint influence of wheat-price advances and processing taxes.

³ See two earlier studies by Holbrook Working: "The Decline in Per Capita Consumption of Flour in the United States" and "Statistics of American Wheat Milling and Flour Disposition since 1879," *WHEAT STUDIES*, July 1926, II, No. 8, and December 1927, IV, No. 2. A graphic picture is given in *ibid.*, IV, 65.

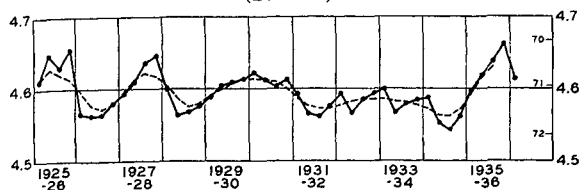
⁴ See *WHEAT STUDIES*, September 1935, XII, 4-5; and D. A. Coleman, *Influence of Test Weight per Bushel on Milling and Baking Quality of Hard Red Spring Wheat—Crop of 1935*, Bureau of Agricultural Economics, September 1935.

The wheat equivalent of domestic net retention of flour was around 458 million bushels. The light-weight spring wheat (see p. 149) gave very low flour yields, but milling technologists found ways of utilizing it with far greater success than had first seemed possible. The average flour yield for the year was low, as reflected in a larger number of bushels used per barrel. State averages by crop years show, as would be expected, the most striking increase in Minnesota (from 4.55 to 4.81); elsewhere, outside the Pacific Northwest, moderate increases were common.

Reflections of the shortage of good milling wheats and the extensive use of poor-quality wheat of the 1935 crop⁴ are readily seen in Chart 9. Under the influence of high-quality wheat in the crops of 1931-34, the average amount of wheat used to produce a barrel of flour had run below 4.6 bushels each quarter for four crop years, and the crop-year average for 1934-35 was about 4.56 bushels, the lowest in many years. From a quarterly average of 4.543 in January-March 1935, however, the figure rose sharply to 4.662 in April-June 1936—respectively the lowest and highest quarterly figures in the period covered by the chart. The extreme difference, however, is only 2.7 per cent.

That the average for 1935-36 (4.628) was not so high as in 1925-26, and no higher than in 1927-28,¹ is probably due mainly to two facts. First, the full influence of the poor-quality wheat of 1935 was not visible until much of the better wheats in carryover and

CHART 9.—WHEAT USED PER BARREL OF FLOUR IN UNITED STATES, QUARTERLY FROM 1925-26*
(Bushels)



* Computed from data in *Wheat Ground and Wheat-Milling Products*, Bureau of the Census. The inset scale at the right permits the plotted points to be read roughly in terms of extraction rates (per cent).

new crop had been used up, while the technical problems of using very light spring wheat were being solved. Second, in the decade since the earlier high ratios were re-

¹ The crop of 1925 was small, averaged low in test weight per bushel, and showed relatively low percentages of high medium quality, particularly in spring wheat. The crop of 1927 was lower in protein content, the spring-wheat crop especially; but in most other respects it ranked better than that of 1925. By similar evidence the 1929 crop was also poor. See Table XI in *WHEAT STUDIES*, December 1933, X, 126. For most items in that table, official data are no longer published.

² See Holbrook Working, "New Data on United States Flour Production since 1899," *WHEAT STUDIES*, April 1936, XII, 277-87.

³ Flour production less net exports for 1935-36 comes to 10 million barrels, or the equivalent of about 45 million bushels of wheat. The official estimate of consumption is only 43.4 million. In recent years similar comparisons have never shown so large a difference in this direction. Presumably the flour production data have been made increasingly comprehensive. If the consumption estimate is reliable, however, Canadian flour stocks must have accumulated at the end of the crop year.

⁴ Compare Table XXX, and *WHEAT STUDIES*, December 1935, XII, 138.

⁵ The *Corn Trade News* of Nov. 11, 1936, quotes the Argentine representative of the Canadian Department of Agriculture as giving the following data in pounds: 1926-30—226; 1931-35—233; 1934—235.5; 1935—240. Presumably these are calculated without allowance for variations in flour stocks as of Dec. 31. The consumption is said to be heaviest in Buenos Aires, where a census was recently taken for the first time since 1914.

corded, progress in milling technique, and diminution in the relative importance of small mills,² presumably have tended slightly to lower the wheat requirement per barrel. The average for 1934-35 (4.5611) was .15 per cent below the very low average for 1926-27.

In addition, the larger percentage of winter wheat in the total ground in 1934-35 had exerted a slight influence in depressing the bushel requirement. The processing tax per bushel ground may have had a similar tendency during the period that it was in force. Presumably the penalty which it imposed on milling wheat of low flour yield, prior to January 6, 1936, was an additional factor tending to defer the use of light wheat and thus to explain the steady rise of the curve through the four quarters of the crop year.

Other countries.—Canadian official estimates of wheat milled for domestic food use (Table XXX) also point to an increase in food consumption in 1935-36; but the data are not sufficiently trustworthy to determine whether the increase should be called slight, or small but significant.³ Per capita consumption in Canada, which in the decade ending with 1934-35 is estimated to have gradually declined from 4.5 bushels to under 4 bushels, appears to have recovered a little, but this too is uncertain.

In Australia fluctuations in flour stocks are sufficient to obscure the evidence regarding flour consumption. We are disposed to infer that year-to-year variations in per capita consumption are slight, but that the trend is slightly downward; and that population increase more than offsets this, so that total consumption is still tending slightly upward.⁴

In Argentina, the upward trend of flour milled and not exported continues (Table XXX). Credible indications of increasing per capita consumption of flour also continue to be reported, but the population estimates rest on too insecure foundations to warrant great confidence in specific computations.⁵ The much higher prices that prevailed in Argentina after mid-December 1935 may possibly have checked if not reversed, for the time being, the previous tendency to expansion. This is by no means the inevitable result, however, and statistical evidence for more than one

year will be required to reveal an approximation to the truth.

In the Lower Danube countries, where short crops had apparently forced contraction in food use of wheat in 1934-35, the recovery in consumption in 1935-36 appears to have been comparatively small. For this fact, the moderate crops of wheat and other grains (except maize in Rumania, see Table V) doubtless bore the principal responsibility.

In Europe ex-Danube as a whole, there was no appreciable change in total utilization between 1934-35 and 1935-36 (Table XXXII). We infer that a moderate net increase in food use was offset by decreased feed use. But our basis for estimates is too insecure for us to put much faith in variations within the very limited range of 1,652-1,682 million bushels in the past nine years. For most individual countries the same is true.

In the United Kingdom, the Wheat Commission reported that 84.5 million hundred-weight of flour were subject to the "levy" on deliveries for domestic consumption, as compared with an average of 83.8 million in the two preceding years. Some increase in flour stocks may have occurred, and the population is still slowly increasing. Hence the figures cannot safely be taken to indicate an increase in total or per capita consumption—the objectives of an extensive advertising campaign by British millers.

Probably the largest increase in wheat consumption for food in 1935-36, as well as in feed use (p. 155), took place in Germany, where total utilization was about 197 million bushels, 15 million more than in 1934-35. Jasny's painstaking estimates indicate a further increase in per capita food use of wheat to about the level of 1930-31. This, however, was around 18 per cent below the average in the two years preceding the onset of major depression, and the proportion of wheat to total bread-grain consumption was only about 46 per cent as compared with an average of over 51 per cent in 1927-28 and 1928-29.¹

In Poland, good crops of rye and potatoes were presumably responsible for smaller food use of wheat than in some earlier years. But we have reasoned that the 1935 wheat

carryover was fairly substantial, and that Poland's record exports of wheat and flour (p. 177) did not cause food consumption of wheat to fall much below the moderately high level of 1934-35 (Table XXXI).

Later studies bear out earlier indications of contraction of total and per capita consumption of wheat (almost wholly for food) in Czechoslovakia, which we were reluctant to credit. In the past two crop years, when the grain monopoly has been operating, domestic wheat utilization now appears to have been sharply lower than it averaged in the preceding years. Wheat data given by Dillner² suggest a reduction of around 25 per cent in 1934-35 and only a slight recovery in 1935-36; and flour data on production and net trade (stocks disregarded), available only through 1934-35, show the following comparisons:

Year	Thousand metric tons			Percentage of 1931-34 average		
	Wheat	Rye	Total	Total	Wheat	Rye
1927-28..	1,269	864	2,133	99	104	92
1931-32..	1,257	888	2,145	100	103	95
1932-33..	1,189	945	2,134	99	98	101
1933-34..	1,209	978	2,187	101	99	104
1934-35..	1,092	939	2,031	94	90	100

Mills presumably held considerable stocks of wheat when the monopoly began operations. We are disposed to infer that wheat flour consumption in each of the past two years has been lower than is indicated by the foregoing figures for 1934-35.

In Austria, where the rye crop was large and general economic conditions were still very poor, the sum of the record crop and very low net imports suggests that wheat consumption in 1935-36 was, if anything, below the low level of the preceding year (Table XXXI).

In Italy, thanks to the good wheat harvest of 1935, domestic utilization may have increased slightly above the low level that appears to have been reached in 1934-35.³ On

¹ Jasny, *op. cit.*, WHEAT STUDIES, XIII, 106-8, 136-37.

² See Günther Dillner, "Die Marktregulierungen in der Tschechoslowakischen Getreidewirtschaft," *Weltwirtschaftliches Archiv*, November 1936, XLIV, 549-80, especially pp. 567-70.

³ See WHEAT STUDIES, December 1935, XII, 129-31.

the other hand, a further decrease may have occurred. The lack of published data on trade and stocks leaves the matter in doubt. If there was an increase, it must have been slight, and attributable partly to the poorer crop of maize (Table V).

In the past six years domestic utilization of wheat in India appears to have averaged over 355 million bushels as compared with around 325 million in the six preceding years; but population growth has been such that per capita consumption in 1935-36 was not much larger than it was a decade ago. In the absence of bumper crops and/or exceptionally attractive prices on world markets, practically the entire production is used in India.

In Japan, food consumption of wheat appears to have risen in spite of higher flour prices. Industrial prosperity prevailed; the domestic rice crop was little above the short crop of 1934;¹ prices of rice and raw silk ad-

vanced even more than wheat prices, thus improving the position of the farming class. The flour milling cartel having been dissolved in July 1935, the larger mills were able to regain a large share of the business previously lost to the smaller mills that had remained outside; and having laid in stocks of foreign wheat before prices advanced, they had a profitable season.

For Manchukuo, the sum of crop and net imports in 1935-36 make a total of about 51 million bushels, 22 per cent less than the corresponding average for the two preceding years, and even more below that of earlier years (Tables II and XXII). While reduction in flour consumption may have been less than these data suggest, other available information supports this indication that it fell off considerably as prices of import flour mounted while other grains were domestically abundant and relatively cheap.²

III. MARKETING AND STOCKS

Government measures affecting domestic marketing and external trade in wheat in 1935-36, so far as they require discussion in this "Review," are treated mainly in Section IV because of their special significance for international trade, dealt with in Section V. From a world wheat standpoint, the most influential change during the year was made

early in December 1935, when the recently created Canadian Wheat Board was reconstituted with commissioners who were strongly committed to a selling policy (p. 168). More spectacular but less important was the fixing of a high buying price for new-crop wheat in Argentina, effective December 13, 1935 (p. 165). Before turning to these important changes and selected aspects of European wheat-control systems, it is convenient to present salient facts regarding the rate of marketing by farmers, the course of visible supplies, and year-end stocks in various countries.

RATE OF MARKETING BY FARMERS

United States.—In the greater part of the United States the 1935 wheat crop moved to market much more slowly than the smaller crop of 1934, even allowing for the fact that most of the increase was in spring wheat. In the Pacific Northwest, however, marketing was unusually rapid. There the crop was of unusually high quality (see p. 148), and it was in great demand in domestic markets at prices that farmers in the region were not reluctant to accept.³

¹ *Foreign Crops and Markets*, July 20, 1936, p. 95. The barley crop was large.

² Data compiled by the Manchukuo Department of Industry show the following in million metric tons:

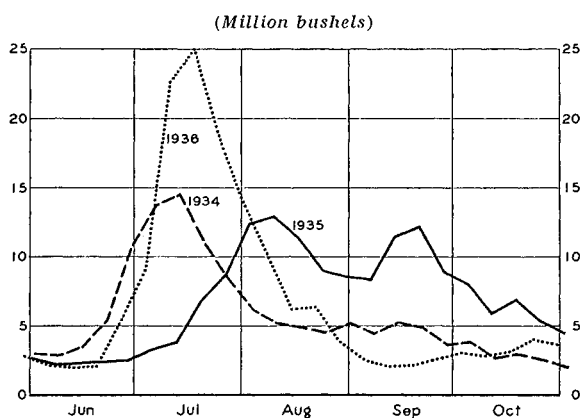
Year	Total	Soya beans	Other beans	Kao-liang	Millet	Maize	Wheat	Rice
1927-31 av...	18.06	5.02	.404	4.67	3.27	1.52	1.370	.324
1931.....	18.48	5.23	.319	4.52	2.95	1.71	1.589	.318
1932.....	15.40	4.44	.277	3.72	2.58	1.53	1.074	.253
1933.....	18.48	5.21	.325	4.23	3.27	1.87	1.430	.343
1934.....	13.43	3.60	.279	3.59	2.09	1.61	.651	.311
1935.....	15.56	3.76	.308	3.96	2.91	1.86	1.005	.436
1936.....	....	4.23	.347	4.23	3.22	2.06	.975	.551

From South Manchuria Railway Co., *Fifth Report on Progress in Manchuria to 1936* (Dairen, July 1936), p. 164. Final data for 1935 and preliminary data for 1936 from *Oriental Economist* (Tokyo), September 1936, p. 548. The latter source does not give comparable data for other crops included in the total.

³ See various issues of the *Commercial Review* (Portland, Ore.), and below, p. 181.

Receipts at primary markets east of the Rockies did not reach their peak in 1935 in July, as is usual, but in August; and contrary to all precedent in recent years, July receipts were materially exceeded by those of September and nearly equaled by those of October. By contrast, the winter-wheat crop of 1936, about the same in size as that of 1935, moved to market with exceptional promptness; receipts at primary markets were 84.2 million bushels in July 1936 as compared with 28.9 million in July 1935. Hence the curves in Chart 10 present striking contrasts. Corre-

CHART 10.—WHEAT RECEIPTS AT PRIMARY MARKETS IN THE UNITED STATES, WEEKLY, JUNE—OCTOBER, 1934 TO 1936*



* Weekly data for a series summarized by months in Table X. The 13 markets covered are east of the Rockies.

sponding curves for Kansas City, and southwestern markets as a group, are broadly similar to those shown here; and curves for Minneapolis-Duluth likewise reveal retarded marketings in 1935, with a marked peak in late September which accounts in part for the bulge shown in the curve here.

The reasons for sluggish marketing in the summer of 1935 were chiefly rainy weather during the harvest period in many wheat sections, but low prices through most of July were a contributing factor. The September hump in the curve reflects chiefly the movement from a larger crop of spring wheat, somewhat retarded because of extreme inferiority in milling quality; but rising prices doubtless served to draw more winter and spring wheat from the farms. In 1936, on the

other hand, four factors jointly favored heavy marketings in July: the winter-wheat crop was larger than in 1934 or 1935 (Table II); weather conditions favored prompt harvesting; many additional new tractors and combines were in use; and wheat prices were sharply higher in July (see charts in Section VI).

Canada.—The most noteworthy feature of country marketings from Western Canada was the higher proportion delivered during the first half of the crop year. During the four preceding crop years, 24-27 per cent of the season's marketings were deferred until after January 31. In 1935-36, 16.6 per cent of the season's marketings were thus deferred. This was only slightly more than the median percentage (15.3) for the nine seasons ending with 1929-30. In Working's opinion, this return to pre-depression practice mainly reflects a change in farmers' attitudes with respect to the desirability of holding. But after October 26, when the market fell below the board buying price (if not after September 25, when the Wheat Board began active operations), farmers had almost no incentive to hold wheat (see pp. 166, 232).

The course of Canadian farm marketings through January 1936 was favored by generally good weather, and may be termed about normal. With a rather late harvest, rapid marketing did not begin until about August 30. The first 25 per cent of the deliveries was completed thereafter at the normally rapid rate that tends to prevail when the harvest starts late. The second 25 per cent of the supply was marketed rapidly, under the influence of fairly high prices and favorable circumstances otherwise, but at a rate considerably less than that in 1929-30, when a postwar record for rapid marketing had been established. Marketings during the remainder of the main movement and the secondary movement (to the end of January) were at about the normal rates.

In the second half of 1935-36, for the first time since records have been available, deliveries during February-April were smaller than subsequent deliveries during May-June. Prior to 1929-30, February-April deliveries had always been more than double those in

May-June. Since these earlier years, however, fundamental changes have taken place in farmers' marketing practices, the results of which probably found their first approximately full and normal expression in the course of marketings during the second half of 1935-36. The next few years are likely to witness frequent repetition of about the same distribution of marketings after the end of January as occurred in 1935-36: 38 per cent in February-April, 39 per cent in May-June, 11 per cent in July, and 12 per cent carried over for marketing after the end of July.¹

Other countries.—In Australia new-crop wheat was harvested early, under unusually favorable weather conditions, and moved very promptly to country shipping points. An unprecedented proportion of the crop was purchased from farmers in the early weeks of the season, during and shortly following the harvest. Buyers were evidently eager to get claim on the wheat, not only because of its high quality, but more because of prospects of tightness in the international wheat situation, little competition from Argentina, and early expectations that the Canadian Wheat Board would sell sparingly enough to hold up the market. On the other hand, millers and dealers abroad were less eager to load up with the actual grain. Export shipments were unusually light in December 1935, and did not reach their peak till early in February (Chart 17, p. 175). As the weeks wore on, there was a good deal of reselling at sacrifice

prices, and efforts were made to persuade the Canadian Wheat Board that it should sell less freely.² In April-June, when most of the surplus had moved out and seeding conditions were generally unfavorable, Australian farmers sold sparingly.³

In Argentina, on the other hand, marketings were retarded both by considerable prevalence of rainy weather and by the influence of the high guaranteed price announced on December 12 for the season (see p. 165). Farmers could afford to sell at their convenience and, since the fixed price was too high for exporters to pay (except perhaps for shipment to Brazil),⁴ grain merchants had less incentive than usual to buy and ship promptly.

In the Lower Danube countries, farmers marketed slowly in the fall, anticipating higher prices arising out of the Ethiopian campaign.⁵ In Great Britain, on the other hand, the 1935 crop moved to market with unusual speed,⁶ under the influence of high prices in several weeks in the autumn. In continental Europe ex-Danube generally, national controls and weather conditions influenced the rate of marketing in ways of no special importance for a general view. In Germany, where producers were assigned quotas for delivery, they failed to keep up with the prescribed schedule.⁷

VISIBLE SUPPLIES

The shrinkage of stocks of wheat statistically reported in trade channels continued in 1935-36. The curve of "world visibles" (see Chart 11, p. 162) was below that of 1934-35 almost throughout its course, far below that of the peak year 1931-32, and during the spring of 1936 not far above the more normal average for three years ending July 1928. North American commercial stocks predominate in this total, though the seasonal rise in Australian stocks largely accounts for the midwinter bulge.

United States commercial stocks, for the first year in a decade, fluctuated on practically the same level as the average for 1925-26 to 1927-28. Retarded marketing of new-crop wheat in the summer of 1935 was a factor in the early months, but in July 1936 rapid early marketing caused a sharper upturn than

¹ Our interpretation in these paragraphs on Canadian farm marketings during 1935-36 is based chiefly on data and conclusions in Holbrook Working, "The Timing of Wheat Marketing in Western Canada," *WHEAT STUDIES*, October 1936, XIII, 41-60.

² See testimony of James R. Murray, referred to more fully on p. 168.

³ *Commercial Intelligence Journal*, June 27, 1936, p. 1238.

⁴ It is not yet clear to us whether or not the Argentine board resold wheat for such shipment at less than the board buying price.

⁵ *World Wheat Prospects*, Nov. 30, 1935, p. 14.

⁶ This is shown by reports of the Wheat Commission on sales certificates received up to various dates in recent years. Partly for this reason, prices of domestic wheat were considerably higher still in the winter and spring (Table XXXIV).

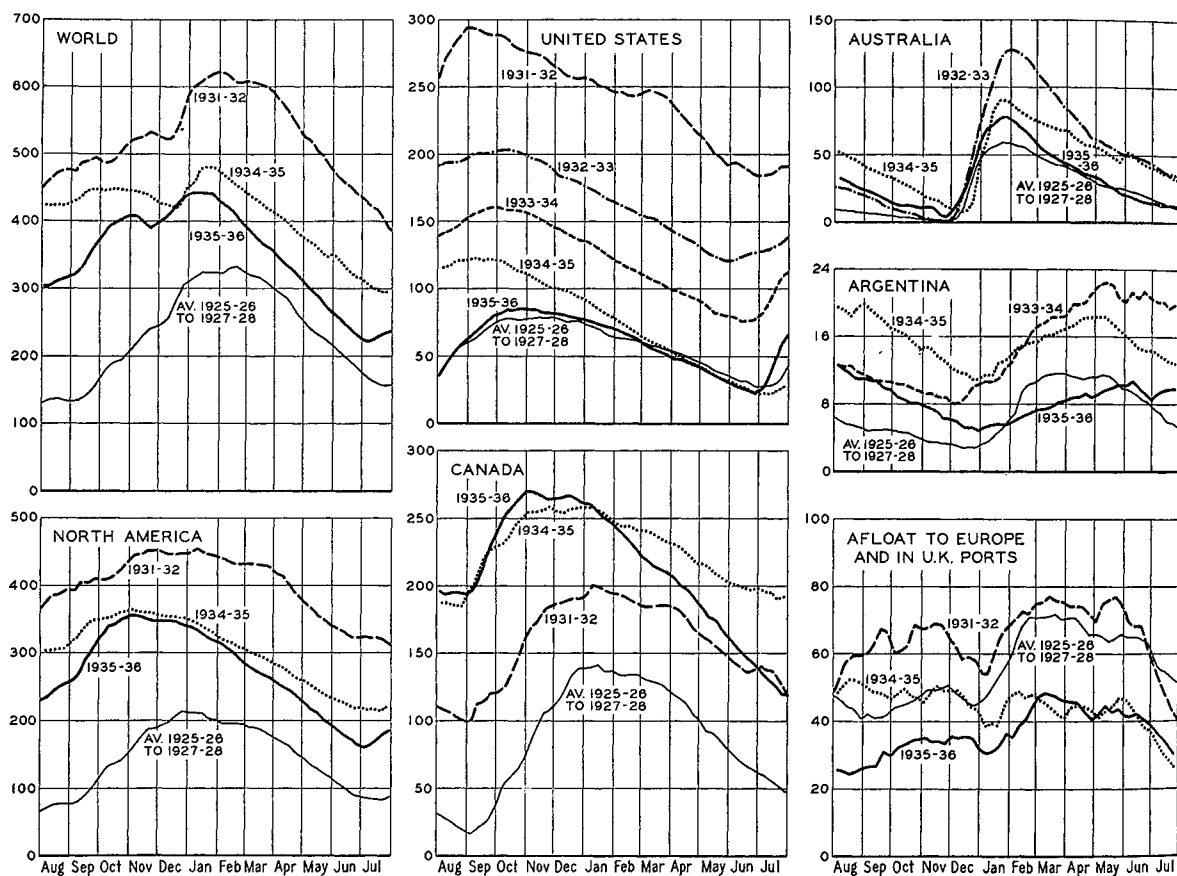
⁷ Jasny, *op. cit.*, *WHEAT STUDIES*, XIII, 86, 125.

usual which is reflected also in the world total. Canadian visibles (which include country elevator stocks) were slightly higher than in 1934-35 through most of the first half-year and reached their peak some weeks earlier than usual, in response to heavy country deliveries; but they declined persistently and

as stocks were drawn down, the curve ran close to the average for 1925-26 to 1927-28.

The course of Argentine visibles (which cover terminal stocks only) was very different from the usual course after December. They rose very gradually after the new crop was harvested, and at their peak on June 6 were

CHART 11.—WHEAT VISIBLE SUPPLIES, WEEKLY, 1935-36, WITH COMPARISONS*
(Million bushels)



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

strongly from January through July, as Canadian grain flowed steadily into export.

Australian visibles (which include stocks at country stations) were generally at a lower level than in 1934-35, because initial stocks were enough smaller to offset a slight increase in the crop. They began their seasonal rise earlier than usual, but wheat flowed into export with sufficient freedom to keep the peak lower than in some recent years. In the spring,

under 11 million bushels. These peculiarities were due to the facts that the crop was very small and harvest conditions not very satisfactory, that the government guaranteed a good price, and that exports to Brazil absorbed the bulk of the better-quality wheat as it became available.

Stocks afloat to Europe were almost unprecedentedly low in July-September 1935, when for nine successive weeks less than 20

million were reported afloat; and in the year as a whole, under much the same influences as in 1934-35, they remained far below corresponding averages for pre-depression years. Stocks in British ports, which are seldom large, were considerably lower than in 1934-35 and fluctuated on a level not far above that characteristic of pre-depression years.¹ The combined totals, shown in the lower right-hand corner of Chart 11, ran exceptionally low in the summer and autumn of 1935; later they ran on much the same low level as in the preceding year.

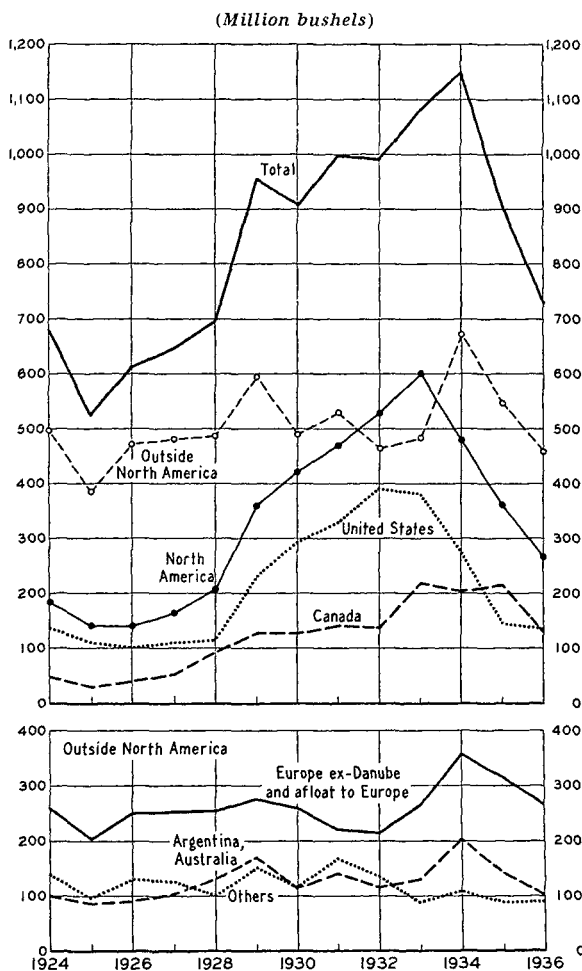
Wheat stocks in various continental European ports were low throughout the year. Wheat and flour stocks in mills and warehouses in Germany were substantially lower than the heavy stocks of the preceding year, but by no means small.² Stocks of domestic wheat (to some extent under government control) were of liberal size also in France and Sweden, and large in Spain, Portugal, and Czechoslovakia; but except in the last two countries the problems of surplus disposal were less urgent than in 1934-35.

CARRYOVERS

The year under review witnessed another marked shrinkage in carryover wheat stocks in the world ex-Russia (Chart 12). From the peak of some 1,150 million bushels in the middle of 1934, these had fallen by the middle of 1936 to around 725 million—the lowest point since the bumper crop of 1928 was harvested.³ Of the net reduction of about 180 million bushels in 1935-36, declines in stocks of Canadian wheat in North America accounted for about 86 million. Reductions were also substantial in Argentina and Australia, and in Europe ex-Danube (Table XII) despite the

disposition to hold reserves against the danger of war. In Europe, the largest reductions occurred in France, Germany, Spain, and probably Poland, while significant increases appear to have occurred only in Czechoslovakia, Hungary, and probably Italy. Even so,

CHART 12.—WHEAT STOCKS IN IMPORTANT AREAS EX-RUSSIA, AS OF AUGUST 1, 1924-36*



* Data in Tables XII and XIII. Mainly our estimates except for the United States (as of July 1) and Canada.

¹ WHEAT STUDIES, December 1935, XII, 115-16. The monthly data in Table XI, below, and corresponding weekly data in our "Survey" issues, afford the basis for statements regarding stocks afloat to Europe and stocks in British ports, which are shown only in a combined total in Chart 11.

² Jasny, *op. cit.*, WHEAT STUDIES, XIII, 138.

³ Year-end visible supplies also declined to the lowest point since Aug. 1, 1928 (Table XI).

⁴ In the USSR, year-end reserves were probably larger than for many years, and perhaps of substantial magnitude.

the absorption of surplus wheat stocks was much less than had been forecast, and at the close of the crop year world stocks ex-Russia remained at least 20 per cent above the general level that had prevailed in 1923-27.⁴

The carryover in Canada was reduced by 94 million bushels to the lowest figure since 1929, but to only a little below 110 million bushels (Table XIII). Stocks of Canadian

wheat in bond in the United States, however, rose to 19.3 million bushels, an exceptionally high figure for August 1. This presumably reflected recent heavy shipments for use in the United States and export to other countries. Prior to 1928, when Canadian wheat carried over in North America totaled 91.2 million bushels, year-end stocks had commonly run below 50 million; in 1936 the total was 129 million.

The United States carryover, 137 million bushels according to revised official data, was the smallest since 1928¹ but enough to prevent large premiums of basic cash wheat over new-crop futures near the end of the crop year. Stocks on farms, though lower than in any recent year except 1931 (when stabilization purchases drew them down), were higher than in most pre-depression years.² Wheat stocks in country elevators and country mills were the smallest since 1928, and stocks in terminal elevators the smallest since 1926. Of the total carryover, stocks in mill storage represented nearly 36 per cent. Mill stocks had been moderately higher as of July 1 in 1929 and 1930, and considerably higher at the same date in 1932-34; but this percentage had hitherto been exceeded only in 1927, and approached in no other year, since data were first estimated for 1922. Mill stocks in 1936 doubtless included some little imported Canadian wheat cleared from customs. Mill-owned wheat in private and public terminals and in country elevators was relatively small; but mill stocks of flour, equivalent to over 20 million bushels of wheat, were higher than

in any year for which comparable reports are available (Table XIV). According to revised official estimates, the carryover consisted of about 36 per cent hard red winter, 26 per cent hard red spring, 20 per cent soft red winter, 12 per cent white, and 6 per cent durum (Table XV).

In Europe ex-Danube, stocks were generally reduced in 1935-36, in the aggregate by probably over 50 million bushels. But our approximations, in the absence of comprehensive official data, point to a total carryover in this area 60 million bushels above the moderate levels of 1931 and 1932, and fully equal to what seems to have been the peak prior to 1934 (Table XII). Carryover stocks appear to have been relatively large, however, only in Czechoslovakia, Spain, and Portugal; and in most countries with carryovers in excess of former averages (including France, Germany, Sweden, Switzerland, and perhaps Italy³) they were currently considered moderate or low in view of crop prospects and the desire to hold reserves against war, crop disaster, or other emergency.

Probably the largest reduction in year-end stocks was made in France, where the carryover had been extremely large in 1934 and was still quite high in 1935.⁴ Owing to the small crop of 1935, some subsidized exports, limited imports, and some subsidized denaturation for feed use, stocks at the end of the crop year 1935-36 were reduced to 40-50 million bushels. This was not considered excessive in view of poor crop prospects, particularly in a period of marked international tension. In Germany, the reduction in carryover stocks was viewed as the result of unwelcome necessity.⁵ In Spain and Portugal, as in France, poor crop prospects in the spring of 1936 induced suspension of surplus disposition plans or activities.⁶

In Czechoslovakia, where the carryover in 1934 and 1935 had been well above average, it was around 26 million bushels — double the peak figure of 1935, and well over half the average domestic consumption in each of the past two years.⁷ This carryover was mainly in the hands of the grain monopoly, which was hard put to it to find means of dealing with the surplus grain (see p. 183).

¹ See Table XIII and Appendix Note B (2).

² In some trade circles, the farm carryover is believed to be considerably smaller than the official estimates indicate.

³ Some observers have considered Italian carryover stocks very low; but a "considerable carryover" is mentioned in the semi-official *Business and Financial Report* of the Association of Italian Corporations, Aug. 1, 1936.

⁴ *World Wheat Prospects*, Aug. 27, 1935, p. 16.

⁵ Jasny, *op. cit.*, pp. 119, 139.

⁶ *World Wheat Prospects*, Mar. 31, 1936, p. 13, and May 29, 1936, pp. 8-9. See also below, pp. 170, 178.

⁷ Dillner, *op. cit.*, pp. 567, 571. Carryover stocks of rye were moderately higher in 1935, but those of feed grains were lower. See also *Foreign Crops and Markets*, Aug. 26, 1936, pp. 240-41.

IV. GOVERNMENTAL MEASURES

Both domestic and international marketing of wheat continued in 1935-36 to be profoundly influenced by governmental measures in force in most European countries and many others.¹ Changes in tariff duties on wheat and flour during the crop year were unimportant. In recent years, however, tariffs have come to be relatively minor factors affecting the flow of wheat as compared with governmental interposition in marketing, milling quotas, import monopolies, import licensing with or without control over foreign exchange, and multifarious devices affecting domestic wheat production and trade.

In December 1934, as the Argentine crop year was beginning, the Grain Regulating Board in Argentina had left unchanged its buying price of 5.75 pesos per 100 kilos for wheat of specified quality on cars at ports. Throughout that crop year, as indeed since late in May 1934, this price was too low to exert any influence.² On December 12, 1935, when a very short domestic crop was as-

sured, the board startled the grain world by suddenly raising its buying price to 10 pesos.³ This rate, put in force next day, was far above the current price. Until the great price advance in all international wheat markets in July 1936 made it no longer effective, this fixed price remained the dominant factor in the Argentine market.⁴ It materially affected the rate of domestic marketing and the size of Argentine stocks, influenced the export flow not only from Argentina but from Canada and Australia, and had repercussions almost all over the world. The true extent of its influence, however, may easily be exaggerated; for the shortness of the Argentine crop, which led to the move, would in any case have had several of the results that followed it.⁵

Of much more international significance was the change in policy of the Canadian Wheat Board, whose set-up and operations require more extended discussion. Following this, salient developments in European control measures are more briefly considered.

THE CANADIAN WHEAT BOARD

The first board.—Under the provisions of an act approved July 5, 1935,⁶ the Dominion Government appointed on August 14 a Canadian Wheat Board of three men, with broad powers and serious duties. The members were John I. McFarland, chief commissioner; David L. Smith, assistant commissioner; and Henry C. Grant, commissioner. Mr. McFarland had been, since November 27, 1930, general manager of the central selling agency of the western wheat pools, a corporation entitled Canadian Co-operative Wheat Producers, Ltd. The "Pool," as we shall briefly speak of this body in this sense, had become the agency of the Dominion Government in conducting major stabilization operations in wheat; in this sense we shall refer to it as the "Agency."⁷ Mr. McFarland's appointment seemed to insure continuity of operating control over the Agency-Pool wheat, representing almost the entire Canadian carryover as of July 31, 1935. The new act, which had been considered and passed before the catastrophic rust infestation wreaked its havoc on the

¹ For current sources of information on this general subject, see Appendix Note C (2). In footnote citations in this section, the following abbreviations are used: *CIJ* for *Commercial Intelligence Journal*, *FCM* for *Foreign Crops and Markets*, *WWP* for *World Wheat Prospects*, *NWM* for *Northwestern Miller*, and *SWM* for *Southwestern Miller*.

² See *WHEAT STUDIES*, December 1935, XII, 124, 154-55, 182.

³ See *Times of Argentina*, Dec. 16, 1935, pp. 23-25, and *FCM*, Dec. 23, 1935, pp. 912-13.

⁴ See Chart 21, p. 189, and Chart 29, p. 232.

⁵ An official report on the year's operations will presumably be available shortly. According to trade reports, the Grain Regulating Board's holdings were reduced to about 1.5 million bushels by Nov. 1, 1936. *Corn Trade News*, Nov. 18, 1936.

⁶ Bill 98, out of which this act developed, was introduced into the House of Commons on June 10, pursuant to a resolution introduced on March 4. Before the third reading, the bill was referred to a Special Committee of the House, which conducted extensive hearings upon it on June 18-29, 1935. See its *Minutes of Proceedings and Evidence*. The committee reported an amended bill on July 2. This was passed by the House on July 4 and, with two minor amendments, by the Senate on July 5.

⁷ See our last year's "Review," *WHEAT STUDIES*, December 1935, XII, 123, 142, 154; and W. Sanford Evans, "Canadian Wheat Stabilization Operations," *ibid.*, March 1936, XII, No. 10.

North American spring-wheat crops,¹ seemed clearly designed to insure orderly liquidation of these stocks and to prevent further accumulations. Wide discretion, however, was left to the board.

In accordance with the act, and with the required approval of the Governor in Council, the Wheat Board fixed crop-year prices at which producers were authorized to sell their wheat to it; from others it was forbidden to

¹ See our "Survey" issue for September 1935, *WHEAT STUDIES*, XII, 2-6.

² It is officially stated that in fixing this basic price, "the Board gave primary consideration to the fair market value of wheat." In effect, it was a "judgment estimate" based on an appraisal of the "general statistical position" for the crop year 1935-36.

In accordance with the act (Sec. 7e, 13), producers selling to the board were issued certificates entitling them to share ratably in any surplus accruing from the board's operations during the year.

³ The complete price scale is readily available in Canadian grain publications. Examples are, in cents per bushel: No. 1—87.5; No. 2—85; No. 3—81; No. 4—76; No. 5—69; No. 6—61; feed—50 cents. The numbered grades here listed are all Manitoba Northern, but the same prices applied to Amber Durum. See *WHEAT STUDIES*, January 1936, XII, 202, for chart of daily cash prices of these grades (other than durum) from Aug. 1, 1935 through mid-January 1936.

⁴ See Appendix Note C (3). It should be observed that Mr. McFarland was not called before the committee, and that disclosure of data on board sales and stocks after Jan. 31, 1936 was not insisted upon.

⁵ Daily data (*Minutes*, pp. 206-9) show that August futures were sold to the extent of 2,660,000 bushels between August 14 and 31, and on August 31 these sales were partially offset by net purchases of 1,558,000 bushels of October futures. In each of the four days preceding the announcement of the fixed-price basis on September 6, purchases and sales of October futures were made; these resulted in net purchases of 739,000 bushels. On September 7-11 there were no purchases, but October options were sold to a total of 4,099,000 bushels. Between September 12 and 24 inclusive there were sales and purchases (the latter heaviest on September 23-24, at prices around 93 cents), almost wholly of October futures, making net purchases of 1,582,000 bushels. Thus from the time the board was appointed until it began active operations on September 25, these futures transactions resulted in a net liquidation of 2,880,000 bushels.

The only other such transactions were on October 2, 3, 7, and 16; these, affecting October, December, and May futures, resulted in net sales of 1,359,000 bushels. Among these was a sale of 250,000 bushels on October 16. When trade reports ascribed to government agencies significant selling pressure on that day, the board denied this, asserting: "The board has, since its inception, been a free seller at all times when there has been a demand for Canadian wheat." It is now obvious that the board was speaking merely for itself, and not with reference to Agency-Pool operations.

buy wheat. The board buying price of No. 1 Manitoba Northern, basis carload lots at Fort William-Port Arthur, was announced late on September 6 at 87.5 cents, somewhat above the then market price.² On September 9 it was announced that this price would hold for Vancouver, and would also apply to No. 1 Amber Durum. After an interval in which appropriate discounts for lower-grade wheats could be estimated, corresponding prices for other grades were announced on September 17, except that buying prices for "feed wheat" were fixed on the 23d. On the 27th arrangements for purchase of l.c.l. shipments (less than carload lots) were announced.³

The board formally commenced operations on September 25, after having completed financing arrangements, negotiated a handling agreement with elevator companies, and developed its organization. Detailed reports of operations have not yet been made public. Certain salient facts or indications, however, were brought out in sessions of a Special Committee of the House of Commons in the spring of 1936, at which James R. Murray, Mr. McFarland's successor on the Wheat Board, was the target of questions day after day for nearly a fortnight. The following discussion is based largely on the published *Minutes of Proceedings and Evidence* before this committee,⁴ which we shall cite briefly as *Minutes*.

The board did not take over, as the act had authorized, the Agency-Pool wheat (cash and futures). Instead, Mr. McFarland continued to act in the dual capacity of (1) responsible manager of the Pool and Agency and (2) head of the Wheat Board.

The board considered that it was not legally empowered to purchase futures, but that it might facilitate cash sales by accepting futures in exchange (*Minutes*, pp. 77 ff.).

Between August 14 and October 16, however, "pit" transactions in futures for account of the Canadian Co-operative Wheat Producers (presumably as the Agency), not in connection with cash grain transactions, were made in total as follows: sales, 14,375,000 bushels; purchases, 10,136,000; net sales, 4,239,000 (*Minutes*, p. 209).⁵

The Wheat Board, as distinct from the Agency and the Pool, was meanwhile receiv-

ing substantial quantities of wheat from producers and making sales therefrom. Trade opinion is that the board acquired about half the new-crop wheat marketed from September 25 to October 26, when market prices slumped below the official scale, and practically all of it in ensuing weeks.¹ Between August 1 and December 6, according to Mr. Murray, deliveries of farmers' wheat otherwise than to the board came to 63 million bushels, while "the wheat producers under Mr. McFarland's management" sold about 8 million² (*Minutes*, p. 189). For some weeks at least, the board seems to have acquired May futures as cash grain was sold. Up to December 7 it had made sales of 37¼ million bushels, including 3¾ million on open contract; however, about 24 mil-

lion bushels of futures contracts, taken in exchange on cash wheat sales, remained unsold; hence net sales came to only 13,242,000 bushels (*Minutes*, p. 174).

The new board.—Meanwhile, controversy over wheat policies figured in the heated election campaign which ended in a decisive defeat of the Bennett government on October 14. Late that month the new Liberal government headed by W. L. Mackenzie King, with different views on this and other questions of public policy, took office. Though the Wheat Board Act had guaranteed members of the board against dismissal except "for cause" by the Governor in Council, Mr. McFarland's resignation was requested on November 29, and he and his two associates retired. On December 3 their successors were appointed.³ The new chief commissioner was James R. Murray, vice-president and general manager of the Alberta-Pacific Grain Company; his associates were George H. McIvor, formerly Mr. McFarland's assistant, and Dean A. M. Shaw of the University of Saskatchewan.

The reconstituted Wheat Board took active charge on Monday, December 9. It promptly applied for membership on the Winnipeg Grain Exchange, whereas up to that time the Pool membership had been used, and arranged with the Dominion Government to guarantee its account to the Clearing House (*Minutes*, pp. 257–59, 267, 274–75). From the outset it had "effective possession" of the Agency-Pool holdings,⁴ though the title was not passed until February,⁵ on terms determined not by or with the board but by and with the Dominion Government (*Minutes*, pp. 169, 257–58, 267–68).

The "new board" found itself with immediate responsibility for 298 million bushels of wheat in cash and futures, including 93.3 million bushels of 1935 wheat.⁶ In addition it had to handle such wheat as producers might choose to sell to it during the rest of the crop year, which it estimated at about 42 million bushels (*Minutes*, p. 38). It promptly adopted a vigorous sales policy. By January 31, it had acquired 15,074,903 bushels from producers at fixed prices, sold 75,929,805 bushels at an average price of 88.6 cents (basis May future),⁷ and liquidated all the

¹ As stated in our January "Survey," WHEAT STUDIES, XII, 202. Country deliveries, however, afford an unsafe basis for estimating producers' sales, for farmers may deliver wheat to shipping points but retain ownership in it.

² We infer that this was distinct from the net sales of futures mentioned on p. 166.

³ By another Order in Council, the advisory committee to the "old board" that had been appointed under the Conservative government was discharged and no new one appointed (*Minutes*, pp. 174–75, 183).

⁴ Effective December 10, the board arranged to credit two-thirds of current sales to holdings taken over from the Agency-Pool, and one-third to wheat delivered by producers to the board (*Minutes*, p. 262). This percentage was changed later.

⁵ The stocks were valued at prices prevailing on Dec. 2, 1935. This settlement differed materially from one negotiated in October and approved by the Governor in Council shortly before the election; this had been held up pending an audit. *Winnipeg Free Press*, Feb. 4, 1936; *SWM*, Feb. 11, 1936, p. 27.

⁶ This stock and the total at the end of January were made up as follows (*Minutes*, pp. 37, 47–48), in thousand bushels:

Item	"Old account"		1935 crop Dec. 7	Total Dec. 7	Total Jan. 31
	Dec. 7	Dec. 7			
Cash wheat	53,600 ^a	69,263	122,863	82,680	
Futures contracts ^b	151,460 ^a	24,032 ^a	175,492	154,641	
Total	205,060 ^c	93,295	298,356	237,321	

^a Figure deduced from other data given.

^b Practically all May futures.

^c This appears to have represented all but about 4,239,000 bushels of the combined holdings of the Agency and Pool at the time the Wheat Board was first appointed on Aug. 14, 1935 (see above, p. 165). As of May 31, these holdings had totaled 228,446,000 bushels. This seems to imply net sales of 19,147,000 bushels between June 1 and Aug. 14.

⁷ Daily sales between Dec. 9, 1935, and Jan. 31, 1936, with the average prices received, were given by Mr. Murray (*Minutes*, pp. 45–47). Of the stated total, "flat sales" were 2,495,806 bushels, the rest May futures.

futures that it took in exchange on wheat sales not made for cash ("flat").¹ These were large sales in comparison with net sales by the "old board" and the Agency-Pool combined, of 17,481,000 bushels between August 14 and December 7. In that period the combined holdings had increased by nearly 90 million bushels, whereas in the much shorter ensuing period the new board reduced its holdings by 61 million. The contrast remains even after allowance for the fact that the heaviest country marketings were made before the change in personnel of the board.

In the sessions of the Special Committee, ex-Premier Bennett took the lead in grilling Mr. Murray on whether the new board's heavy sales, particularly on December 13, had rescued or protected the "short" interest in the market, and if so how (*Minutes*, pp. 34, 154-55).² Mr. Murray explained that on December 11, in an effort to secure effective co-operation from the trade in making sales, the board had agreed to sell to exporting dealers or millers, at $\frac{1}{4}$ -cent advance over the previous day's close, futures to cover export sales they had made while the market was closed over night (*Minutes*, pp. 67-70, 164-65, 171, 259, 269-74). Of the huge sales on December 13, about 8.6 million bushels were thus accounted for; 861,444 bushels were "flat sales" for cash; and 11,684,000 bushels were sold in the pit at the maximum price advance permitted under the

rules of the exchange³ (*Minutes*, p. 163). Mr. Murray explained that the overnight arrangement "was discontinued on December 20th, for this reason; the market in the pit itself was being killed. People having done an export business, instead of coming into the pit in the morning to buy their wheat, could come direct to us. It was an easier way to do it" (*Minutes*, p. 69). At the same time, the board notified exporters that it "would have wheat for sale in the pit so that they did not need to be afraid to offer wheat freely overnight" (*Minutes*, pp. 171-72).

In its larger aspects, the more aggressive selling policy of the new board came in for vigorous criticism from various quarters in Canada and milder criticism in Australia and in Europe (*Minutes*, pp. 109-10, 133-43); and even the Canadian trade sometimes thought it too aggressive. The change in policy undoubtedly exerted an important influence on the international flow of wheat and wheat prices during the rest of the crop year. The policy itself, and the reasoning underlying it, were set forth on April 22, 1936, in an explanatory statement by Mr. Murray in large part as follows (*Minutes*, pp. 34-37):

The duty of the wheat board in regard to the sale of wheat is set out in section 8, subsections B and C of the Canadian Wheat Board Act, which read:

"8. It shall be the duty of the board:

"(b) to sell and dispose of from time to time all wheat which the board may acquire, for such price as it may consider reasonable, with the object of promoting the sale and use of Canadian wheat in world markets;

"(c) to sell and dispose of stocks of wheat and contracts for the delivery of wheat acquired from Canadian Co-operative Wheat Producers Limited and the wheat represented by such contracts as may be reasonably possible, having regard to economic and other conditions."

Our board has followed the policy enunciated in these sections of the act and amplified by the statement issued by the Minister of Trade and Commerce at the time of our appointment. That statement reads:

"The concentration of surplus stocks of wheat in Canada during the past few years has created an abnormal situation in the world wheat trade.

"Last June this situation was recognized by parliament as not being in the interests of Canada or her wheat producers, and the Dominion government desires to have our surplus restored to

¹ On April 29, Mr. Murray stated (*Minutes*, p. 213): "There have not been more than six days since we took over on which at the end of the day we did not own less wheat and wheat contracts, which are the things we inherited, than we did at the beginning of the day; not more than six days. Those . . . were days on which because of a poor market our sales had been small and our purchases from producers in the country amounted to more than the sales we had made that day. We have not at any time, the beginning or the end of the day or for a matter of minutes throughout any day, added to the obligations of the Dominion government of Canada in connection with wheat by buying a bushel of wheat from anyone except the producers."

² The new board, like the old board and the Agency, undertook to facilitate trade transfers of hedges, instead of taking advantage of its dominant market position to squeeze traders (*Minutes*, pp. 60 ff.).

³ This 3-cent limit on daily fluctuations up or down was adopted by the council of the Winnipeg Grain Exchange on Aug. 16, 1935, subsequently extended to June 30, 1936, and from July 3 raised to 5 cents. *NWM*, Jan. 1, 1936, p. 51, and July 8, p. 126.

a normal basis. To accomplish this the wheat board will seek the good-will and co-operation of the grain and milling trades in all importing countries.

"It is not necessary to have and there will not be any 'fire sale' of Canadian wheat, but it will be for sale at competitive values and will not be held at exorbitant premiums over other wheats."

The board considers its main responsibility is to dispose of the burdensome part of the "surplus stocks which have hung like a millstone about the necks of wheat producers since 1928"—before another new crop comes along.

During our first week in office, realizing that our exporters and millers were the salesmen on whom we had to depend for moving our wheat abroad, we held meetings with these branches of the trade. We informed them as to the board's policy and encouraged them to offer our wheat and flour on world's markets. The board also immediately sent a goodwill emissary to visit the British milling and import trades to advise them of Canada's new wheat policy and to seek their co-operation and goodwill in using the largest possible amounts of Canadian wheat.

Our emissary also visited the continent.¹

In determining our selling policy the board has endeavoured to take a long view of the situation and not to allow itself to be unduly swayed by day to day ticker news and opinions. The merchandising of 340,000,000 bushels of wheat and wheat contracts cannot be done successfully by blowing hot and cold with every wind that blows, nor by having the mentality of a speculator.

Neither can merchandising this quantity of wheat be successfully accomplished by reposing a blind faith in that thing known as "the statistical position" which has so often been quoted glibly to prove that all our wheat troubles were over.

Our board has recognized the seriousness of the situation resulting from the reduction in markets for our wheat and has not thought its job could be handled successfully by believing that the world must and would come for our wheat and clean up most of our surplus irrespective of price before the end of this crop year.

Our board has not considered it to be its duty to follow a policy of gambling on what Providence might do in the way of helping us again with serious crop failures in North America and other parts of the world. If, in 1936, we have a good crop in Western Canada—which everyone hopes for—nothing could be worse than for us to

still have an abnormally large carry-over. Consider how big a gamble Canada would be taking if the Board had based its selling policy on the hope that the United States winter wheat crop would be a failure again and that we would once more have poor spring wheat crops in North America in 1936. If nature decreed otherwise Canada would be in the same position that was looming right in front of us last June.

For years past we have heard a great deal about "orderly marketing." There may be different opinions as to the proper definition of the term "orderly marketing" but our Board believes that the policy we have followed truly interprets the meaning of the phrase when used in its best sense. Our policy has been and will continue to be a merchandising and not a speculative policy.

In looking forward beyond this season there can be no doubt that reduced markets for wheat in Europe constitute the greatest menace to a healthy world wheat situation. High tariffs against wheat imports, bonusing of home production, drying up of international trade in all commodities, have reduced international trade from over 700 million bushels a few years ago to 520 million bushels during the past two years. Normal crops on the present acreage in Western Canada alone would produce about 400 million bushels annually, giving us about 285 million bushels for export. We cannot export anything approaching this quantity yearly by following a policy of just holding on to our stocks and hoping Providence will, through crop failure, compel someone to come and buy them.

This statement just outlines some reasons for the policy our Board has followed. Your Committee and other people can judge whether it has been good or bad. We have believed that it was in accordance with what Parliament desired last July when it passed the Canadian Wheat Board Act and also that it was in the best interests of Canada.

On June 11, 1936, the Special Committee made a unanimous report, of which two salient paragraphs read:

After a full examination of Mr. Murray and the records placed by him at the disposal of the committee, we are of the opinion that the course taken by the board in the marketing of wheat was consistent with the intention of parliament in enacting the Wheat Board Act of 1935, and with the policy of the government to reduce the wheat surplus to reasonable proportions.

While there was a short interest in the Winnipeg wheat market in December of 1935, no evidence was produced that would warrant the conclusion that speculative short interests were protected by the board in that month. As the com-

¹ For memorandum of instructions to this representative, Cecil Lamont, dated Dec. 12, 1935, and a letter of Jan. 17, 1936, addressed by the board to the smaller millers in Great Britain, see *Minutes*, pp. 143-47.

mittee finds it impracticable to obtain conclusive evidence on this point, we recommend that this matter be referred for further investigation to the Royal Commission, the appointment of which is recommended in this report.

DEVELOPMENTS IN EUROPE

Far-reaching regimentation has continued characteristic of the wheat policy not only in the socialist USSR and fascist Germany and Italy, but almost all over Europe, even in such democratic states as France, the Netherlands, Norway, and Sweden. In the United Kingdom, Belgium, and Denmark, where free trade in grain had long persisted, regulation has been less pronounced.

Along with numerous changes in details of regulation during 1935-36 there were several more substantial changes in policy or machinery. Some represented relaxations or more restricted objectives; others represented crystallization into an ostensibly permanent system. The broad drift seems to have continued in the direction of government monopolies with price-fixing or government purchasing, and not in the direction of substantial relaxation of controls as the accumulated world wheat surplus was melting away. Fears of major war, the entrenchment of governmental controls, and the possibility of the emergence of a fresh surplus of wheat, help to explain this persistence. In several countries the interests of consumers have come to figure somewhat more largely in the operation of controls,¹ but in the year under review this

¹ See N. Jasny, "Wheat Problems and Policies in Germany," *WHEAT STUDIES*, November 1936, XIII, 83-86. Indications of similar disposition have latterly appeared in numerous other countries, including the Irish Free State, Sweden, and Brazil.

² See "The French National Wheat Board," *FCM*, Nov. 2, 1936, pp. 513-20.

³ See A. W. Schüttauf, "Strukturpolitik und Marktregulierungen in der Italienischen Weizenwirtschaft," *Weltwirtschaftliches Archiv*, November 1936, XLIV, 530-48, especially pp. 542-47.

⁴ *SWM*, Feb. 18, 1936, p. 41; *WWP*, Mar. 31, 1936, p. 13; *FCM*, May 25, 1936, p. 741. See also *Molinaria y Panaderia* (Barcelona), February 1936, for decrees published in January and February, and an editorial entitled "La Tragedia del Intervencionismo."

⁵ *FCM*, June 15, 1936, p. 736.

⁶ *WWP*, Aug. 27, 1935, p. 17, and Sept. 26, 1936, pp. 15-16.

⁷ *WWP*, Nov. 30, 1935, p. 17, and Feb. 29, 1936, p. 12.

did not extend to substantial reductions in import barriers. Here a few more specific points can appropriately be made, leaving additional ones to be more conveniently mentioned in other sections.

In France, where extensive regulations and government intervention have prevailed for years, the relaxation of market-price controls made in the middle of 1934-35 continued through 1935-36, but last August a monopolistic control system was set up.²

Italy was on a war-economy basis through much of the crop year. Military preparations preceded the opening of the Ethiopian campaign in early October, and economic reorganization was necessary to meet the economic sanctions imposed by most foreign nations on November 18, 1935. Consequently the wheat regulation system, already highly developed, was made still tighter and more comprehensive. From March 18, 1936, a new wheat monopoly organization took over the internal trade. This thoroughgoing regimentation survived the passing of the war economy in the summer of 1936.³

In Spain, under a new Minister of Agriculture in the spring of 1936, the whole system of fixed prices, controlled sales, and segregation of stocks was discontinued and markets again were made free. Effective machinery for enforcing fixed prices had never been developed, and this method of dealing with the accumulated surplus was chosen rather than denaturing it as had previously been planned.⁴

Bulgaria, in the spring of 1936, replaced its Grain Office by a permanent, autonomous institution with exclusive rights to buy and sell wheat, rye, and maslin for domestic consumption and export, and with authority to participate in trade in other farm products.⁵

In Poland, on the other hand, the State Grain Company sought to give market forces freer play in 1935-36. It abandoned its former practice of trying to stabilize prices by purchases, and limited its price-supporting ventures to substantial crop loans and occasional purchases.⁶ For a time, a low maximum rate of milling extraction was prescribed for wheat and rye, to promote domestic consumption and aid in discontinuing export premiums, but this was shortly discontinued.⁷

Sweden modified her grain control system early in the crop year.¹ For several years the Swedish Grain Association not only had a monopoly of imports of bread grains and flour, but had virtually controlled domestic prices of wheat and rye by standing ready to buy, at fixed prices, all good-quality bread grain offered to it in June and July of each year. The surplus problems that developed under this system led, among other things, to lowering the fixed price offered for June–July 1936, from 19 to 18 kroner per quintal (the latter equivalent to \$1.17 per bushel). The milling quotas also were lowered, effective September 1, 1935.² As of that day, the former association was dissolved and its place taken by a new Swedish Grain Company in which the government holds a controlling interest. It undertakes to buy and sell domestic grain on suitable occasions, at prices so fixed that bread prices will not be unduly enhanced, under regulations issued by the Government Agricultural Committee. The company has no import monopoly, but exchange permits are required, and blending requirements virtually prohibit flour imports.

The Netherlands has made several alterations in the monopoly tax on imported wheat and the levy on wheat flour ("B") milled wholly from such wheat.³ At least one of the tax reductions in 1935–36 was to facilitate absorption of the 30,000 tons of American flour which the Netherlands agreed, under the reciprocal trade agreement, to take if prices were satisfactory. Since February 12, 1933, not less than 35 per cent of domestic grain has been required in wheat flour ("A") milled

from domestic and imported grain. The fixed price to growers for wheat of average quality was 12.50 florins per quintal in 1931–32 and 12 florins in each of the next two years. For the crops of 1934 to 1936 this price was successively reduced 1 florin each year. This was done because, contrary to the government's intention, domestic wheat acreage and production increased so greatly as to give rise to surplus-disposal problems in the absence of increases in the milling quota.

Denmark, which had long adhered to a free trade policy on grains, adopted a temporary Grain Law on August 3, 1935, which was superseded by a permanent one of April 7, 1936, retroactive to February 24. This provided for import duties, changed weekly, designed to keep c.i.f. duty-paid prices of competitive import grains at levels set forth in the law. Under the earlier law, the duties on wheat were negligible or nil after the advance in world wheat markets in September 1935. The later act, however, fixed duties on hard wheat and flour thereof at double the rate on soft wheat and flour thereof, with minima set at 3 kroner per quintal (18 cents per bushel) and 4.30 kroner (\$0.85 per barrel) respectively. The proceeds of the duties go into a fund for distribution to small farmers, who as a class are not wheat growers. Imports are also subject to import license, and exchange permits are required.⁴ By the use of the latter power, imports of feed wheat, barley, and oats were temporarily prohibited late in the crop year to facilitate absorption of domestic barley stocks.⁵ The Danish control system is one of the mildest in continental Europe.

V. INTERNATIONAL TRADE

Outstanding features of the international trade in wheat and flour in 1935–36 were these: the small total volume shipped both to Europe and to ex-Europe, especially the Far

East; an unprecedented volume of wheat imports into the United States for consumption, not offset by exports; the predominance of Canada and Australia among world exporters; the virtual absence of Argentine wheat from

¹ *CIJ*, Feb. 8, 1936, p. 233, and Nov. 7, 1936, pp. 872–75; see also below, p. 200.

² Even then, not more than 20 per cent of foreign wheat might be used in any particular grist, nor more than 10 per cent on the average through the year.

³ On the Dutch system, see an able article by Karl Schiller, "Das Niederländische Marktregulierungssys-

tem für Weizen und Weizenprodukte," *Weltwirtschaftliches Archiv*, September 1936, XLIV, 335–72; also *CIJ*, Nov. 3, 1936, pp. 875–77.

⁴ *CIJ*, June 6, 1936, pp. 1103–4, and Sept 19, 1936, pp. 555 ff.

⁵ *FCM*, June 15, 1936, p. 736.

overseas markets after December; and further material shrinkage in international trade in flour. Among minor points of interest were record net exports of both wheat and flour from Poland, and an appreciable volume of wheat exports from Portugal.

Ocean freight rates on wheat averaged somewhat higher in 1935-36, in spite of the light overseas movement of wheat on the longer routes (Table XXVI). Heavy shipments to Europe—of wheat from Canada and Australia and of maize from Argentina—contributed to firmer rates from these countries; and the pickup in world trade in raw materials and finished products helped to extend the area over which firmer rates prevailed. Even so, ocean shipping charges remained low. Rates expressed in current United States cents were much below the levels of pre-depression years, despite the lowered gold content of the United States dollar.¹

VOLUME AND COURSE OF TRADE

In 1935-36, as in several other recent years, international trade in wheat and flour failed to come up to expectations. Forecasts had pointed to a movement larger than in 1934-35. Instead, the movement fell short of early forecasts,² and except for the war year 1917-18, the total was the smallest since 1908-09 and the movement to Europe the smallest since 1899-1900. Shipments to ex-Europe exclusive of the United States, moreover, were

¹ Compare the discussion in our preceding "Review," WHEAT STUDIES, December 1935, XII, 117-18. In terms of gold cents, rates advanced on most routes in 1935-36, for the first time in several years. Other series of data, elsewhere available, confirm the broad picture but differ considerably in details.

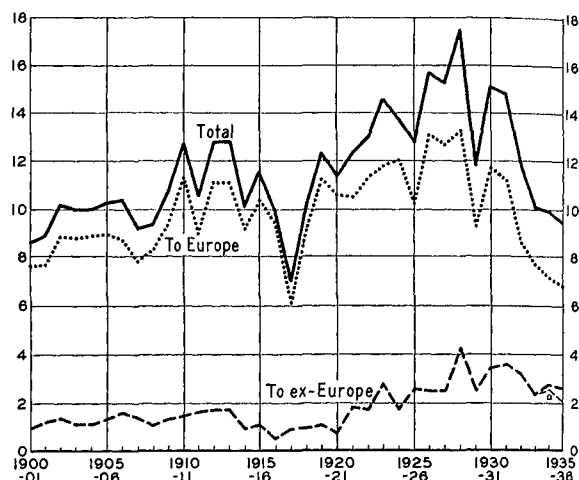
² Broomhall's successive forecasts and our published ones compare with actual results as follows, in million bushels:

Broomhall				Food Research Institute			
Date	International shipments			Total net ex-ports	Net imports		Date
	To Europe	To ex-Europe	Total		Europe ex-Danube	United States ^a	
Aug. 14....	396	144	540	560	...	30	Sept. 15
Apr. 1....	384	144	528	545	355	30	Jan. 15
June 3....	308	128	496	520	345	27	May 15
Actual							Actual
1935-36	358	136	494	524	340	28	1935-36
1934-35	381	146	527	538	350	1	1934-35

^a July-June, allowing for shipments to possessions.

by a slight margin the lowest since 1924-25. Most of these facts are revealed in perspective in Chart 13, which shows Broomhall's data on international shipments expressed in terms of weekly averages by years from 1900-01.

CHART 13.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY AVERAGES, 1900-01 TO 1935-36*
(Million bushels)



* Based on Broomhall's data such as those in Table XX. For corresponding chart of yearly totals to 1934-35, see WHEAT STUDIES, December 1935, XII, 118.

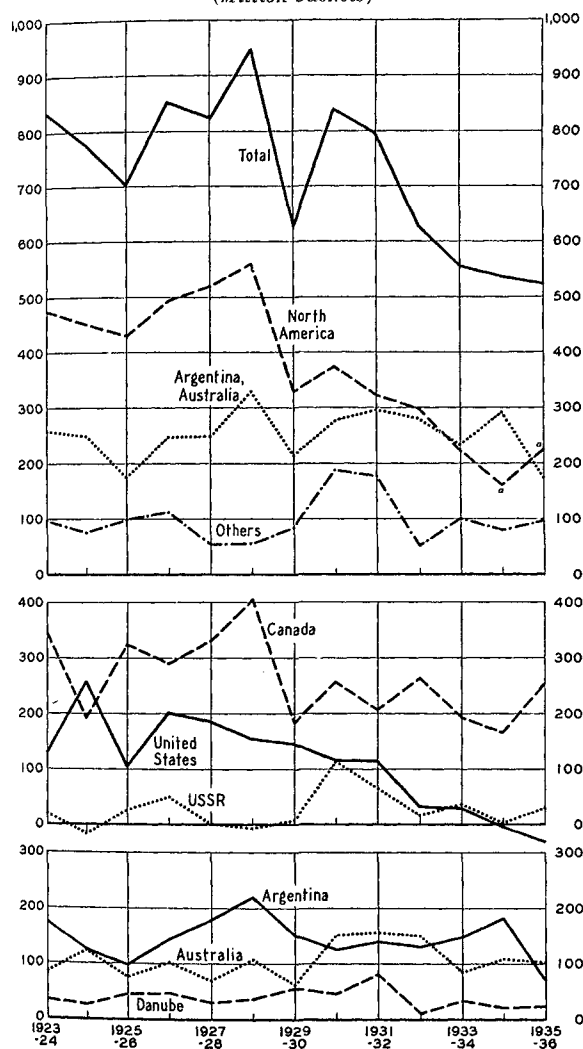
^a Excluding reported shipments to the United States.

A more reliable measure of the volume of international trade is shown for the past thirteen years in Chart 14. Net exports of net-exporting countries totaled some 524 million bushels, as compared with (a) 538 million in 1934-35, (b) the peak of 947 million in 1928-29, (c) an average of 791 million in the decade ending with 1931-32, and (d) an average of about 675 million for the five years before the war.

Canada's net exports of 254 million bushels were larger than in most previous depression years; these made up nearly half of the world total—a larger fraction than ever before. Australia was the only other large exporter; though her net exports of 103 million bushels were less than in several years of the preceding decade, she furnished about 20 per cent of the world total. Argentine net exports of 70 million bushels were the smallest since 1920-21, and for the calendar year 1936 will rank even lower. Other net-exporting countries

numbered nearly a score, but their aggregate net exports, some 93 million bushels, were contributed mainly by a few. The USSR accounted for 28.5 million, Hungary for 16.6

CHART 14.—NET EXPORTS OF WHEAT AND FLOUR, BY EXPORT AREAS, ANNUALLY FROM 1923-24*
(Million bushels)



* Data in Table XXI.

^a Net exports of Canada minus net imports of the United States.

million, Algeria for 9.9 million, Poland for 7.1 million, Rumania for 6.0 million and no other for as much as 5 million. Portugal, hitherto invariably a small net importer, subsidized exports of 4.0 million bushels from excessive stocks and had a net-export balance of 3.6 million. The United States, a small net

importer in 1934-35, imported 31 million bushels net (August-July)—in striking contrast to average net exports of 162 million in the decade ending with 1931-32.

For the year as a whole, light exports from several individual countries were due to small crops in 1935, notably in the United States and Argentina. The light total volume of trade, however, was due to restricted demand from importing countries both in Europe and in ex-Europe. From Canada and the USSR in particular, but from various other countries as well, larger supplies could have been obtained if importing countries had eagerly sought to buy them.

As Chart 13 indicates, the drastic shrinkage of international trade in wheat in recent years has been of major proportions in exports to Europe rather than to ex-Europe. Chart 15 (p. 174) shows that the shrinkage has occurred in continental Europe rather than in the British Isles. If one includes with France her three dependencies in North Africa, as is logical, net imports by groups of countries contrast as follows, in million bushels:

Area	1924-29 average	1929-34 average	1934-35	1935-36
British Isles	224	240	217	220
France, ^a Italy, Germany....	209	75	(21) ^b	(5) ^{bc}
Other Europe ex-Danube....	191	175	128	106
Total	624	490	324	321

^a Including French Morocco, Algeria, and Tunis.

^b Net exports.

^c Assuming that Italy had net imports of 6 million bushels.

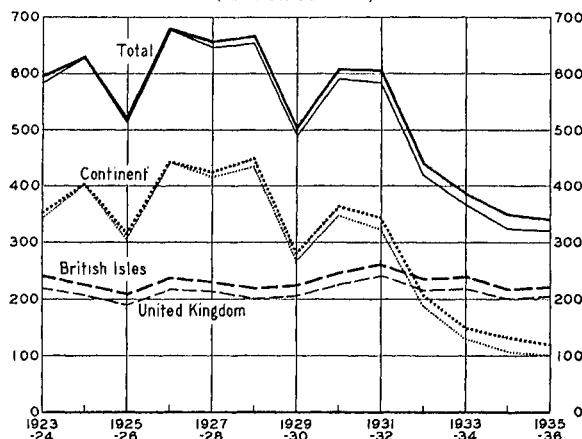
A more detailed picture by countries or groups of countries is given in Chart 28, p. 228. France, Italy, and Germany, formerly large net importers, have recently become almost self-sufficient in wheat. Most other countries in continental Europe ex-Danube have materially contracted their imports, become practically self-sufficing in wheat, or become small net exporters. The major exceptions are Belgium, Denmark, Norway, Switzerland, and Greece; and even in these countries expansion of wheat production and contraction of net imports appears to be in progress. The Irish Free State is making rapid strides toward a goal of self-sufficiency.

For continental Europe ex-Danube plus French North Africa, net imports in relation

to other elements in annual supplies and to annual utilization are shown in Chart 16. Broadly speaking, the low figures for net imports in the past four years reflect (a) the substantially higher level of wheat production, and (b) the failure of wheat utilization to rise

came around the end of the month; the winter peak, that had tended to come at the end of January, came a full month later; the trough in mid-April was unusually pronounced; and the rise that had tended to be deferred until after the middle of July started late in June.

CHART 15.—NET IMPORTS OF WHEAT AND FLOUR BY EUROPE ex-DANUBE, ANNUALLY FROM 1923-24*
(Million bushels)

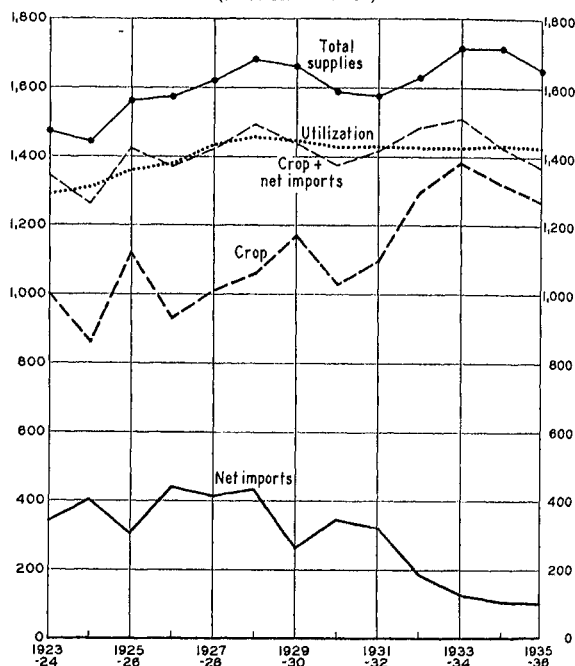


* Data in Table XXI. The lighter lines for Total and Continent represent net imports of these respective areas minus net exports of French North Africa.

above the level reached in 1928-29, despite increase in population and considerable diversion of wheat to feed use. The new low point in net imports reached in 1935-36 was due partly to drafts upon heavy stocks, such as had been made in 1934-35 also; and partly to reductions in disposition for feed use, for which some countries had imported liberal amounts in the preceding year when feed grains were scarce and dear.

The course of international trade in 1935-36 is conveniently illustrated by Broomhall's weekly shipments data, which are shown in Chart 17 in slightly smoothed curves, in comparison with corresponding curves for 1934-35 and an average for the decade preceding. Total shipments, and shipments to Europe, followed a course much more like that of the decade average than they had in 1934-35, though on a much lower level. In 1935-36, as compared with the average, the summer rise began a little later and culminated some weeks earlier; the low point of shipments, which had previously tended to come in mid-December,

CHART 16.—WHEAT SUPPLIES AND UTILIZATION IN CONTINENTAL EUROPE ex-DANUBE AND FRENCH NORTH AFRICA, ANNUALLY FROM 1923-24*
(Million bushels)



* Summarized from data in Tables I, XII, XXI, XXXII. Total supplies include carryover, crop, and net imports of the region as a unit. Utilization represents crop plus net imports, adjusted for estimated changes in carryover. Net imports of the region here represent net imports of net-importing countries minus net exports of net-exporting countries.

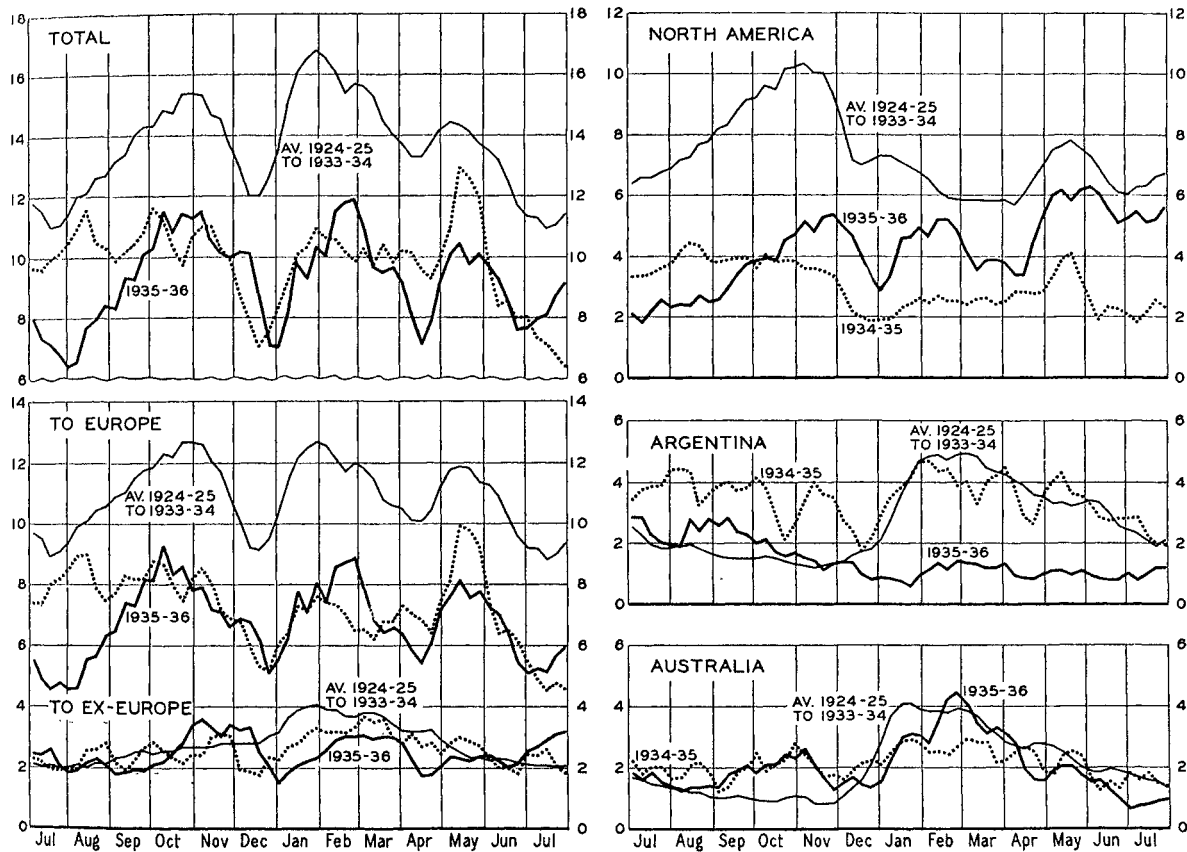
For some of these peculiarities the graphs in the right-hand sections of Chart 17 afford partial explanations. It will first be observed, however, that the 1935-36 curves for the three chief export areas¹ were much less like their respective averages than was true of the corresponding curves in the left-hand section of the chart. To a remarkable degree, variations in shipments from one area were counterbal-

¹ The curve of shipments from other areas, in the aggregate, corresponded fairly closely (and more closely than in 1934-35) to its ten-year average curve. See Chart 6 in our last "Survey," WHEAT STUDIES, September 1936, XIII, 13.

anced by opposite variations in shipments from another. Thus for several weeks in the summer and early fall, Argentine shipments were relatively heavy; as they fell off, Australian shipments rose to an autumnal peak early in November; and thus the seasonal gap

are suggested elsewhere (pp. 161, 179). The rise from this low point to the mid-winter peak was spread over a longer period than usual, primarily because Australian shipments followed this course and because shipments of Canadian wheat expanded, counter-

CHART 17.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, 1935-36, WITH COMPARISONS*
(Million bushels; 3-week moving averages)



* Based on Broomhall's weekly data summarized by crop years in Table XX. Averages are for corresponding weeks in the 10-year period ending July 28, 1934.

due to virtual absence of United States shipments was filled. The recession of Australian shipments from the November peak, as available stocks were practically exhausted and as new-crop exports lagged, was too marked to be offset by the continued rise in shipments from Canada.

The deferment of the December low point was due to lateness of the North American recession of shipments, the failure of Argentine shipments to begin their usual seasonal upturn, and the retardation of shipments of new wheat from Australia; for these, explanations

seasonally, to fill the gap left by cessation of Argentine exports to Europe. The falling off in total shipments from late February to mid-April was the more pronounced because both North American and Australian shipments contributed to it more heavily than usual, with Argentina figuring insignificantly. The subsequent rise in shipments to their spring peak was especially marked because of Canadian shipments, which reached their highest level of the year in May-June rather than in October-November.

In our subsequent consideration of the

course of prices, we shall have occasion to bring out certain interactions between international shipments and wheat prices. Here it is sufficient to observe that changes in prices resulting from drastic changes in crop prospects were largely responsible for the sharp early upturn of international shipments in July 1936, and that this drew forth wheat from almost all sources of export rather than from any one in special degree.

TRADE OF EXPORTING COUNTRIES

Regarding the major exporting countries, little further need be said. Canadian wheat went in largest volume to the United Kingdom, but nearly half as much went to the United States for domestic use or milling for export. In addition, something like 90 million bushels, however, was shipped to continental Europe and other markets far and wide. Canadian flour, in amounts equivalent to about 22 million bushels, found its way into many more foreign markets.

Argentina's exports went on much as usual, for the closing months of her own crop year, until near the end of December 1935. Thereafter, except for limited shipments on contracts made before December 13, nearly all the export wheat moved to Brazil.

Australia's export surplus was drawn much more heavily to the United Kingdom and continental Europe in 1935-36 than in several previous years.¹ This was due to the joint influence of shortage of other wheats, the high quality of the grain, and probably its suitability for blending with Canadian. Australia's exports of wheat and flour to the Far East, however, which had boomed in the year or two preceding, declined materially. This was due primarily to lessened import demand in Manchuria and China, for reasons discussed below (p. 185). The relatively high prices of Australian wheat were also a handicap on the trade with the Orient; and Australia's 1935 crop contained no wheat as poor in quality as that which had flowed to the Orient, as wheat or flour, in 1934-35.

Toward the end of the crop year, a more definite setback to this trade occurred. On May 23, 1936, the Commonwealth Government put in force a trade-restriction policy involv-

ing prohibitive duties on numerous products and an import license system applying to 86 classifications of non-Empire goods.² Despite the facts that negotiations for a new commercial treaty with Japan were under way at the time, and that Australia's exports to Japan had materially exceeded her imports from Japan in terms of value, the new restrictions applied with severity to imports from Japan. In retaliation the Japanese government, acting under the Trade Control Act of 1934, imposed drastic restrictions effective June 25, 1936, on Japanese imports of Australian agricultural and pastoral exports. Wheat, wheat flour, wool and waste wool fibers and old wool are forbidden to be shipped from Australia to Japan without a special import permit obtained in advance; and on wheat and flour no permits appear to have been granted.³ Imports of other specified products are permitted on payment of 50 per cent ad valorem in addition to the regular duty.⁴ As expected, Manchukuo shortly followed Japan's lead. The principal effects of this trade war, however, remained to be felt in the crop year 1936-37, in diverting Japanese and Manchurian orders from Australia to Canada, the Pacific Northwest, and even China.

Russian exports have already been touched upon (p. 150), and those of the United States are more logically discussed below in connection with imports (p. 179).

Net exports of wheat and flour by other ex-

¹ Preliminary export data for Australia (*Quarterly Summary of Australian Statistics*, June 1936, p. 42) show less wheat and flour (less grain, but more flour) exported to the United Kingdom in July-June 1935-36 than in the year preceding, but final data will presumably show that large amounts of wheat grain shipped "for orders" went to Great Britain. Australian exports of wheat to the Irish Free State, other British countries, Greece, and miscellaneous foreign countries increased. Wheat exports to Japan and China fell off greatly, as did flour exports to Manchuria (including Kwantung Peninsula) and Hong Kong, two of the principal Far Eastern markets. On the other hand, flour exports to the Netherlands East Indies held their own, and those to the Philippines rose heavily.

² *Commerce Reports*, May 30, p. 429; June 6, p. 450; and June 20, p. 490.

³ Except perhaps on small sales already made; Australian data show 97,068 bushels exported to Japan in July 1936.

⁴ *Commerce Reports*, July 4, p. 533; *Economist*, Aug. 29, p. 387; *Commercial Review*, June 30.

porting countries totaled some 68 million bushels. This is a lower total than in most recent years except 1932-33, and far below the postwar record figure of 110 million bushels in 1931-32. In several countries, however, exports were offset by imports, wholly or in considerable measure; hence the net figures give an inadequate notion of the true volume of trade involved.

From the four Lower Danube exporting countries, wheat and flour exports were 24.1 million bushels, very little larger than in 1934-35 (Tables XXI, XXII). Almost all of the exports moved under preferential agreements, mostly intergovernmental; but exports did not reach the volume so provided for.¹ The 1935 crop in each of the four countries was larger than that of 1934, but only that of Hungary was above average, and 1935 carry-over stocks in the region were very low (Tables I, II, XII).

Hungary exported 16.6 million bushels net. This went, mostly in the form of grain, to Austria, Italy, Switzerland, and other countries with which special arrangements for sale had been made. *Yugoslavia* had little to spare for export and, since Czechoslovakia was in no need of imports, not much was done under

¹ Hungary was reported to have arranged for the sale of 20.2 million bushels, distributed as follows:

Importer	Definite	Optional	Total
Austria:	{ wheat 5.51	{ }	8.08
	{ flour as wheat... 2.57	{ }	
Italy:	wheat 3.67	3.67	7.34
Switzerland:	wheat 2.20	1.47	3.67
Others:	wheat (about) ... 1.10	....	1.10

Rumania concluded a series of arrangements for sale to aid in payment of Rumanian debts abroad (in some cases on another basis) with Great Britain, Switzerland, Italy, Austria, and Greece, as well as the grain firms of Dreyfus and Bunge, which provided outlets for 11 million bushels. *Yugoslavia* had commercial treaties in force with Czechoslovakia and Austria, calling for delivery of 3.67 and 1.8 million bushels respectively. See *World Wheat Prospects*, Sept. 26, 1935, pp. 14-15. Hungary did not adhere to sanctions against Italy, and Rumania excepted wheat from the list of commodities affected. *Ibid.*, Dec. 30, 1935, p. 14.

² In November it was announced that further exports would be made only for foreign currencies.

³ Estonia is proceeding with a new program of aid to agriculture involving extensive subsidies to farmers, but aiming at producing only enough bread grain to cover domestic requirements. *Foreign Crops and Markets*, Feb. 24, 1936, pp. 220-21.

⁴ See Tables I, II, XII, XXI, and XXII.

their exchange agreement. Indeed, *Yugoslavia's* reported exports were a mere trickle until June-July 1936 (Table XXIII), when prospects for a big new crop led to some exports. *Rumania*, on the other hand, followed up her heavy exports of May-July 1935 with fair exports in the next few months; the movement was small after November² and nil in the spring. Of her total exports (5.9 million bushels net), practically all in grain, over half went to Great Britain (see p. 183) and most of the rest to various countries under special commercial agreements. *Bulgaria* exported most of her small total in the fall of 1935 (chiefly to Great Britain and Antwerp-Rotterdam), but a little more in June-July 1936 when new-crop prospects were bright.

From *Poland*, net exports of wheat and flour rose to 7.1 million bushels, a new high record in spite of the fact that her wheat crop was only about equal to the average of the five preceding. More than half of these exports were in the form of flour, of which the net export rose to the unprecedented total of 1.1 million barrels. Poland was a net exporter of rye also, though to a much smaller extent than in 1934-35. *Lithuania* and *Latvia* also exported record quantities of wheat grain, though their combined net exports did not equal *Finland's* net imports of 4.3 million bushels. *Estonia*, which had been a slight net exporter for the first time in 1934-35, resumed her status of self-sufficiency in wheat.³

The French dependencies in *North Africa*, with large carryovers from big crops of 1934 in Morocco and Algeria, and with good crops in Algeria and Tunis (but not Morocco) in 1935, had net exports of nearly 20 million bushels; except in comparison with the record total of 26 million in 1934-35, this was up to the best levels in recent years.⁴ Almost all of the exports moved to France.

France, which in 1934-35 had ranked fourth among the world wheat exporters, was again the largest wheat exporter of Europe except Russia in 1935-36. Gross exports totaled 22.2 million bushels in grain or flour, as compared with 48.3 million in the preceding year. Grain exports (14.6 million in all) were very light in October-December and May, and reached their peak late in the winter, instead

of in the spring as in the preceding crop year. Imports (including those from dependencies in North Africa), though slightly smaller than in 1934-35, were large enough to bring France back into the ranks of net importers, with an import balance of 7.8 million bushels as compared with an export excess of 16.6 million in 1934-35.¹

Germany exported nearly 4 million bushels in grain and flour, but these were nearly balanced by wheat imports. *Sweden* remained a net exporter to the extent of nearly 1.9 million bushels. Both exports (3,531,000 bushels) and imports of wheat grain slightly exceeded the corresponding totals for 1934-35, while flour exports were negligible and flour imports practically nil. The exports of wheat, and smaller amounts of rye, were made by the official agency in order to keep carry-overs within desired limits, and were destined for feed use abroad.

Portugal, hitherto a net importer despite high duties and other import restrictions, became a net exporter in 1935-36. Under special

stimuli in recent years, wheat acreage and production have notably expanded while consumption has been held in check by high prices fixed by public authority. Late in January 1936 the Portuguese government authorized the export of up to 11 million bushels of wheat.² While it was generally realized that "burdensome stocks" had remained from the bumper crop of 1934, and the 1935 crop exceeded the usual volume of domestic utilization, this action implied the existence of much heavier stocks than foreign observers had figured on before the crop estimate was raised by several million bushels. With substantial losses on export sales,³ something like 4 million bushels was exported, chiefly in April-June. But dark prospects for the 1936 crop, eventually borne out, led to cessation of the export movement.

Turkey, a small net exporter each year since 1930-31, had in 1935 a third good crop in succession; but it was not so large as the 100-million bushel crops of 1933 and 1934, and net exports were only around 1 million bushels as compared with the peak of 4.4 million in 1934-35. Sales of relatively large quantities to Italy were reported to have been made⁴ before economic sanctions went into effect on November 18, 1935.⁵ *Iraq* continued a small net exporter of both wheat and flour. *Syria and Lebanon*, which has been a small net exporter of wheat grain since 1930-31, was a small net exporter of wheat and flour combined, as in 1934-35. The Near East as a whole, formerly a net-importing area of some importance, was apparently a net-exporting region in each of the last two years. We infer that *Uruguay*, for which even calendar-year data for 1935 are not yet available to us, may have exported 2-4 million bushels.

India continued a negligible factor in the international wheat trade, as in other years since the onset of the world depression in 1929; but as usual in recent years, she was a slight net exporter of wheat grain, flour, and both combined.⁶ The 1935 crop of 363 million bushels, though by no means extraordinary, was the largest since the record harvest of 1930, and otherwise the best since 1923; and 352 million bushels was harvested in March-May 1936. Grain and flour exports and im-

¹ Revised data for 1934-35 and provisional data for 1935-36 are as follows, in million bushels:

Item	Year	Imports			Ex-ports total	Net im-ports	Net ex-ports
		North Africa	Other sources	Total			
Total.....	{1934-35	21.08	10.59	31.67	48.26	....	16.59
	{1935-36	20.53	9.52	30.05	22.22	7.83	....
Durum.....	{1934-35	7.60	1.77	9.37	.03	9.34	....
	{1935-36	7.93	2.06	9.99	.02	9.97	....
Other wheat..	{1934-35	9.85	8.76	18.61	38.08	....	19.47
	{1935-36	9.74	7.40	17.14	14.59	2.55	....
Flour.....	{1934-35	3.63	.06	3.69	10.15	....	6.46
	{1935-36	2.86	.06	2.92	7.61	....	4.69

² *Commerce Reports*, Mar. 14, 1936, p. 213.

³ Domestic prices were fixed at \$1.41 to \$1.62 per bushel, according to quality. It was provided that the loss be financed out of import duties on wheat and a tax of 15 cents per bushel on future production of wheat. See *Foreign Crops and Markets*, Mar. 2, 1936, pp. 248-49. The export grain presumably went largely into feed use, but some of it was milled for food, including what was shipped to China.

⁴ *World Wheat Prospects*, Nov. 30, 1935, p. 17.

⁵ *Economist*, Nov. 9, 1936, p. 896.

⁶ See Table XXII. For the Indian crop year April-March, wheat grain data are as follows, in thousand bushels (*Commercial Intelligence Journal*, July 18, 1936, p. 1103):

Year	Exports	Imports	Net
1934-35	410	261	149 (exports)
1935-36	358	485	127 (imports)

ports were alike small. Advances in wheat prices were probably responsible for reductions in the import duty of 2 rupees per cwt. (at current rates about 40 cents per bushel) that had been in force since March 21, 1931. This was lowered on April 13, 1935 to 1.5 and on April 8, 1936 to 1 rupee.¹

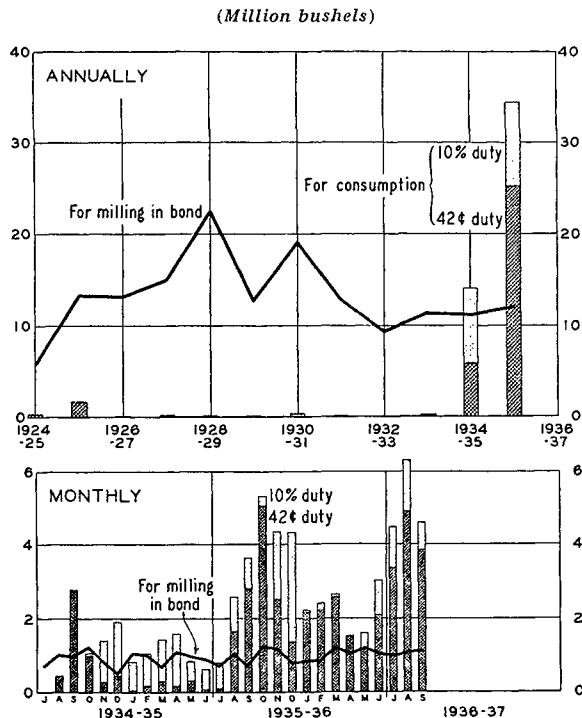
THE UNITED STATES AS A NET IMPORTER

Imports and exports.—A notable feature of the year was the further expansion of imports of Canadian grain into the United States. In 1934–35 duty-paid imports had slightly exceeded 14 million bushels; but less than 6 million of this, mostly durum,² paid the full 42-cent duty, and the rest was imported as “unfit for human consumption” at 10 per cent ad valorem. In 1935–36, by contrast, duty-paid imports for consumption reached 34.5 million bushels; full-duty imports, mostly of hard red spring, came to 25.3 million bushels, and the low-duty imports increased by a million bushels. Including some 12 million bushels for milling in bond for export as flour, American statistics show imports of around 47 million bushels of Canadian wheat in July–June 1935–36.³ The upper section of Chart 18 throws into relief the striking contrast with previous crop years. The lower section shows the course of monthly imports in the several categories. Late in the crop year, bad prospects for the new spring-wheat crop led to expansion of imports when otherwise they would probably have continued to shrink.

The full-duty imports for consumption in 1935–36 were primarily the result of quality deficiencies rather than quantitative deficits. Had American wheats in both carryover and crop been of the desired types and satisfactory in milling qualities, domestic stocks could have stood a reduction by as much as these

imports came to. Instead, however, domestic supplies of good hard wheats for milling bread flour were so gravely reduced by adverse weather, particularly in the northern Great Plains, that millers preferred to import good Canadian wheat over the duty rather than use

CHART 18.—UNITED STATES WHEAT GRAIN IMPORTS, ANNUALLY FROM 1924–25 AND MONTHLY FROM JULY 1934*



* Annual data such as in Table XVIII; monthly data from *Foreign Crops and Markets*.

up available domestic grain. The low-duty imports were partly a response to the abundance of low-grade Canadian wheat, which at the low duty could be made cheaply available for feed in the Eastern states. The American carryover therefore remained well above levels characteristic of the years preceding 1929.

With the United States on an import basis for wheat during 1935–36, prices of both wheat and flour were too high to permit exports in significant quantities. Wheat grain exports were negligible (Table XVI). Of the flour exports, equivalent to only about 15.5 million bushels, around three-fourths were milled in bond from Canadian grain.⁴ The few

¹ *Ibid.*, June 6, 1936, p. 1103.

² Said to be the first durum imports since wheat has been subject to duty. *Southwestern Miller*, July 31, 1934, p. 27.

³ See Tables XVII and XVIII. For August–July, Canadian statistics show only 29.1 million bushels exported to the United States (Table XIX), and Broomhall's shipments data only 34 million (Table XX, footnote d); but both understate the full movement.

⁴ Under the tariff act effective June 18, 1930, wheat imported to be ground in bond into flour for export

concessions on flour exports that were obtained under recent reciprocal trade agreements with Cuba, Netherlands and her colonies, and Switzerland, were of slight immediate importance in the conditions that prevailed.¹ The Dutch quota of 5 per cent of imports of milling wheat and the Swiss quota of 4.3 million bushels were virtually inoperative because United States wheats were not available at competitive prices.

From the Pacific Northwest there had come continuous pressure on the Secretary of Agriculture to revive in some form the export

to Cuba was made subject to a duty equal to the preferential reduction in Cuban duty and consumption tax applicable by treaty to American-milled flour imported into Cuba. This change was made in response to appeals from southwestern millers, who wished to compete with Buffalo mills for the Cuban trade. Flour imported into Cuba from countries other than the United States had been subject to the general rate of 59 cents per 100 pounds, while American-milled flour enjoyed a preferential rate of 41 cents. Under the reciprocal trade agreement, the duty on flour made entirely of American wheat was reduced to 35 cents. As of Sept. 3, 1936, the consumption tax on flour (35 cents per 100 pounds on American flour, and 50 cents on other flour) was abolished; thereupon the United States canceled its duty on Canadian wheat imported for milling into flour for export to Cuba.

¹ See further below, pp. 184, 188. The three agreements mentioned above became effective as follows: Cuba, Sept. 3, 1934; Netherlands, Feb. 1, 1936; Switzerland, Feb. 15, 1936. Under the Canadian agreement, effective Jan. 1, 1936, the Canadian duty on United States wheat was reduced from 30 cents a bushel to 12 cents.

² See J. S. Davis, "Pacific Northwest Wheat Problems and the Export Subsidy," *WHEAT STUDIES*, August 1934, X, No. 10, and J. S. Davis, *Wheat and the AAA*, chapter ix.

³ This fund, for each fiscal year representing 30 per cent of the gross customs receipts in the last completed calendar year, amounted to \$92,111,741 for 1935-36. It has been drawn upon to finance diversion of agricultural "surpluses" into export, lower-value uses, or relief use; and also to make "special adjustment payments" to cotton growers in 1935-36. On the latter, see H. I. Richards, *Cotton and the AAA* (Brookings Institution, 1936), pp. 225-26.

⁴ On this and broader questions, see *The Significance of Agricultural Imports*, a statement prepared by the Department of Agriculture, transmitted by Secretary Wallace to Senator Murphy under date of June 2, 1936, and published as 74th Congress, 2d Session, Senate Document 263.

⁵ We pass over without comment the important movement of hard winter wheat to Minneapolis and Buffalo mills, as less exceptional in character; and also the unusually extensive use of soft red wheat in milling bread flour.

subsidy under which substantial export sales had been made from that region between October 1933 and August 1934.² On February 29, 1936, Secretary Wallace made a limited response. On export sales to the Philippines, of flour milled from wheat grown in Washington, Oregon, and Idaho, "indemnities" for losses were authorized at rates to be fixed from day to day, with reference to prices of competing flours in the Philippines and wheat prices in the Pacific Northwest. The program was further limited by a total allotment of \$450,000 from the customs-revenue fund put at the disposal of the Secretary of Agriculture under Section 32 of amendments to the Agricultural Adjustment Act approved August 24, 1936.³

Indemnities per barrel actually ranged from 50 cents to \$1.05 per barrel. In all, 190,206 barrels were sold under this scheme by the end of June. Before the limit expired, the Secretary announced its extension to June 30, 1937 (on sales shipped by August 15, 1937), subject to termination on five days' notice, with an upper limit of 575,300 barrels for the new crop year. The system had the effect of keeping flour exports from the region from falling as low as they otherwise would have fallen (see p. 186).

Under all these circumstances, the United States suddenly became one of the leading net importers of wheat. After allowing also for shipments to possessions, net imports of wheat and flour in 1935-36 reached 28.5 million bushels in July-June and 31.1 million in August-July (Tables XVII, XXII). Apart from the United Kingdom, only Belgium and Brazil were heavier net importers during 1935-36. For a country that had long ranked among the four chief exporters, and that had recently groaned under the burden of an unsalable wheat surplus, this represented an amazing reversal. Four consecutive years of weather seriously adverse for wheat production were directly and predominantly responsible.⁴

Internal movements.—At this point we digress to review certain special phases of the domestic movement of wheat and flour in the United States, arising out of her status as a net importer,⁵ and related acts of governmental interposition.

Of the substantial wheat surplus in the Pacific Northwest, very little moved into export either as grain or flour. Under the influence of short crops of poor quality east of the Rockies, this surplus was attracted almost wholly into domestic markets—to California by water, eastward by rail in exceptionally heavy volume to northwestern, southwestern, and midwestern mills, and by water to Atlantic and Gulf ports. Since Montana wheats were scarce and dear, hard wheats for blending were shipped into the Pacific Northwest and California from Canada and from Kansas. Flour as well as grain moved heavily eastward. Flour shipments were made to Alaska and Hawaii on much the usual scale, but relatively small amounts were exported to foreign countries. Some elements of this broad picture merit further elaboration, though certain of the available statistics leave much to be desired.¹

Rail shipments east through the principal gateways are stated to have been 14,335,000 bushels of wheat and 537,950 barrels of flour,

¹ Satisfactory carryover statistics are not available, since data on stocks on farms and at country points in Idaho are not segregated as between northern and southern Idaho; the former belongs in the Pacific Northwest, the latter in the Intermountain region. For Washington, Oregon, and Idaho, a summation of data showed a reduction in carryover from 22,344,000 bushels in 1935 to 14,138,000 in 1936. *Commercial Review*, July 28, 1936, p. 5.

² *Ibid.*, July 14, 1936, p. 1. Comparable data for earlier years are not available. As earlier trade reports in 1935–36 indicate, this presumably represented shipments only through Huntington, Ore., and Spokane, Wash.

³ Comparative data in thousand bushels or barrels (for flour alone) are as follows:

Year	Wheat and flour			Wheat grain		Flour	
	Total	Calif.	Atl.-Gulf	Calif.	Atl.-Gulf	Calif.	Atl.-Gulf
1930–31..	13.04	10.55	3.00	3.08	.04	1.46	.68
1931–32..	17.80	14.03	3.17	8.37	.02	1.39	.70
1932–33..	20.95	14.89	6.06	7.60	.14	1.62	1.32
1933–34..	24.96	10.38	14.58	3.77	5.09	1.47	2.11
1934–35..	31.73	11.88	19.85	3.47	5.78	1.87	3.13
1935–36..	25.62	8.67	16.95	2.27	3.41	1.42	3.01
Average 1930–35..	21.82	12.47	9.35	5.44	2.21	1.56	1.59

For earlier data, see WHEAT STUDIES, August 1934, X, 421–22. These are from the *Commercial Review*, which converts flour to wheat at 4.5 bushels per barrel.

⁴ See the published reports of these public agencies. On earlier wheat operations of the FSRC, see Davis, *Wheat and the AAA*, chapter viii.

in all representing some 16.8 million bushels.² This somewhat incomplete total probably exceeded total shipments east, by rail and water combined, in any year prior to 1933–34, except during some war years when extraordinary tightness in shipping forced much of the Pacific Northwest surplus to move east by rail for domestic use and export. Most of the “relief” wheat mentioned below moved by rail, because of requirements as to its “equitable” distribution among mills. The great bulk of the rail movement, however, represented commercial shipments.

Largely because rail shipments were so heavy, domestic shipments by water fell 6 million bushels below the peak total of the preceding year. Of the 26 million bushels thus shipped, nearly 17 million (including 3 million barrels of flour) went to Atlantic and Gulf ports. Rail and water shipments east must have totaled some 34 million bushels. To California there was shipped only 8.7 million bushels (including 1.4 million barrels of flour), as compared with an average of 12.5 million in the five years preceding.³ The light shipments to California reflected in part reduced takings of Montana wheat through the Columbia River and Puget Sound, since California mills found it advantageous to ship in more hard wheat from the Southwest.

Extensive surplus-diversion operations in the United States in 1935–36 included three regional purchases of wheat for relief disposition by the Federal Surplus Relief Corporation and its successor (in November 1935), the Federal Surplus Commodities Corporation.⁴ Two of the three such programs were designed to aid in removing the regional “surplus” of soft white wheat in the Pacific Northwest, and the third to deal similarly with soft red winter wheat in the Middle West.

Under the earlier Pacific Northwest program arranged between the AAA and the FSRC, 2,591,275 bushels were procured. This purchase was financed out of grants from the Federal Emergency Relief Administration to State Emergency Relief Administrations. According to the FSRC,

... This method has been employed only when the Agricultural Adjustment Administration has found that there existed a highly localized surplus

of a particular agricultural commodity which was seriously depressing the price for that commodity or was glutting the local markets to a point where little of the surplus was moving into consumption. This method of procurement was not used until an examination by the Distribution Division of the Corporation indicated that the surplus was susceptible of economic distribution.¹

The first purchase was made on June 27, 1935. By the end of October about 2 million bushels had been procured, and the last purchase was made on December 2. The corporation typically bid one or two cents over the nominal quotation for No. 1 Soft White. Though it accepted any No. 1 wheat, the bulk of the grain obtained was soft white. This wheat was shipped by rail to fifteen southeastern states (as far west as Texas and Missouri) for milling into biscuit flour, which was distributed for relief consumption in that area.²

The second and third series of surplus-relief purchases were made in the spring of 1936. Each was authorized by the Secretary of Agriculture under Section 32 of the act of August 24, 1935, amending the Agricultural

Adjustment Act, as further amended on February 11 and 29, 1936.³ Consequently, these were financed out of the customs-revenue fund put at the Secretary's disposal. Some 2.1 million bushels was bought in the Pacific Northwest, and processed into flour for nation-wide distribution to families on relief, much as was done in 1933-34 with part of the market-stabilization purchases on central markets in the fall of 1933.⁴ About 1 million bushels of soft red winter wheat was bought in Ohio, Indiana, Kentucky, and western New York, and milled for relief distribution in this region and states to the eastward. As under previous arrangements, such flour was given as "supplementary relief," over and beyond other forms of relief provided.

Furthermore, the FSCC had received from the AAA 3,141,897 bushels of hard red spring wheat and 1,087,740 bushels of durum.⁵ This represented the unsold balance of stocks purchased in the summer and autumn of 1934 as a seed reserve.⁶ In January 1936, when most of this remained in storage, the FSCC arranged for a 50 per cent reduction in freight rates on this grain and offered it for sale to country elevators at \$1.10 per bushel plus freight, on condition that it be sold to growers for seed prior to June 1 at these prices plus 5 cents for handling charges.⁷ What was not sold in this way was later closed out by the FSCC.

TRADE OF OTHER IMPORTING COUNTRIES

Europe.—United Kingdom net imports of wheat and flour were equivalent to 205 million bushels of wheat. Gross imports consisted of 190.2 million bushels of wheat and 4.86 million barrels of flour, each slightly exceeding the rather low totals for 1934-35 (Table XXIV). About half of the wheat and half of the flour came from Canada, and roughly another fourth of each from Australia. While neither figure was unprecedentedly large, wheat grain imports from Canada were not far below the corresponding total in 1932-33.⁸ Two facts help to account for the relatively heavy imports of Australian flour: it was relatively cheaper than Australian wheat; and with Argentine wheat in short supply, Australian flour was welcomed for blending.⁹

British imports from Argentina, almost

¹ Report . . . for the Calendar Year 1935, p. 3. From our preceding discussion, the reader may judge how closely the generalized statement quoted described the situation in which the purchases were made.

² Based on information from officials of the FSRC and FSCC. During the period in question the price of No. 1 White in Seattle rose from about 75 cents to about 84 cents, but Chicago "basic cash" wheat rose much more—from 83 cents to \$1.02. Paradoxically, the Pacific Northwest discount under Chicago thus widened materially during the period of purchase, as shown in Chart 26, p. 196.

³ 74 Cong., Public Nos. 320, 440, 461. The language of the act as amended was such as to leave the Secretary very wide discretion.

⁴ Davis, *op. cit.*, pp. 256-59. Costs of milling and distribution appear to have been borne by state relief administrations, as before.

⁵ Report . . . for the Calendar Year 1935, pp. 2, 9.

⁶ Davis, *op. cit.*, pp. 137-38.

⁷ *Northwestern Miller*, Jan. 29, 1936, p. 283. These prices were much below those charged in 1935.

⁸ Revised data on British imports by sources, referred to in Appendix Note C (3), p. 209, presumably furnish the basis for statements that in 1925-26 Canada supplied 53.4 per cent of British imports of wheat, and in 1932-33 practically 50 per cent as in 1935-36. See James McAnsh, cited in *Northwestern Miller*, Dec. 2, 1936, p. 582.

⁹ See *Northwestern Miller*, Nov. 4, 1936, p. 310; and below, p. 187, footnote 1.

wholly of grain, shrank to the smallest annual volume in many years, and amounted to only about 6 per cent of the total imports of wheat and flour. Wheat imports from the USSR amounted to 13.2 million bushels, exceeding those from Argentina as they had in 1930-31 when Russian wheat was shipped so much more heavily. Wheat imports from Rumania, a very erratic source of shipments to Great Britain, were 3.1 million bushels. British imports from the United States continued almost negligible, as in the two or three preceding years; and wheat grain from India, of insignificant amounts since 1930-31, was less than half a million bushels. From various other countries, aggregate imports of grain were 22.1 million bushels, and of flour 1.0 million barrels. Flour imports from France (443,000 barrels) were only about 72 per cent of the average for the six preceding years.

The Irish Free State imported only 15 million bushels net, the smallest total in her separate history, almost all of it in the form of grain. With flour imports virtually prohibited, consumption held in check by high prices, domestic milling and wheat growing vigorously stimulated, and acreage and production rising rapidly, continued shrinkage of imports is in prospect.¹

Of the three countries that formerly were the largest net importers in continental Europe, France and Germany have been discussed on pp. 177-78. Publication of data on Italian trade and stocks was suspended in October 1935, before imports had reached appreciable proportions. Broomhall reported wheat and flour shipments to Italy at 13.9 million bushels, but this figure may not be all-

inclusive. Most of the imports presumably came from Hungary and Rumania (see p. 177), but some came from various other countries. Italy, however, is ordinarily a substantial net exporter of flour (Table XXVII). Of the unpublished total for 1935-36, shipments to Italian possessions presumably accounted for most; for sanctions interfered with flour exports to many countries after mid-November. With no basis for confident estimation, we hazard the guess that net exports of flour were made in such volume as to reduce Italy's net imports of wheat and flour to around 6 million bushels—the lowest in several decades.

Decreases in imports due to relatively large crops occurred in Belgium, Denmark, Norway, and Switzerland, but in all of these cases imports constituted a large fraction of the wheat used for food. The marked shrinkage in Denmark's net imports was due more to contraction of feed-wheat imports (see p. 155). The Netherlands increased her net imports by slightly more than the amount by which her 1935 crop was below that of 1934, but some of the imports were for feed use.

Austria, partly because of a record crop in 1935, had net imports of only 7.1 million bushels, less than half of the average for the decade ending in 1934-35. During the crop year, however, Austria was reported to have determined upon a reorientation of her agricultural policy, with a view to concentrating on the production of those farm products that are favored by the country's physical and economic conditions.²

Czechoslovakia, which in pre-depression years usually ranked above Austria as a net importer, had net imports of only 2.2 million bushels in 1935-36. So far as supplies and utilization were concerned, Czechoslovakia should have been a net exporter; but the grain monopoly had not yet made arrangements to sell for export any of the surplus stocks that it had accumulated (see p. 164).³

Net imports of Greece were slightly larger than in 1934-35, despite a slightly larger crop. There per capita utilization has been well maintained through the depression years; and, as in few other countries, total utilization has risen with little interruption.

¹ See Tables II-IV, XXII, XXVII, and below, p. 199. It may be recalled that a century ago, when the population subsisted heavily on potatoes while Irish grain moved to England under the protection of the Corn Laws, Ireland was a net exporter of wheat. See *WHEAT STUDIES*, July 1933, IX, 308, 310.

² L. V. Steere report in *Foreign Crops and Markets*, March 9, 1936, pp. 284-87.

³ According to Dillner, the monopoly sold in 1935-36 only about one-third as much wheat as it bought; *op. cit.*, pp. 571-74. In the fall of 1936 it has made some sales for feed use abroad, but its chief reliance has been on compelling mills to buy stipulated quotas of old wheat. See also *World Wheat Prospects*, Mar. 31, 1936, p. 13, and *Foreign Crops and Markets*, Aug. 26, 1936, pp. 240-41.

Ex-Europe.—Exports of wheat and flour to ex-Europe, exclusive of the United States, were the smallest in at least a decade. Broomhall's totals, in terms of shipments, came to only 102 million bushels; this is the lowest since 1924-25, and may be compared with record shipments of 225 million in 1928-29 and with 122 million in 1933-34 (see Table XX and Chart 13, p. 172). Shipments to China and Japan were the lowest in many years. Shipments to Central America, the West Indies, the East Indies, etc., were but little larger than the very low total for 1934-35. Shipments to Egypt, consisting chiefly of flour exported from Australia and the United States, were the equivalent of only 2.6 million bushels, the smallest in years; and Egypt's net imports were negligible (Table XXII).

Reported shipments to *Brazil* were slightly larger than in 1934-35, and the largest on record, but net imports were probably not so high as in 1928-29.¹ Almost the whole of the imports came from Argentina, whose exports to Brazil in July-June 1935-36 set a new high record, at 32.2 million bushels. Flour imports, equivalent to only a little over 2 million bushels, were less than one-fourth as much as in several pre-depression years. Before the year was over, however, complaints of high prices of flour had led to agitation against the "milling trust"; and Rio Grande do Sul, the only Brazilian state now producing wheat, set on foot a new campaign to expand domestic wheat growing.

Cuba has gradually increased her imports of flour from the low point reached in 1932-33, but by no means to the pre-depression level (Table XXII). The slight increase in the preference to the United States as to the import duty and consumption sales tax, under the reciprocal trade agreement, probably con-

tributed less to this enlargement of flour purchases than increased buying power in Cuba following the adoption of the AAA sugar-quota system in 1934. The elimination of the consumption tax, which was promised under the agreement and took effect on September 3, 1936, may have more influence.

The Far East.—For the past three July-June crop years, Oriental net imports of wheat and flour from outside sources are reported by the Shanghai office of the Bureau of Agricultural Economics,² in million bushels as follows (with forecast for 1936-37):

Year	Total	Japan (wheat)	China (wheat)	China (flour)	Man- churia (flour)
1933-34	44.2	16.5	20.0	3.4	4.3
1934-35	50.0	17.9	17.4	3.5	11.2
1935-36	28.7	13.7	7.0	2.0	6.0
1936-37 (forecast) ..	18.2	13.0	3.0	1.2	1.0

The sharp reduction in 1935-36 as compared with the preceding year, the effect of which was felt predominantly by Australia, was largely attributable to larger crops of wheat and other grains in Manchukuo and to reduced import purchases by China owing to conditions discussed below (p. 185). Japan has virtually attained self-sufficiency in wheat, though she continues to import wheat to mill into flour for shipment to the Asiatic continent.³ Lower Japanese wheat imports in 1935-36 are explained chiefly by reduced demand for flour in South Manchuria.

The net figures given in the foregoing tabulation ignore the substantial amount of trade of these three countries within the Orient itself. Japan ships flour in large amounts into Kwantung and South Manchuria, to Chosen and Taiwan within the Empire, and smaller quantities to China. North Manchuria in 1935-36 shipped up toward a million bushels of wheat to Japan. Chinese flour shipments to South Manchuria have radically shrunk but not entirely vanished, since the north-eastern provinces have come under Japanese domination.⁴ Net imports of Japan, Manchukuo, and China from all sources (exclusive of Japanese trade with Chosen and Taiwan), as given in Table XXII, are therefore different from the figures in the tabulation above.

¹ Compare Tables XX and XXII. Net import data for July-June 1935-36 are not yet available.

² *Foreign Crops and Markets*, Oct. 12, 1936, p. 425.

³ See C. L. Alsberg, "Japanese Self-Sufficiency in Wheat," *WHEAT STUDIES*, November 1935, XII, 57-100.

⁴ Chinese flour exports to Manchuria in July-June 1935-36 were 42,000 barrels as compared with 447,000 in the calendar year 1933. *Foreign Crops and Markets*, Jan. 13, 1936, p. 47, Oct. 12, 1936, pp. 426-27. See also data cited in *WHEAT STUDIES*, December 1935, XII, 134, footnote 1.

Official statistics for *Japan* show net imports of 4.8 million bushels. A little of the increase, as compared with the three preceding years, however, is due to the recent inclusion of flour imported in bond (chiefly from Canada) for manufacture into food products for export.¹ When trade with Chosen and Taiwan can be taken into the reckoning, it will probably appear that Japan's trade balance in wheat was very small in 1935-36, and perhaps a net export as in the year or two preceding. Of Japan's wheat imports, about 11 million bushels were exported from Australia and only 3.77 million from Canada. The latter might have been larger but for retaliatory actions operative until the end of 1935.²

Data for *Manchukuo* show net imports in the past three crop years of 23.6, 31.0, and 14.5 million bushels respectively. The marked decline in flour imports in 1935-36 was due to several factors: a fair crop of wheat of high quality; a record crop of rice and good crops of other food grains (kaoliang, millet, and

maize); and higher prices of imported flour.³ Domestic mills had the largest flour production in five years.

Official statistics for *China* show net imports of 6 million bushels of wheat, and flour equivalent to 2 million bushels. (To these, *net* imports of flour into Hong Kong should properly be added.) Calendar-year data from 1921 show that wheat-grain imports reached their peak in 1931, at 50.6 million bushels; of this, 33.1 million came from Australia, 9.1 million from the United States, and 7.4 million from Canada.⁴ For recent August-July crop years the imports of wheat grain by principal sources have been as follows in million bushels:

Year	Total	United States	Canada	Australia	Argentina ^a
1932-33.....	44.0	.27	7.70	34.26	1.78
1933-34.....	18.5	10.87 ^b	.40	1.56	5.64
1934-35.....	18.2	.99 ^b	.04	13.23	3.90
1935-36.....	5.6	.00	.12	5.52	.00

^a Monthly data show imports from Argentina in April 1932, in most months from May 1933 to May 1934, and in January-June 1935.

^b Chiefly imported under the Sino-American loan. See *WHEAT STUDIES*, August 1934, X, 398-406, 426; and J. S. Davis, *Wheat and the AAA*, chapter ix.

¹ *Commercial Intelligence Journal*, Sept. 19, 1936, p. 577.

² From July 20, 1935, Japan raised by 50 per cent her duties on Canadian wheat, flour, and other products, and Canada retaliated by raising duties on Japanese goods. These "surtaxes" were canceled January 1, 1936, when a fresh understanding had been reached under which Canada agreed to value imports of competitive products at a fixed rate of 39.5 cents per yen and other imports at current exchange rates. See *Commerce Reports*, July 27, Aug. 10, 1935, and Jan. 18, 1936, pp. 39, 51-52.

³ See p. 159, footnote 2; *Corn Trade News*, Jan. 8, 1936; and *Milling*, Sept. 26, 1936, p. 274.

Officials of the new state are said to be eager to increase the wheat acreage, presumably chiefly in North Manchuria, to 5.7 million acres (see Table III).

⁴ See the excellent article in *Commercial Intelligence Journal*, Oct. 10, 1936, pp. 678-82. From Australia and the United States these were record figures, but 9.4 million had come from Canada in 1929. Imports into Manchuria, included up to 1931 but not thereafter, were never important.

⁵ Cf. U.S. Department of Agriculture press release 550-37, Oct. 3, 1936. The same release puts the 1936 crop at 790 million bushels.

⁶ On the relative unimportance of size of the domestic crop as compared with other factors influencing trends and fluctuations in net imports, see Friedrich Otte, "Correlation of Harvests with Importation of Cereals in China," *Chinese Economic Journal*, October 1934, XV, 388-414.

⁷ E. Kann, "China in 1935—An Economic Review," *Chinese Economic Journal*, April 1936, XVIII, 502-3, 510.

The 1935 wheat crop in China was relatively small. Revised official estimates put it at 783 million bushels compared with a 1931-34 average of 821 million (Table VIII). The United States Department of Agriculture representative in China put it at 720 million bushels compared with a 1931-34 average of 780 million.⁵ In spite of the small crop, China's imports and net imports of wheat and flour were the smallest since 1929-30.⁶

General economic conditions in China, though improved after the new currency was established in November 1935,⁷ were unfavorable to large imports. The rice crop was large, and crops of kaoliang and millet were good in the north; and domestic wheat was relatively dear for farmers to eat. Facilities for internal transport were better than in other recent years. Prices of wheat and flour were higher in world markets, and particularly in Australia and Japan, and the currency change made them still higher in Chinese currency. Tension with Japan was considerable, and

Japan's military sphere of influence was extended in North China. Smuggling and other illicit entry of goods through North China especially grew to scandalous proportions; but in this trade flour figured little and wheat probably not at all.¹

THE FLOUR TRADE

The shrinkage of international trade in flour, which has persisted since 1929-30 with but one year's interruption, continued in 1935-36 (Table XXVII). In terms of aggregate net exports of countries that were net exporters of flour, the totals for recent years compare as follows, in million barrels:

1921-22 32.6	1926-27 35.8	1931-32 29.4
1922-23 35.7	1927-28 34.3	1932-33 26.6
1923-24 46.4	1928-29 42.0	1933-34 27.2
1924-25 41.0	1929-30 35.3	1934-35 26.4
1925-26 35.7	1930-31 34.5	1935-36 23.4

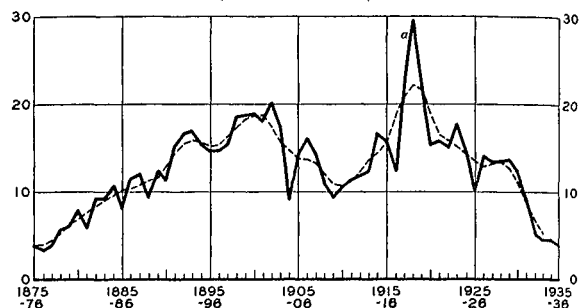
Absence of official data for Italy after September 1935 makes the 1935-36 total more than usually inexact. We have tentatively included an allowance of 1.5 million barrels for net exports from Italy, but have no satisfactory basis for making any estimate. In any case, it seems safe to say that the volume of international trade in flour fell in 1935-36 below the postwar low figure of 25.1 million barrels in 1920-21, and to something like one-half of the postwar peak total of 1923-24.

For the first year since 1909-10, net exports of flour by the four chief wheat exporters were under 16 million barrels. The United States alone has exported more than this in several past crop years, most recently in 1923-24; but in 1935-36 net exports of flour milled in the United States (including shipments to possessions) fell below 4 million barrels. As Chart 19 shows, this was less than a third as large as the annual movement in several pre-depression years, and the lowest point that has been touched in nearly six decades. As in the three preceding years, the

great bulk of United States flour exports was milled in bond from Canadian wheat.

Even the Pacific Northwest was practically out of the export market. In 1932-33, when wheat and flour exports from the region were extremely low, shipments to the Philippines

CHART 19.—UNITED STATES NET EXPORTS OF FLOUR, ANNUALLY FROM 1875-76*
(Million barrels)



* Chiefly official data for July-June years, including shipments to Alaska, Hawaii, and Puerto Rico; see Table XXVIII and WHEAT STUDIES, December 1927, IV, 101.

^a For 1917-18 and 1918-19, shipments to the A.E.F., A.R.C., and relief organizations are added to export totals.

(all flour) and to other foreign countries represented the equivalents of 2.5 and 6.2 million bushels respectively. In 1935-36 the corresponding figures (at least seven-eighths flour) were 1.0 and .6 million.²

The influence of the export subsidy on flour to the Philippines may be reflected, in the lower section of Chart 20, in the higher levels of United States exports from November 1933 through September 1934,³ and in lesser degree in the levels of March-June 1936 (see p. 180). For the crop year 1935-36, however, these exports were the smallest for any crop year since 1921-22. The upper section of the chart shows that, in recent years of higher wheat prices in the United States, and in spite of the duty of 42 cents a barrel on flour other than American, increasing fractions of the Philippine flour imports have been supplied by Canadian, Australian, and Japanese mills. In the first six months of 1936 the percentage imported from the United States (21.5 per cent) was even smaller than in the calendar year 1935 (34.5 per cent).

For the calendar year 1935, Canadian exports of flour were the smallest since 1911. For the crop year 1935-36 they were a little

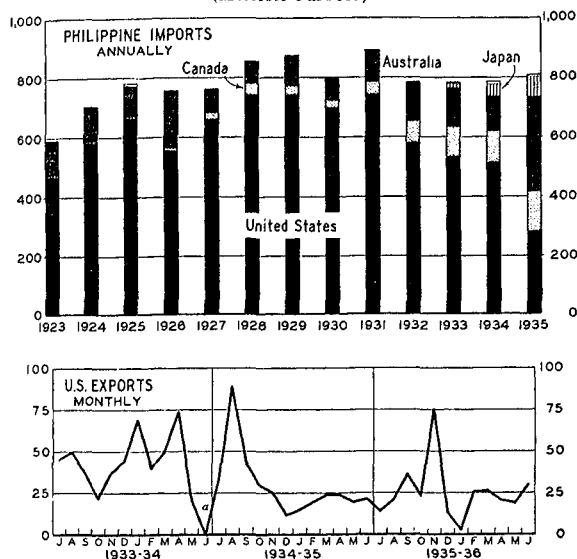
¹ For example, see "Trade of Tientsin, January to June," *Commercial Intelligence Journal*, Oct. 17, 1936, pp. 747-48, and *ibid.*, July 25, 1936, p. 147.

² Data of the *Commercial Review* (Portland, Ore.), published through 1933-34 in J. S. Davis, "Pacific Northwest Wheat Problems and the Export Subsidy," WHEAT STUDIES, August 1934, X, 421.

³ The irregularities were due mainly to the port strike begun on May 9, 1934. *Ibid.*, pp. 391-412.

larger, increasing from 1934–35 by nearly as much as those of the United States declined, but did not reach 5 million barrels. Argentina's fell below 1 million barrels for the third time in five years.

CHART 20.—PHILIPPINE FLOUR IMPORTS, ANNUALLY 1923–35, AND UNITED STATES FLOUR EXPORTS TO THE PHILIPPINES, MONTHLY FROM JULY 1933*
(Million barrels)



* Official data.

^a Drop in exports due to port strike.

Australia continued to rank first among world net exporters of flour, as she had for the three years preceding. This she did in spite of a reduction in her exports to 6.2 million barrels from the peak of 7.3 million in 1934–35.¹ The outstanding reductions were

¹ Australian mills endeavor to operate continuously on three shifts. To get the advantage of the resulting economies, they quote flour for export considerably under prices for domestic consumption, apart from the flour tax that is applicable only to sales for use in Australia. The trade is concerned over reductions in flour exports, lest they bring higher milling costs, higher domestic prices, and reduced consumption in Australia. See *Milling* (Liverpool), Aug. 8, 1936, p. 148, quoting the *Australasian Bakers' and Millers' Journal*.

² *Quarterly Summary of Australian Statistics*, June 1936, p. 42.

³ *Northwestern Miller*, Feb. 19, 1936, p. 494.

⁴ Gross imports of flour, such as are shown in Table XXIV, were much lower than the average for recent years, and were materially exceeded in four years out of the past eight.

in exports to the Kwantung Peninsula (Dairen) and Manchuria, which in 1934–35 had taken more than twice as much Australian flour as went to the United Kingdom. This reduction was due to economic forces rather than to trade restrictions that have recently been in force (see p. 176). Australian exports to China (mostly to or via Hong Kong), British Malaya, India and Ceylon, Egypt, and Canada also declined. Such reductions in the aggregate more than offset a substantial increase in exports to the United Kingdom and relatively large increases in exports to the Philippines, Siam, Malta, the Sudan, and various other British and foreign countries or their colonies.²

Hungary, formerly an important flour exporter, increased her exports during the year to 637,000 barrels, but this was only a fraction of her usual net exports in pre-depression years. Yugoslavia exported only trifling quantities, and Rumania and Bulgaria practically none. Algeria, Tunis, and Morocco combined had net exports of less than Hungary.

From 1929–30 to 1932–33, the largest European net exporter of flour was France; in 1935–36 her net exports registered a further decline from their peak in 1930–31, to only 1 million barrels. Italy, which had increased her net exports during the depression, probably suffered some setback in this trade because of economic sanctions in 1935–36. Poland, in recent years a small net exporter of flour, showed a marked increase in net exports to 1.1 million barrels, a new record.

Japan's net exports to foreign countries fell below 2 million barrels for the first time since 1931–32, primarily because China took little and Manchukuo much less than in either of the two preceding years. To the extent of over a million bushels, Russian exports of wheat grain were offset by imports of flour, mainly into Siberia; in 1935–36 the bulk of this came not from Australia but from Japan, since flour is among the commodities that the USSR is accepting in part payment for the Chinese Eastern Railway.³

Among net importers of flour, the United Kingdom net imports rose to a figure above the average for recent years;⁴ but with Irish Free State takings now almost nil, net im-

ports of the British Isles were lower than in any recent year except 1934-35. The Netherlands also increased her net imports of flour, to the highest point since her wheat control policy was inaugurated—for which the reciprocal trade agreement with the United States was partly responsible (see p. 171); but her net imports were still very small compared with those prior to 1931-32. Almost all other European flour-importing countries showed further shrinkage in their net imports.

The most striking decline in net imports of flour was that of Manchukuo, which took only 3.3 million barrels as compared with peak imports of twice this amount in 1934-35. This decline was severely felt by Japa-

nese and Australian millers. Chinese net imports of flour also declined, to under 400,000 barrels for the first time in several years. Segregation of the Chinese flour imports by sources is difficult because much of it is initially imported into Hong Kong, and is entered in Chinese trade statistics as imported from there. Flour exports from Japan, Australia, Canada, and the United States in July-June 1935-36 to China, Hong Kong, Manchuria, and the Kwantung Peninsula were the equivalent of about 4.18 million barrels; of this Japan exported 2.25 million, Australia 1.65 million, and Canada .23 million.¹ The great bulk of this flour went to Manchuria and Kwantung.

VI. PRICES AND PRICE SPREADS

Wheat price developments in 1935-36, as in earlier depression years, were so diverse as to render futile any attempt to discuss them in simple terms. Even to the broad statement that prices averaged higher than in the year preceding, there are significant exceptions. It continues unsafe to employ any one currency unit for expressing wheat prices quoted in various currencies; for an integrated world system of national currencies has not yet been re-established, despite some further steps toward currency stabilization (including those in the fall of 1936). In the United States and Canada, prices of different types and grades of wheats diverged widely in 1935-36. Prices followed notably different courses in the different countries, and there were in consequence some noteworthy changes in price spreads. Prices of export wheats from different countries, however, differed less than in several recent years.

The complexity of the wheat price situation is sufficiently revealed by the curves in Chart 21 for five highly significant cash price series, monthly over the past three crop years. For these series, conversions into American currency give rise to only minor distortions in the picture, especially since early in 1934. For 1935-36, the most striking features are the reduction of the earlier gaps between Winnipeg and Melbourne prices, and between Chicago and Liverpool prices, and the extreme

advance of Buenos Aires prices to a level for a time above British parcels prices.

WHEAT PRICE LEVELS

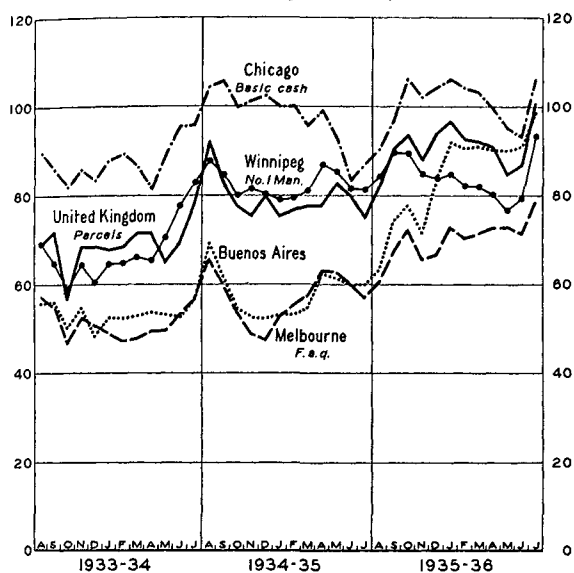
The extreme diversity of wheat price levels and changes in level is illustrated by averages for the year given in Table XXXIII and XXXIV. In terms of United States currency, Australian f.a.q. wheat averaged 70 cents a bushel in Melbourne; the weighted average price of Canadian wheat in Winnipeg was 74 cents, while that for No. 1 Manitoba Northern was 84 cents; the average price of parcels imported into the United Kingdom was 91 cents; the basic cash price at Chicago averaged 99 cents. The average price was \$1.59 in Paris, \$2.25 in Berlin, \$2.49 in Milan.

The basic cash price in Chicago averaged one cent higher than in the preceding year. Grade for grade, prices were generally higher east of the Rockies, except that durum wheats were by no means so dear as in 1934-35. Owing to the heavy proportion of low-grade wheat, however, the weighted average price of all classes and grades (at leading markets east of the Rockies) was only \$1.00 compared with \$1.09 in 1934-35. In both years, prices in the United States were substantially sup-

¹ We are this year omitting the table in which such data were formerly carried (Table XXIV in the preceding "Review"), preferring to cover the points otherwise and to use the space for other material.

ported by the unusually effective high tariff, but the duty-paid price of Canadian wheat provided a sort of variable "ceiling" that limited the extent to which domestic prices could rise (see below, p. 195).

CHART 21.—SIGNIFICANT CASH PRICE SERIES, MONTHLY FROM AUGUST 1933*
(U.S. cents per bushel)

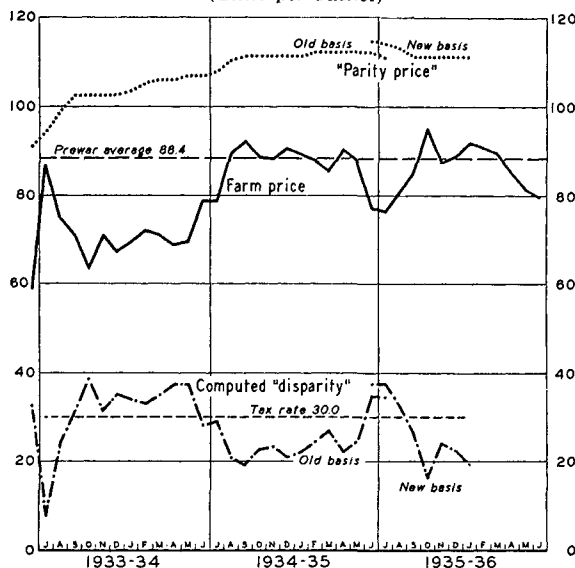


* Data for 1935-36 in Tables XXXIII and XXXIV; others in corresponding tables of previous issues of this "Review." In March-May 1935, parcels of French denatured wheat were excluded in computing prices of British parcels.

As shown by Chart 22, the monthly average farm price in the United States fluctuated around the prewar average, much as in 1934-35. "Parity prices" of wheat are shown from June 1935 on the revised basis of calculation prescribed in amendments to the Adjustment Act adopted on August 26. Despite variations in the computed "price disparity," the processing tax rate was held constant at 30 cents per bushel until it was thrown out by the Supreme Court decision of January 6, 1936.¹ The weighted average farm price for 1935-36 was 82.6 cents, as compared with 83.9 cents for 1934-35; both were thus appreciably below the 5-year prewar average of 88.4 cents. It is impressive that, with the country on an import basis after three short crops, the average farm price of wheat was no higher than it was, and that it remained so far below what was computed under the law to be the "fair exchange value."²

In Canada, prices of the leading grades of spring wheat in Winnipeg averaged slightly higher in 1935-36 than in 1934-35. But so considerable were the discounts on so large a volume of low-grade wheats, that the weighted

CHART 22.—UNITED STATES FARM PRICE OF WHEAT COMPARED WITH "PARITY PRICES," MONTHLY FROM JUNE 1933*
(Cents per bushel)



* Data of Bureau of Agricultural Economics. Figures for June 1933 are inserted because the processing tax rate was initially fixed on preliminary data for that date.

average price in Winnipeg was 4 cents lower than in 1934-35.³

In Australia, owing to a moderate crop of excellent quality, and the scarcity of competing soft wheats on international markets, the Melbourne price averaged 70 cents a bushel as compared with 57 cents in 1934-35.⁴ In Ar-

¹ See p. 156, footnote 1.

² The present writer's commentary, at a little earlier stage, appears in J. S. Davis, *Wheat and the AAA*, pp. 433-38. For criticisms of his position, see O. C. Stine's review of this book in *Agricultural Economics Literature*, November 1936, X, 753-60.

³ Similar divergences can be observed in several pre-depression years when low-grade wheats likewise constituted a large proportion of the crop. Compare relevant data in Table XXXIII with those in Table IX and corresponding tables in our previous "Reviews."

⁴ The official *Monthly Summary of the Wheat Situation*, October 1936, gives a monthly series for 1930-36 described as "weighted average of shippers' limits for growers' bagged lots, Sydney, Melbourne, and Adelaide." August-July averages for the last three years come to 31.1d., 35.0d., and 42.4d. per bushel, respectively. In August 1936 the average was 55.2d.

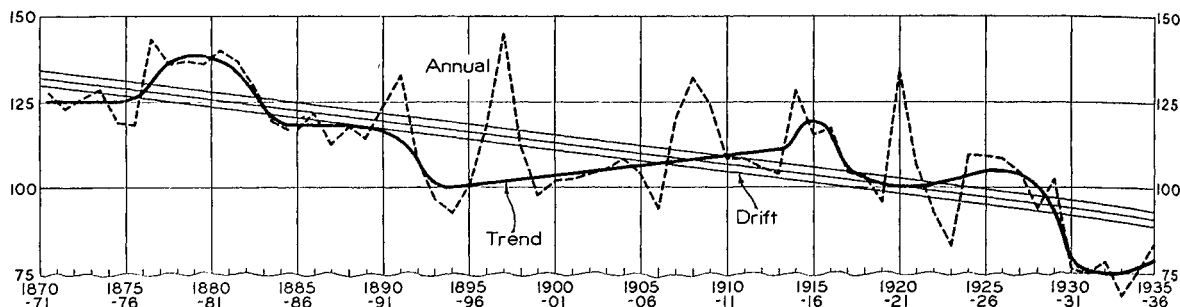
gentina, owing first to prospects for a short domestic crop, and then to the setting of a high guaranteed price (some 90 cents a bushel), Buenos Aires prices of standard wheat averaged 84 cents a bushel as compared with

most (through December 1935, since they were not quoted thereafter).

The "deflated" price of British import wheat was 83.5 cents in 1935-36, as compared with 75.6 cents in 1934-35 (Chart 23). This was

CHART 23.—DEFLATED PRICES OF BRITISH IMPORT WHEAT, ANNUALLY FROM 1870-71*

(U.S. cents per bushel, 1910-14 basis)



* Averages of monthly data for calendar years 1870-85, and for August-July years from 1885-86. Price averages in sterling are divided by corresponding averages of the Sauerbeck-Statist index of wholesale commodity prices expressed in terms of its average for 1910-14. The results are converted to U.S. currency at \$4.8665 to the dollar. For some discussion, see *WHEAT STUDIES*, December 1935, XII, 146-47.

58 cents in 1934-35. These were striking advances.

Prices of wheat imported into the United Kingdom, by far the greatest international wheat market, averaged about 14 per cent higher in 1935-36 than in the preceding year. Here was reflected the greater relative tightness of the international wheat position. Parcels averaged about 91 cents a bushel, United States currency, as compared with 80 cents the year before and 69 cents in 1933-34.¹ Expressed in terms of pre-devaluation gold cents, the corresponding figures are 54, 47, and 43 cents respectively.² Among the principal wheats imported into the United Kingdom, Canadian wheats rose least in price, Australian considerably more,³ and Argentine the

the highest crop-year average since 1929-30, but 22 per cent below the 4-year prewar average of \$1.07. In other words, in terms of other commodities used in a standard British price index, British import wheats were much less cheap than in the five preceding years. Viewed in longer perspective, however, they were still cheap.

Prices of domestic wheat in Great Britain averaged 81 cents a bushel in 1935-36, as compared with 66 cents in 1934-35. In the earlier year, these prices were relatively depressed by the marketing of an exceptionally large supply, a large portion of which was diverted to feed use. In the later year both crop and marketings were somewhat smaller, but apparently a larger proportion was used for milling. The relative abundance of cheap imported feedstuffs, and the relative scarcity of soft wheats in the imports, both contributed to this result.

Prices of French wheat in Paris averaged nearly double the average price of British wheat, yet slightly lower than in 1934-35 and far below the 1933-34 average. These differences arose more from changes in government measures than from the ordinary play of supply and demand. The year 1933-34 was one of huge surplus, from carryover and crop; yet

¹ Parcels are mostly quoted for delivery in the United Kingdom at a later date. Through most of 1935-36 deferred deliveries were quoted at discounts under spot wheat, whereas in 1934-35 they had commonly sold at premiums over spots.

² During four weeks in August 1936, but not until then, British parcels averaged 63 cents gold or higher. The significance of this figure, in connection with the moribund International Wheat Agreement, was discussed in last year's "Review," *WHEAT STUDIES*, XII, 144-45.

³ Between July 1935 and July 1936 Australian wheat rose by 26 cents, whereas No. 3 Manitoba rose by 21 cents; see Table XXXIV.

prices were held at a high level by government action. Surplus characterized 1934-35 also, but extensive diversion operations were accompanied by lower prices from January 1935 onward. In 1935-36, with a reduced carry-over and much smaller crop, prices were allowed to continue low until, during the winter, they rose considerably under the influence of dark prospects for the 1936 domestic crop and developing plans for a new control system.

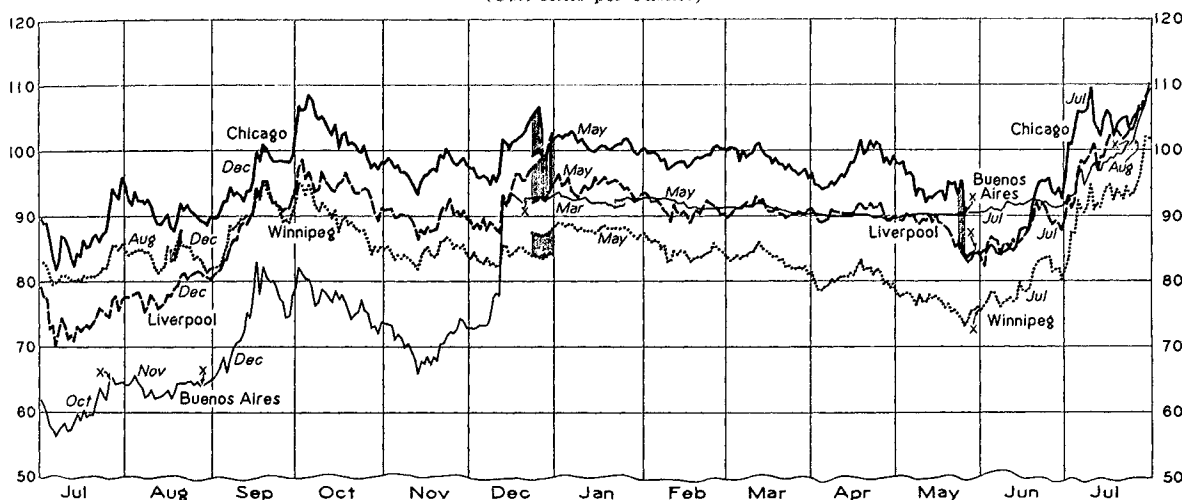
In Italy, on the contrary, domestic wheat

Those examples, and the ones already given, amply reveal the obstacles that one encounters in dealing with "world wheat prices."

COURSE OF FUTURES PRICES

Daily closing prices of leading futures in four outstanding futures markets, in the several national currencies, are shown in Chart 29 at the end of this issue; and certain leading futures, converted to United States cents per bushel, are shown in Chart 24. These afford

CHART 24.—DAILY CLOSING PRICES OF SELECTED WHEAT FUTURES IN LEADING MARKETS, 1935-36*
(U.S. cents per bushel)



* See footnote under Chart 29 on the last page of this issue. Shadings indicate spreads between overlapping futures in the same market, and a cross indicates a break between two succeeding futures in the same market where an overlap could not be shown without giving rise to confusion.

prices averaged nearly \$2.50 per bushel, the highest in several years (in terms of pre-devaluation gold cents \$1.48, the highest since 1931-32) and practically the highest in Europe. Though Italy had in 1935 a near-record crop, roughly equal to her usual domestic requirements in recent years, prices were kept high in a thoroughly regulated marketing system, with imports limited by domestic policy even more than by international sanctions.

In Germany, the fixed-price rising-scale system instituted in 1934-35 was retained with changes that had little influence on the average price for the season (about \$2.25 for a representative district near Berlin).

Below, in discussing returns to wheat growers (pp. 198-200), reference is made to wheat prices in several other European countries.

the basis for a condensed discussion of the principal influences that affected the course of world wheat prices from July 1935 through July 1936.¹

The most striking price advance (except in Buenos Aires) occurred in June-July 1936, largely in consequence of extreme deterioration in prospects for 1936 harvests of North American spring wheat. In these two months July futures rose over 25 cents a bushel in Winnipeg, Chicago, and Liverpool, while Buenos Aires futures advanced nearly 20 cents to considerably above the "board buying price." This advance abruptly reversed an irregularly declining trend, here reflected in the curves for May futures (except in Buenos

¹ More detailed discussions of price developments can be found in our "Surveys" covering the period.

Aires), that had extended from early in January. This long downward drift occurred largely in response to pressure of Canadian wheat on import markets, plus delayed recognition of the fact that total import takings for the year would fall considerably short of early estimates of import requirements. Prospects for good 1936 crops in North America, eventually disappointed, were contributing factors particularly from mid-April to late May.

A few of the changes in the course of prices during the last half of 1935 call for additional comment. Futures prices broke sharply in early July 1935, in response to fears that export pressure from Canada would shortly follow passage of the act providing for appointment of a Wheat Board. The Winnipeg market reacted least, since the outlook was better understood there and the government Agency could exercise a supporting influence. Details of its operations during this period are not available; but there are grounds for thinking that such support may have been provided as on numerous earlier occasions.

Irregular subsequent advances in futures prices extended over the next three months, culminating early in October. These represented responses to the most bullish wheat developments since 1924-25. The net advance from trough to peak exceeded 25 cents a bushel in all four markets except Winnipeg. Considering the magnitude of changes in crop prospects, however, the price response was remarkably moderate. Within these three months there occurred in North America the worst rust epidemic in a generation, which converted brilliant prospects for spring wheat crops into inferior ones, and changed the United States from a net-export status to that of a net importer; in Argentina continued drought led to increasing certainty of an extremely short crop there, while in Australia there was increasing assurance of a small crop. The net result was to change the international wheat position from one of prospective surplus to one of relatively greater scarcity than in any year since 1926-27.

The opening of the Italian campaign in Ethiopia early in October may have contributed to the timing and height of the price peak in the early autumn; but neither that

campaign, nor the international tensions that preceded and accompanied it, exerted more than local and temporary influence on wheat prices.

The peaks reached early in October 1935 were, except in Liverpool (in December) and in Buenos Aires, the highest until disasters overtook growing crops in July 1936. From the October highs, prices receded until November 13, losing about half of the previous gains in Chicago and Liverpool and more than half in Winnipeg and Buenos Aires. This decline was in part merely a typical reaction from a strong price advance. Contributing factors were improving prospects for the Argentine crop, and in lesser degree the Australian, and indications of stocks of old-crop wheat in Argentina in excess of trade appraisals. Alleviation of fears that a general war might soon break out in Europe, and some resurgence of fears of export pressure from Canada, appear to have contributed.

The six-weeks decline was checked on November 13 by the release (after close of the market November 12) of the second official estimate of the Canadian crop, which was 17 million bushels below the September estimate. Following this, import demand picked up as Argentine crop prospects again deteriorated. Except in Buenos Aires, this mid-November advance was largely canceled by December 12, as the joint result of several minor bearish influences which offset Argentine crop news.

On December 12, after the markets closed, the Argentine government made its startling announcement of a standing offer for new-crop wheat of 10 pesos per quintal, f.o.r. (on railway cars) Buenos Aires, for grain of specified type and quality, with differentials for other qualities and positions. The earlier minimum (5.75 pesos) had been too far below the market to exert any influence in 1935. The new minimum was then equivalent to 89 cents a bushel, or about 16 cents above the prices of December futures in the first week of the month, and 11 cents above the higher level to which they had risen shortly before the announcement. This move was correctly interpreted to mean that, for weeks or months ahead, Argentine wheat would be practically unavailable for overseas shipment. The im-

mediate response was a more than corresponding advance in Buenos Aires futures, and advances of several cents a bushel in the other three futures markets—most in Chicago and least in Winnipeg. It subsequently contributed to exceptional tightness in December futures in Liverpool and Chicago, which forced their prices and cash wheat upward out of line with May futures. In Winnipeg, the “new” Wheat Board, as reconstituted early in December, sold freely enough to avert real tightness; for this it was roundly attacked by critics who considered that the board should have taken advantage of Canada’s semi-monopoly position to boost prices (see p. 168).

FUTURES PRICE SPREADS¹

Liverpool spreads.—Existence of a wheat surplus tends to be reflected in a more or less regular system of positive “carrying charges” among prices of futures, prices of the more distant futures tending to be substantially above those of the nearer futures. When wheat supplies are only moderate in amount, there tend to exist small positive carrying charges between futures calling for delivery during months prior to appearance of substantial quantities of new-crop wheat in the market, but moderate discounts on new-crop futures. When supplies are markedly scarce, new-crop futures appear at large discounts under old-crop futures (or old-crop at large premiums over new-crop), and there may even appear substantial “inverse” carrying charges between old-crop futures.

In Liverpool, where the international situation is most clearly reflected, positive carrying charges among futures prices prevailed almost continuously from February 1928 to July 1935. The crop year 1935–36 witnessed the first important reversal of this situation in more than seven years. The first clear indication that there was no longer a substantial wheat surplus in the international wheat market appeared in late May 1935, when spreads among the July, October, and December futures in Liverpool narrowed sharply.² In mid-July,

with deteriorating prospects for the new crops, October wheat went to a small premium (1 or 2 cents) over the December and March futures, although December wheat developed no appreciable premium over the March until the end of August (see Chart 29, p. 232).

In September inter-option price relations in Liverpool gave evidence of anticipation of marked shortage of supplies. As wheat prices rose during the month, the Liverpool October future went to a premium of 5 to 6 cents over the December, and the December to a premium of about 4 cents over the March. The price of the May future, when trading began in mid-October, was slightly under that of the March.

The next important change in inter-option price relations in Liverpool occurred in late December and early January. May and July wheat then went to a discount of nearly 4 cents under the March, reflecting the developing opinion that wheat supplies from the Southern Hemisphere would prove inadequate to make the supply position easy. The setting of a high minimum price on Argentine wheat—too high to permit further purchases for import into Europe—was doubtless the prime influence behind this change.

About the first of February, however, evidence began to appear of a sharp reversal of opinion on the adequacy of near-by supplies. July wheat went to a premium over May wheat, and soon thereafter May went to a premium over March. By the end of February these premiums had reached figures such as had prevailed during the previous years of heavy surplus. This relationship was not consistently maintained during subsequent weeks, and in general reflected a condition regarded as only temporary; the most distant future never carried a significant premium over the preceding delivery month.

In early May the carrying charges disappeared again. During May–July the inter-option relationship reflected adequacy of available supplies without immediate surplus. In July, after trading in March wheat began, the March future sold at 3 to 4 cents under the December—a relation similar to that reached at the end of the previous September—but December wheat continued at a discount of

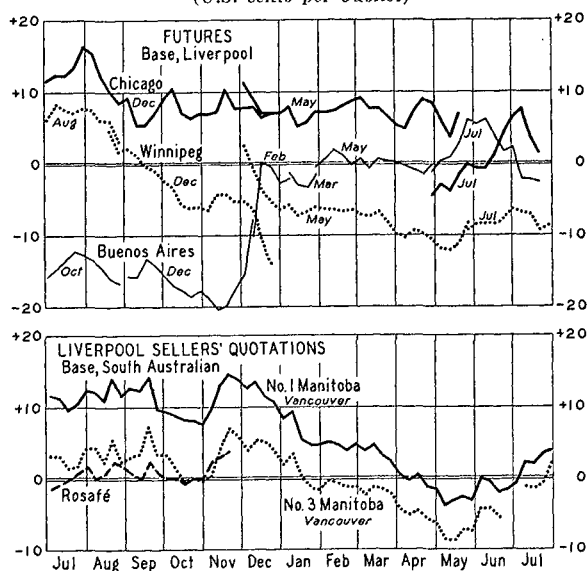
¹ Most of this subsection has been written by Holbrook Working or rests largely on his analysis.

² See last year’s “Review,” *WHEAT STUDIES*, December 1935, XII, 182.

only about 1 cent under October. There was thus reflected an opinion of the prospective 1936-37 shortage similar to that held for 1935-36 at the end of the previous September, but an appraisal of the immediate cash position as considerably easier than it had been early in 1935-36.

Inter-market spreads.—The upper section of Chart 25 shows the weekly average spreads of selected prices of particular futures in Chi-

CHART 25.—SIGNIFICANT WHEAT PRICE SPREADS, WEEKLY, 1935-36*
(U.S. cents per bushel)



* Futures spreads are computed from weekly averages of data plotted in Chart 24, using Liverpool December, May, and October futures as successive bases. Cash spreads are computed from Tuesday and Friday sellers' quotations in *London Grain, Seed and Oil Reporter*, using South Australian as the base. On ex-Empire wheats, the duty (about 6 cents) is first added to the reported quotations.

cago, Winnipeg, and Buenos Aires from similar averages for the corresponding futures in Liverpool. The same spreads are less clearly shown, on a daily basis, by spaces of varying widths in Chart 24 (p. 191).

The most significant fact revealed by this chart is the shift in the Winnipeg-Liverpool spread. Through most of 1934-35, Winnipeg futures had fluctuated well above Liverpool futures, and this premium held till well into August 1935, when it declined. By mid-October Winnipeg was around 6 cents under Liverpool; for the near futures the discount remained at about this figure until March.

For much of April-May the discount was several cents greater, but as new-crop prospects deteriorated it diminished again toward the close of the season.

These readjustments in price relationships were requisite for Canadian exports to be heavy. The changes reflected several sorts of price changes (see Chart 24): strength in Liverpool that Winnipeg did not fully share, as in several weeks in August-September 1935; weakness in Winnipeg not fully shared by Liverpool, as in several weeks following; more or less independent weakness of Winnipeg, in the spring of 1936; weakness of Liverpool not fully shared in Winnipeg, as late in May; and strength in Winnipeg not fully shared in Liverpool, as late in June.

Even more striking, though by no means so significant, was the shift in Buenos Aires futures from a substantial discount under Liverpool until early December, to a position not far above or below Liverpool through most of the rest of the crop year. This change was far greater than was justified by the bad crop prospects that were maturing in Argentina, fluctuations in which were somewhat reflected in the variations in the discount in September-November. The sharp advance in the relative position of the Buenos Aires future in December was directly attributable to the action of the Grain Regulating Board, in fixing a high offering price for cash purchases. This price supported Buenos Aires futures well above levels that they would otherwise have followed. In the absence of this factor, the discount would doubtless have narrowed considerably as the year progressed, but more gradually—whether by more or less, in the end, it is difficult to say. The premium of Buenos Aires over Liverpool in a few weeks around June 1 was due to special weakness in Liverpool that the Buenos Aires future could not follow; and the discount after mid-July was due to Liverpool strength that Buenos Aires prices followed only in part.

Chicago near futures stood at a premium over Liverpool throughout the year, reflecting the fact that United States wheat east of the Rockies was continually well above an export basis. The premium, however, was much less than it was in most of the preceding

year, when United States imports of representative wheats were much smaller than in 1935-36.¹ A brief explanation of this paradox is pertinent.²

To maintain a fairly continuous flow of imports over the 42-cent duty (even to Buffalo and other Lake ports) Minneapolis futures prices must stand 25-30 cents above Winnipeg futures, and Minneapolis must follow Winnipeg within a range of a few cents. The Minneapolis-Liverpool spread therefore depends primarily on the Winnipeg-Liverpool spread; and with Winnipeg several cents under Liverpool, as it was in most of 1935-36, the Minneapolis-Liverpool spread is restricted. With the American wheat shortage concentrated in hard red spring wheats (which alone are deliverable on Minneapolis futures), Chicago futures (on which other wheats are deliverable) must sell below Minneapolis, but by amounts that vary within considerable latitude. A sort of "ceiling" for Chicago prices is established by the forces mentioned above, but how nearly they approach this ceiling depends on such factors as the relative abundance of hard and soft red winters as compared with hard red spring, domestic and imported. By and large, Chicago-Liverpool spreads were materially lower in 1935-36 (mostly under 10 cents premium) than in 1934-35, primarily because Winnipeg prices were much lower in relation to Liverpool and because Minneapolis prices were much higher in relation to Chicago.

Only two specific phases of the Chicago-Liverpool spread warrant special comment. (1) Early in the season Chicago December was farthest above Liverpool. This was while Winnipeg still stood at a substantial premium over Liverpool, and before the changes in the Wheat Board and its policy had taken place. (2) In the spring, when there was prospect that the 1936 crop would put the United States again on an export basis, Chicago July sold below Liverpool July. As spring-wheat prospects drastically deteriorated, Chicago rose to a premium; this diminished as the rise in

Liverpool outran that in Chicago (Chart 24, p. 191), under the influence of prospects for tightness in world wheat markets.

CASH PRICE SPREADS

Liverpool.—In British markets, Canadian wheat sold not only in much larger volume but at higher average prices in 1935-36. The spread between Winnipeg and Liverpool averages for No. 3 Manitoba Northern, which had been 12 cents (relatively narrow) in 1934-35, was 18 cents (relatively wide) in 1935-36; and in December-January the spread was as much as 22 cents. Higher ocean freights (see p. 172) contributed a little to this widening, as also in the case of Australian wheat. But we cannot offer an adequate explanation.

In British markets, Australian f.a.q. had averaged 6 cents below No. 3 Manitoba in 1933-34 and 9 cents below in 1934-35; in 1935-36 the corresponding average discount was only 2 cents, and in April-July Australian averaged 4 cents *above* No. 3 Manitoba. Change in relative abundance of current supplies was the prime cause of this striking change. It is also probable that British imports of Manitoba averaged lower in quality, and those of Australian wheats higher, than in 1934-35.

In the lower section of Chart 25, certain cash price spreads on the British market are shown in terms of weekly average premiums or discounts from South Australian. Sellers' quotations are used, with the duty added on ex-Empire wheats. On this adjusted basis, Rosafé quotations were close to but mostly above South Australian until early November, when it rose to a premium and then shortly ceased to be quoted.

In the first half of 1935-36 premiums on Manitobas were moderate as compared with those in the preceding crop year, but still not such as to put Canadian wheat in a strongly competitive position in the United Kingdom. For about six weeks centering in October 1935 the premiums were lower, as both Canadian and Australian wheat were shipped heavily (Chart 17, p. 175). In November, when Canadian shipments reached their peak and Australian shipments sharply declined, premiums on Manitobas rose sharply to a level from which they gradually declined till

¹ Compare the corresponding chart in last year's "Review," WHEAT STUDIES, December 1935, XII, 151.

² A somewhat fuller statement is given in our January "Survey," *ibid.*, XII, 196-98.

mid-January 1936. The sharp change was presumably due to the shift in quotations on Australian to more distant shipments, which were discounted accordingly.

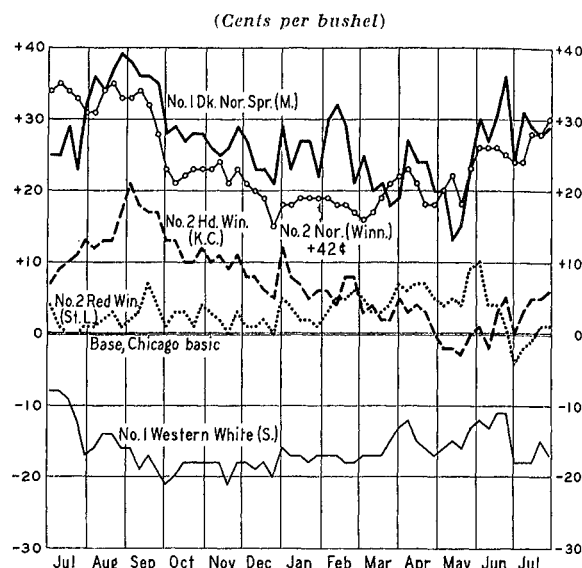
Even more impressive is the relatively low price position of Manitobas in the second half of the crop year. No. 1 sold only 4 or 5 cents above South Australian from mid-January to mid-March, and at a discount in most subsequent weeks; while No. 3 Manitoba, 5 or 6 cents lower, was at a discount practically throughout. The lower relative position of Manitobas can be considered, in the main, either as a consequence of pressure of Canadian wheat, or as a condition essential for the heavy absorption of Canadian wheat; but the exceptional quality of new-crop Australian wheat, and later the limited supplies available, were doubtless contributing factors.

United States cash prices.—Chart 26 shows weekly price spreads, measured from the lowest-price wheat deliverable without premium or discount on Chicago futures contracts, for representative grades of hard red spring, hard red winter, soft red winter, and soft white wheats, each at its leading cash market. For comparison with No. 1 Dark Northern Spring, there is also shown the corresponding spread for the Winnipeg price of No. 2 Manitoba Northern (a roughly comparable grade) plus the 42-cent duty.¹

Through most of the crop year No. 2 Red Winter at St. Louis sold not far above "Chicago basic,"² as was to be expected in view of the relative abundance of soft red winter wheats. Contrary to the usual relationship, this grade sold below No. 2 Hard Winter at Kansas City from March 1935 to March 1936. The latter, indeed, held above Chicago basic until May, when prospects for a good, early crop of hard red winter forced it below for a few weeks. Minneapolis prices of No. 1 Dark

Northern Spring were relatively highest throughout the year, because of extreme shortage of hard red spring wheat of good quality.

CHART 26.—CASH WHEAT SPREADS IN UNITED STATES MARKETS, WEEKLY, 1935-36*



* Spreads are computed from weekly data in our "Survey" issues covering the period, corresponding to monthly averages in Table XXXIII.

Premiums on both hard wheats reached their peak for the year around September 1. Then, as Winnipeg prices declined and good milling wheat flowed in from Canada, they tended downward until early May. "There is a definite tendency, historically, for the price of a relatively scarce type of wheat to go to a somewhat excessive premium soon after the shortage develops. Narrowing of the spread between hard and soft wheats has been promoted by adaptations of mill uses of wheat which encouraged use of the more abundant and cheaper type (red winter) at the expense of the scarcer and dearer (hard spring and hard winter)."³ A little later, however, deterioration of prospects for North American spring-wheat crops caused soft red winters to become the deliverable grades and forced hard red winter to premiums, and spring wheats to high premiums, in June and July.

In the Pacific Northwest, prices of representative soft white wheats sold at heavier

¹ These two curves may profitably be studied in relation to the lower section of Chart 18, p. 179. But the relationship of price disparities to reported imports from Canada is obscured by the varying lag between the purchase of import wheat and its clearance through customs.

² The basic wheat at Chicago was No. 2 Red Winter except for a part of May and June 1936, when No. 2 Hard Winter took its place at a slightly lower price.

³ WHEAT STUDIES, January 1936, XII, 199.

discounts than usual under Chicago basic. But the discount rarely exceeded 20 cents, and it averaged only 16.2 cents as compared with 14.6 cents in 1934-35, and with 12.8 cents in 1933-34 when the export subsidy was in operation through most of the crop year.¹ The discount might have been a little greater, particularly in the summer of 1935 and the spring of 1936, if the FSCC had not twice bought wheat in the area for relief disposition elsewhere (see p. 181); but these operations probably served mainly to reduce the commercial flow into other areas, the flow into feed use in that area, and the regional carryover.

The best hard white wheats of the region commanded substantial premiums, but again moved eastward in relatively liberal volume. High-protein red wheats, which are usually shipped in from Montana for blending, sold at exceptionally high premiums in the Pacific Northwest; for Montana wheat, which was of better quality than the rest of the spring-wheat crop, was drawn heavily to Minneapolis. With high premiums on strong wheats, the regional deficit in these was in some measure supplied by in-shipments from Kansas and imports from Canada—both quite exceptional movements.

To avoid confusion on Chart 26, corresponding spreads for No. 2 Hard Amber Durum at Minneapolis are not plotted, but their character can be summarized briefly. Through most of July-April 1934-35, this wheat had sold 30-50 cents above Chicago basic, reflecting the extreme shortage in the durum wheat of 1934. Only heavy imports in September-October 1934 (Chart 18, p. 179) prevented it from selling still higher. As prospects for the 1935 crop improved in the following spring, the premium declined to below 20 cents in July 1935. For a few weeks beginning late in July, the premium again advanced; but from September through May 1936 it fluctuated mostly around 10 cents a bushel, not going above 20 cents even in a midwinter advance, or falling below 5 cents except for one week in mid-April. In short, in consequence of the relatively ample supply of durum, this wheat was roughly 30 cents a bushel less dear in most of 1935-36 than it had been in most of 1934-35. From the low level in April 1936, however, premiums on this grade of durum advanced sharply as prospects for the new crop deteriorated, until late in July it was selling around 40 cents above Chicago basic.

VII. CONCLUDING OBSERVATIONS

The Argentine crop of 1935 turned out disastrously enough to afford broad justification for the price schedule fixed by the "old Canadian Wheat Board on September 6, 1935,"² before the extent of the Argentine damage could be safely appraised. In turn, the 1936 crop disasters in North America and Europe

raised prices above the high level fixed by the Argentine Grain Regulating Board on December 12, 1935, enabled the board to escape loss such as might have been entailed if crops had developed otherwise.³ Short crops in the summer of 1934 had similarly promoted a favorable outcome after Argentine prices had been fixed two years earlier. In these instances, fortune favored the price-fixers, whereas in various other instances fortune has failed to support determinations that were no less intelligent.

Had it been possible to predict the crop damage of 1936, the reconstituted Canadian Wheat Board would presumably have sold more sparingly in the winter and spring preceding, and found itself justified by the outcome; but such prescience is not yet possible, and the new board did not consider it "to be its duty to follow a policy of gambling on

¹ This later evidence seems to lend support to the present writer's earlier reasoning as to the moderate regional price effects of the export subsidy in 1933-34. See "Pacific Northwest Wheat Problems and the Export Subsidy," *WHEAT STUDIES*, August 1934, X, 406-9; and J. S. Davis, *Wheat and the AAA*, pp. 292-96.

² It was clearly an error in judgment to have set the prices on durum wheats the same as for corresponding grades of Manitoba Northern. See above, p. 166, and *Minutes*, pp. 147-48. We infer that the board's sales in February-June 1936 entailed some financial loss, and that those of December-January may have involved loss on substandard grades.

³ On Dec. 2, 1936, the Argentine government announced the discontinuance of minimum buying prices for wheat and flaxseed.

what Providence might do in . . . helping us again with serious crop failures . . ."¹

For the crop year now in progress, initial stocks of wheat were still lower than in 1935-36, the world crop ex-Russia appears to be even smaller than that of 1934, and Russian exports promise to be very small. Hence world wheat supplies for 1936-37 show a further substantial shrinkage, to the lowest level since 1926-27. World wheat utilization is likely again to exceed the year's harvests. Consequently, by the end of July 1937, stocks of old wheat may be at the lowest point in a decade. Owing to the unusual conjuncture of three short wheat crops in succession, a prolonged period of huge wheat surplus is thus coming to an end—at least for the time being. Acreage sown for the crop of 1937,

however, bids fair to be the largest in many years. Nature may again thwart man's efforts, but the threat of renewed surplus persists.

RETURNS TO WHEAT FARMERS

Farm returns for wheat were higher in 1935-36 than in the preceding years in the United States and Australia, perhaps even in Argentina, but were still distinctly unsatisfactory in Canada.

In the United States these returns, even with benefit payments² added, remained far below pre-depression levels; yet they were such as to stimulate a notable expansion of sown acreage for 1936 (Chart 27, p. 206). The farm value of the 1935 crop was figured at 517 million dollars, gross income from wheat at 367 million, and cash income at 353 million, some 55-70 million better than in 1934-35.³

Returns to wheat growers in Canada were again very poor. For the 1935 wheat crop the farm price averaged 61 cents a bushel, and the farm value came to only 170 million dollars, both practically the same as for the crop of 1934.⁴ The improvement in prices of the higher grades was too moderate to offset the marked inferiority in quality.⁵ In Argentina, considering the short crop, the returns were very good but by no means munificent.

In Australia, however, wheat growers were fortunate in good yields, excellent quality, satisfactory prices, and Commonwealth bounties and relief besides, and counted the season very prosperous. The Commonwealth Royal Commission,⁶ in its Second Report on February 2, 1935, recommended adoption of a Commonwealth marketing system involving compulsory pooling. The grain trade vigorously opposed this move, and it was rejected. Early in October 1935, however, representatives of the Commonwealth and State Governments and the Wheat Growers' Association reached agreement on a plan providing for a fixed domestic consumption price of 4s. 9d. (about 93 cents) per bushel, f.a.q., f.o.r. at ports. The legislatures of New South Wales, Victoria, and Queensland passed the requisite state laws, but South Australia and Western Australia held off. Since the plan could not be

¹ As quoted above, p. 169. Just after the Canadian election, a British trade journal editorially stated with reference to the defeated government: "It is useless to deny that the Canadian Government has engineered a gamble in wheat unparalleled in the history of the world, a gamble that would have been denounced from Press and Pulpit if it had been carried on by any individual or private firm. . . ." *Milling*, Oct. 19, 1935, p. 421.

² These are figured at \$115,368,000 (subject to deduction for local administrative expenses) in the publication mentioned just below. The true figure is probably lower, since after the Supreme Court decision winter-wheat growers were given less than the full contractual payment and spring-wheat growers were entitled to no contractual payments in connection with the 1936 crop. The new system of payments, which were not made till after the end of the crop year, applied alike to growers of winter and spring wheats. Contracting winter-wheat growers actually gained by the Supreme Court decision, for the time being.

³ Bureau of Agricultural Economics, *Farm Value, Gross Income and Cash Income from Farm Production, 1934-1935* . . . , August 1936. Comparable averages for the 1928-32 crops are given in *World Wheat Prospects*, July 24, 1935, p. 20. Farm value data for 1890-1933 are shown graphically in J. S. Davis, *Wheat and the AAA*, p. 8. For recent proposals by representatives of wheat growers, and a trade comment thereon, see *SWM*, Dec. 8, 1936, pp. 23-24.

⁴ Preliminary estimates for the 1936 crop are 86 cents per bushel and 200 million dollars. Dominion Bureau of Statistics, *Value of Canadian Field Crops*, 1936, Dec. 9, 1936.

⁵ The *Western Producer* of June 25, 1936, published a two-page article: "What Does It Cost Farmer to Produce a Bushel of Wheat?" Average farm cost was given as 85 cents, and average cost to produce and ship to Fort William as \$1.03. If such calculations even approximate the truth, prevailing notions as to the competitive power of Canadian wheat are subject to radical revision.

⁶ See Appendix Note C (4).

put into operation without their co-operation, the former system of subsidy to wheat growers was continued in 1935-36. The flour sales tax, which had been scheduled to lapse on January 6, 1936, was extended indefinitely.¹ From its proceeds, estimated at about £1,880,000, arrangements were made to make grants to the wheat states to enable them in 1936 (1) to pay wheat growers pro rata the equivalent of 1s. per bushel on that part of their crop that will be used for human consumption in Australia (some 32 million bushels); (2) to pay ½d. per acre on the wheat acreage sown in 1935; and (3) to make special payments to relieve distressed growers who suffered unusual hardship from crop failure in Western Australia, South Australia, and New South Wales.² In total,³ these sums will come to less than half the amounts distributed with respect to the 1934 crop,⁴ but they were a substantial addition to returns from sales.

In *New Zealand* the new Labour Govern-

¹ This tax was in force from Dec. 4, 1933, to May 31, 1934, at the rate of £4 5s. per short ton (about \$1.65 per barrel), and of £2 12s. 6d. from Jan. 7, 1935. *Official Yearbook of . . . Australia*, 1935, p. 453. Flour for export is exempt from this tax.

² See *CIJ*, Jan. 25, 1936, p. 152; Apr. 4, 1936, pp. 589-90; May 2, 1936, p. 789. On abbreviations used in this subsection, see p. 165, footnote 1.

³ According to the Wheat Growers' Relief Act, 1936, the grants to the several states are as follows, in thousand pounds: New South Wales, 565; Victoria, 442; South Australia, 432; Western Australia, 393; Queensland, 43; Tasmania, 3.5.

⁴ For bounty and relief payments through 1934-35, see *WHEAT STUDIES*, December 1935, XII, 157.

⁵ *SWM*, Feb. 25, 1936, p. 40; *NWM*, Mar. 4, 1936, p. 625.

⁶ Based on the data of the Wheat Commission. Cf. discussion in last year's "Review," *WHEAT STUDIES*, December 1935, XII, 155-56. In recent months, with further advances in wheat prices, the flour levy has been successively reduced to the lowest point since the present system was established.

⁷ The milling quota, which in 1934-35 had been set first at 8 and then at 10 per cent of the millers' grist, was set in 1935-36 at 25 per cent, but in mid-season reduced to 21.5 per cent. For 1936-37 it was announced, well in advance, at 33⅓ per cent.

⁸ These prices were 24s. 6d. per 280 pounds in September-December, and 27s. in January-August, for wheat weighing 64 pounds per bushel or over, and 3d. per bushel less for each successive 1-pound range of test weight below 64 pounds. With exchange rates around \$5 per £, the autumn rate works out to about \$1.30 per bushel, and the later about 14 cents higher. *CIJ*, Aug. 22, 1936, pp. 400-401.

ment announced on February 9, 1936, the adoption of the so-called Sullivan plan. This provided for an average farm price of 4s. 4.5d. (about 88 cents) per bushel for wheat, permitting a bakeshop-delivery price of flour of £13 8s. 7d. per ton (\$4.71 per barrel), and the sale of bread at 10d. per 4-pound loaf at retail (4.0 cents per pound).⁵ It also involved an embargo on flour imports, which have been small in recent years. With excellent yields and a good crop, wheat growers were thus assured a good income from their harvest.

In much of Europe ex-Danube, thanks to favors both from nature and from national governments, the wheat crop of 1935 proved very profitable to the growers. A few examples of different situations warrant brief mention.

The "ascertained average price" of millable wheat certified as sold in the United Kingdom, by nearly 94,000 registered growers, came to over 5s. 9d. per cwt.; this was 10.36d. per cwt. more than in 1934-35, and the best price since the Wheat Act came into force in 1932. The "deficiency payment" per cwt. was reduced well below the difference between this figure and the "standard price" of 10s., since certified sales of 33.65 million cwt. (96 per cent of the estimated crop, as in 1934-35) substantially exceeded the standard maximum of 27 million. With a deficiency payment of 3s. 4.26d. per cwt. sold, growers averaged 9s. 1.5d. from selling price and subsidy combined, equivalent to about \$1.21 per bushel. Considering that a substantial fraction of the crop goes into poultry feed, this was by no means unsatisfactory. Total returns were about £15,353,000, almost as large as in connection with the larger crop of 1934. Of this the Wheat Commission, at the expense of flour consumers, contributed £5,644,000, or an average of £60 per grower.⁶

In the Irish Free State, where the crop of 1935 was the largest in several decades and of excellent milling quality, mills were assigned buying quotas to insure prompt absorption of domestic wheat and milling quotas designed to insure full use of all millable wheat,⁷ and were required to pay prices fixed at a level high enough to induce further rapid expansion of wheat acreage.⁸ The notable acreage

response in 1936 signifies that the intentions were fulfilled (Table III).

In France, wheat returns in 1935-36 were accounted unsatisfactory. Yields and quality were mediocre and the crop below average, and prices continued low through the fall and most of the winter (Table XXXIV).

In Italy, with a big crop and very high fixed prices to growers, wheat must have been exceptionally profitable in 1935-36; and the fact that acreage declined slightly in 1936 must be attributed to weather conditions and the lack of other available land for wheat.¹

In Germany, under the established regimen, wheat producers continued to fare well in 1935-36. In order to overcome the feed shortage, however, fixed prices of rye, oats, and feed barley were raised to levels designed to induce some contraction in wheat acreage in favor of other grains, and this had some effect.²

In Sweden, with a smaller crop and a slightly lower price guaranteed to growers on year-end purchases (p. 171), wheat growers' income was presumably less than in the two years preceding; and some contraction of wheat acreage seems to imply that they regarded wheat as relatively less profitable (Tables II, III).

In the Netherlands, farmers have responded with embarrassing enthusiasm to the stimulus provided by milling quotas and high fixed prices. Prices to growers have been succes-

sively reduced from 12 florins per quintal for the 1933 crop to 9 florins for that of 1936.³ Yields in 1935 were a little below average; hence the crop of that year was probably less remunerative than the bumper crop of 1934 (Tables II-IV). Despite various measures designed to hold acreage expansion in check,⁴ the 1936 acreage was but little below the 1935 peak, which was 2.7 times that of 1930. It is therefore evident that wheat is still regarded as a profitable crop.

In Belgium, wheat growers had enjoyed a subsidy of 550 francs per hectare on the 1934 wheat crop. In 1935 this was reduced to 200 francs, or about \$2.65 per acre.⁵ Acreage responses do not suggest that wheat growing was made especially profitable.

In Denmark, import duties have now been in force for two years with a view to stabilizing prices of home-grown cereals (p. 171). The minimum price aimed at, for domestic soft wheat 13 kroner per quintal or about 80 cents per bushel, is not nearly so high as in most European countries;⁶ but with record yields on the largest acreage in several decades, the record crop of 1935 must have been the most remunerative in several years.

In Norway, the grain monopoly's buying policy, high minimum prices, and a government bounty in addition,⁷ caused the wheat acreage of 1935 to be double that of 1933. With a record yield and a record harvest in 1935, it is not surprising that the wheat acreage rose substantially further in 1936.

In Switzerland, where the record harvest of 1935 was due to exceptional yield per acre, the price paid by the state was the same as in 1934—34 francs per quintal,⁸ equivalent to \$3.01 per bushel. At this rate, growers must have done well, as the acreage response in 1936 implies.

PROSPECTIVE CARRYOVER LEVEL IN 1938-42

For some years we have tentatively regarded 600 million bushels, the average stocks of old wheat as of about August 1 in the five years 1923-27, as a rough approximation to what may be called a "normal level" of world wheat carryover. But "normals" change with the passage of time. Now that a carryover of perhaps smaller dimensions is apparently in

¹ See our last year's "Review," *WHEAT STUDIES*, XII, 129-31. A recent illuminating article is Carl T. Schmidt, "The Italian 'Battle of Wheat,'" *Journal of Farm Economics*, November 1936, XVIII, 645-56.

² Jasny, *op. cit.*, *WHEAT STUDIES*, November 1936, XIII, 87, 89, 92, 140.

³ See p. 171, footnote 3.

⁴ *CIJ*, Mar. 30, 1935, pp. 511 ff.

⁵ On spelt, maslin, rye, and barley, the 1935 subsidy was 150 francs per hectare. The budgeted cost of 85 million francs, or nearly \$3,000,000, was to be partly covered by the tax on wheat import licenses, which was fixed at 10 francs from Jan. 16, 1936, replacing the former variable charge. In addition, imported wheat is subject to a tax of 2.5 per cent of the c.i.f. price. *CIJ*, Feb. 8, 1936, p. 233, June 27, p. 1264, and Aug. 29, pp. 441 ff.

⁶ *CIJ*, Sept. 9, 1936, pp. 555 ff.

⁷ *Ibid.*, Oct. 3, 1936, pp. 643 ff.

⁸ *Ibid.*, Apr. 18, 1936, p. 700.

prospect for 1937, it seems appropriate to ask: What are the prospects for average carryovers in 1938-42?

In the five years ending with July 1942, world wheat production and utilization will doubtless average substantially larger than in the corresponding period fifteen years earlier, though we doubt if utilization will average as high as in the peak years 1930-31 and 1931-32 (Chart 1, p. 143). At first glance it might seem that the larger the volume of wheat grown and used, the larger the annual carryover tends to be. Past experience, however, shows that through improvements in transportation facilities, milling technique, and business efficiency, economic forces make for reduction in what may be termed, in a very broad sense, the ratio of operating inventories to annual utilization. We believe that such improvements, over the 15-year interval in question, will prove to be such that an average carryover of 600 million bushels would be at least as adequate in 1938-42 as it was in 1923-27; and that if economic forces were left to determine the carryover, it would average little if any higher.

This conclusion is perhaps subject to qualification in view of the fact that grain storage capacity has been substantially increased since 1927, and further additions are in progress. In the United States additional construction was induced by the huge accumulations in the early depression years, when storage operations were unusually profitable.¹ In Australia, beginning in New South Wales some years ago, bulk handling is gradually replacing bag handling, and additional elevator capacity is being constructed.² In Argentina, after prolonged discussions extending over decades, a similar comprehensive program is getting under way, with financial obstacles now largely surmounted by diverting to this purpose handsome profits from exchange control.³ In Germany especially, but also in various other countries of Europe, notable additions to grain storage capacity have been made in recent years, including elevators ("silos") of modern type.⁴ With such enlarged capacity available, more of it can readily be used not merely for handling grain but for storage. The availability of the enlarged

capacity for storage from one year to the next might tend, under some circumstances, to cause larger amounts to be so stored; but reasons for expecting such a tendency to eventuate are not now apparent, except as they rest upon considerations mentioned below.

Certain significant factors are tending, directly or indirectly, to prevent wheat carryover levels from declining to the level of reasonable working stocks.

Most specifically, fears of war have led various European countries to make provision for "security stocks," under one name or another. Examples are in France, Germany, Sweden, and Switzerland. Proposals for establishing substantial wheat reserves in Great Britain against the risk of war, which have been made in vain on numerous occasions for more than a century, were revived and multiplied during the year.⁵ Until fears of a major war are dissipated—and this is not yet in near prospect—this movement seems likely to gain headway; and it would definitely make

¹ According to an official release of June 15, 1936, on May 1 the rated capacity of elevators reporting grain stocks weekly to the Bureau of Agricultural Economics was 438 million bushels and the operating capacity 397 million; and an additional 2 million was expected to be available about Sept. 1.

² For the 1936 harvest, the New South Wales bulk-handling system has a capacity of 31,423,000 bushels, including a total of 23,123,000 in 180 country plants. *The Land* (Sydney), Oct. 16, 1936, p. 6. A similar system is to be provided in Victoria. *CIJ*, July 25, 1936, p. 165.

³ This is proceeding under the new National Grain and Elevator Commission. See p. 148, footnote 2; *CIJ*, Mar. 7, 1936, pp. 403-4; *Milling*, Sept. 12, 1936, p. 173.

⁴ Jasny, *op. cit.*, WHEAT STUDIES, XIII, 120, footnote 2. In the USSR, the grain storage capacity of the grain-collecting organization increased by 8 to 9 million tons in 1934 and 1935. *Planovoe Khoziaistvo* 1935, No. 11.

⁵ One scheme, advocated in the London *Times* of May 28, 1936, called for the purchase of 80 to 120 million bushels of Canadian wheat, to be stored in port elevators constructed for the purpose, and kept fresh by constant shifting. Others have proposed the construction of underground granaries in London and throughout the Kingdom. The subject is among those under consideration by the Food (Defense Plans) Department, and has recently been discussed from various angles by the chairman and managing director of the leading British firm that specializes in building equipment for grain handling and storage. See C. Bentham, "Grain Storage—Emergency Supplies and Methods," *Milling*, Sept. 26, 1936, pp. 326-31. See also *ibid.*, July 18, 1936, pp. 65-66.

for larger year-end stocks. If war should ravage Europe, or embroil most of the world, the entire picture would of course be altered, as it was during the last World War.

The re-election of President Roosevelt by an overwhelming majority increases the possibility that some form of the "ever-normal granary plan," to which Secretary Wallace is strongly committed, may be implemented at least for wheat in the United States. Whatever the merits and faults of the scheme,¹ its adoption by the United States might easily tend for a time to encourage adoption of similar plans elsewhere. Even if applied only in the United States, it would presumably result in larger average carryovers than were common until 1928, though its influence on the total carryover would be much less than on the proportion under government control.

These influences tend toward the enlargement of what may be called the "normal" world carryover, in a decidedly abnormal world. In the process of providing initially for normal carryover larger than that in prospect August 1, 1937, supplies of wheat available in the market for other purposes would be reduced and wheat prices might be considerably enhanced. Once accumulated, the enlarged stocks for carryover might or might not serve to check possible future price advances in the event of severe crop shortage. Stocks accumulated in connection with an ever-normal granary program would presumably be used to relieve the effects of crop shortage; but stocks accumulated against the hazard of war might not be used so freely, if at all. Under conditions of ample supplies, the "security stocks" would presumably not exercise a price-depressing influence, whereas stocks accumulated under an ever-normal granary program presumably would. In the main, however, such enlargement of stocks as

may be expected from these influences is to be regarded merely as raising the line of reference by which presence or absence of current "surplus" is to be judged.

It should be noted also that these influences tending toward enlargement of normal carryover provide initially only a motive for increase of carryover. They afford a means of attaining an increase in carryover only as the motive may result in curtailed consumption and expanded production (largely through the influence of higher prices).

On the other hand, complicated regimes of government controls have in recent years radically influenced the play of economic forces. Some close students now expect these regimes to be made permanent. This conclusion may prove correct, but we do not regard it as reasonably assured. In any event, it seems improbable that, over the next five or six years, economic forces will be permitted to operate as freely as in the eight years preceding the great depression. Narrowly nationalistic views still dominate wheat policies in various countries. Even if there should be relaxations of extreme control measures as depression gives way to something that may be called prosperity, abandonment of recent policies can hardly take place rapidly and may be more or less limited.

In the system of controls that has been brought into existence there are strong forces tending to provide supplies that must go into carryovers, whether or not increased carryovers are desired, and after further increases have become undesirable. These forces include potent pressures to insure the continuance of major governmental efforts to protect the economic status of farmers, particularly those engaged in growing great staples such as wheat, and to enhance their prosperity. Many such measures, unfortunately, seem to tend to make wheat production larger and wheat consumption smaller than it would otherwise be. Shortsighted as this may be, even in the farmers' interest, dominant political leaders have not yet come to see it in this light. In the United States, moreover, where the AAA sought to reduce sown acreage as a means of curtailing wheat production and thereby raising wheat prices, its success was

¹ For some comments on the idea, see Davis, *Wheat and the AAA*, pp. 403-7, 419-25. The idea was warmly endorsed, for each of the overseas exporting countries, by Andrew Cairns (secretary of the International Wheat Advisory Committee), in a discussion at the recent International Conference of Agricultural Economists; see *Times of Argentina*, Nov. 16, 1936, p. 26. His pessimistic address at the same conference, on "Commercial Policy and the Outlook for International Trade in Agricultural Products," is published in *ibid.*, Nov. 9, 1936.

exceedingly slight, and the possibilities of success were not demonstrated.¹ The effort toward international agreement on restriction of wheat acreage, under the International Wheat Agreement, broke down no less than the accompanying efforts to regulate wheat exports.²

The primary importance of this, in connection with appraisal of the outlook for the next few years, lies here. Government measures in many countries are operating both to maintain or increase wheat acreage, and to restrict wheat utilization for food; and these measures have been heavily responsible for the obstinate persistence of world wheat surplus.³ For the time being, nature has at last caused accumulated surplus stocks to vanish. But if

the conditions above mentioned persist, even in less extreme form, recovery and improvement of yields on a swollen acreage may again result in wheat crops in excess of what the markets will absorb under the handicaps imposed on human consumption of wheat in Europe.⁴ This will mean carryovers in excess of an "economic normal," and probably in excess of the somewhat higher "politico-economic normal" that we have discussed above.

Accumulation of carryovers in consequence of these forces can have only one possible price effect after the needs for a desired expansion of "normal" carryover have been met: to depress wheat prices wherever they are not sustained by powerful regulative measures.

In the light of the factors discussed above, year-end stocks of wheat in the world excluding Russia seem likely to average in 1938-42 considerably higher than the average of around 600 million bushels in 1923-27, perhaps exceeding that average by 200 million bushels or more. The additional costs involved will presumably be represented in part as insurance against risks of war or peace-time importation.

¹ See Chart 27, p. 206, and discussion based on earlier estimates in Davis, *Wheat and the AAA*, pp. 347-54, 413-14, 427-32.

² See *ibid.*, chapter x, and pp. 416-17; and A. E. Taylor, "International Wheat Policy and Planning," *WHEAT STUDIES*, June 1935, XI, No. 10.

³ See J. S. Davis, "The World Wheat Problem," *WHEAT STUDIES*, July 1932, VIII, 437-43.

⁴ See last year's "Review," *ibid.*, December 1935, XII, 159-60.

This Review, like earlier ones, rests upon past or current work of most of the Institute staff. It has been written mainly by Joseph S. Davis with the aid of P. Stanley King (charts), Rosamond H. Peirce (tables), and Elizabeth Brand Taylor. Other colleagues have given counsel and contributed portions on specific points.

APPENDIX NOTES

NOTE A. WHEAT PRODUCTION AND TRADE DATA FOR ADDITIONAL COUNTRIES

Comprehensive totals of world wheat acreage, production, and trade are beyond hope of attainment. For a satisfactory grasp of the world wheat situation and significant changes therein, however, they are not essential. Margins of error in statistics and estimates for the more important wheat-producing countries are so considerable that omission of numerous minor sources of wheat has relatively negligible bearing on the analysis as a whole. Nevertheless, as official or semi-official estimates become available over a period of years, it seems appropriate to take these into the current reckoning.

On this basis we are expanding our definition of the "world ex-Russia" (properly, "ex-China" as well) to include several countries heretofore excluded. From a wheat standpoint the largest of the additions are Turkey, with crops around 100 million bushels a year in most years since 1928; Manchuria/Manchukuo, with crops usually one-third to one-half as large, but a much larger actual and potential factor in international trade; and Brazil, a small wheat producer but one of the largest net importers other than the United Kingdom. Others of less international significance are Syria and Lebanon, Palestine, Cyprus, and Peru.

Crop data or estimates for these countries are now included in our totals, and separately or in groups in Tables II-IV or VIII. In the few instances where data are missing, a rough allowance is made for inclusion in our broad totals. For most of the countries now added, neither crop data nor satisfactory estimates or bases for estimates are available through the war and pre-war years, or indeed prior to 1924 or 1925. For ordinary purposes of background, however, a span of 12-14 years is ample. The scope of our

carryover estimates has not been expanded to cover these added areas; but the only significant omissions, for Turkey and Manchukuo, are presumably of little consequence.

The slightly enlarged totals now given do not purport to cover the "world." From our production and acreage totals we continue to exclude the USSR and China. Each of these two countries ranks very high as a wheat producer, but figures so little and so erratically in international trade that the inclusion of crop data for these countries would distort rather than clarify the world picture. Even if satisfactory data for these two countries were at hand, it would still be best to consider them separately. In addition, Russian crop statistics are not wholly comparable from one stretch of years to another, or nowadays with data for other countries (see p. 150); and too little reliance can yet be placed on either official or unofficial estimates of crops in China.¹

From the "world ex-Russia" we also continue to exclude Iran (Persia) and Iraq,² primarily for lack of regular crop data, and a large number of areas each of which annually produces less than 1 million bushels of wheat.³ For this group of excluded countries, the aggregate production may have averaged as much as 100 million bushels a year in the past decade.

The combined total wheat production of the areas which we thus exclude from the "world ex-Russia," as now defined, was probably under 1,500 million in 1924, when the USSR had a very poor crop. It has probably exceeded 1,500 million each year since then, and has tended irregularly upward as wheat production has expanded in the USSR. In 1935 the total probably approached 2,000 million bushels.

NOTE B. REVISED DATA ON UNITED STATES CROPS AND CARRYOVERS

1. WHEAT ACREAGE, YIELD, AND PRODUCTION, 1924-35

In June 1936 the Crop Reporting Board of the United States Department of Agriculture released *General Crop Revisions, Crop Years 1924-1935, Acreage, Yield and Production by States*. These cover six types of hay and fourteen other major crops. For all wheat, and separately for winter, durum (four states only), and other spring wheat, data are given by states for harvested acreage, average yield per acre, and production; and for winter wheat, the acreage seeded in the preceding fall. On August 24, 1936, the Board released *Planted Acreage Crop Years 1929-1935 by*

States, in which seeded acreage for winter, durum, other spring, and all spring wheat are

¹ See, however, Tables I and VIII, and p. 185. The Chinese official estimates for recent years have been radically revised.

² Both of these are small net exporters, Iraq consistently so in recent years. For Iran a few crop figures are given in Table VIII, and for Iraq some trade data appear in Table XXV.

³ We also continue to exclude Albania, for which production is reported only for six years beginning with 1929, in million bushels as follows: 1.13, 1.08, 1.29, 1.55, 2.38, 1.58. Probably some other countries excluded produce as much or more.

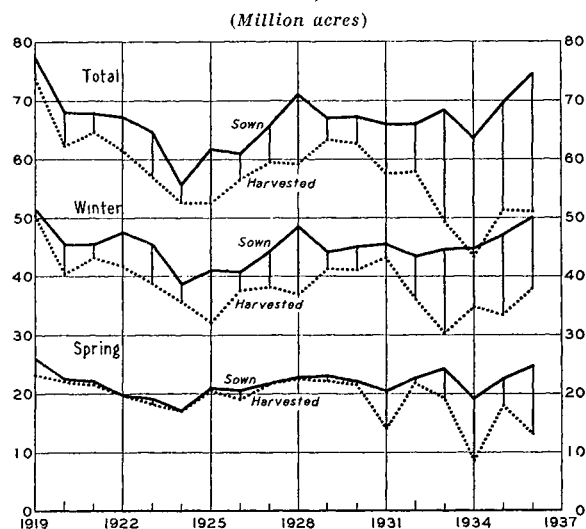
given for 1929-35, as well as similar data for corn, flaxseed, oats, barley, and rye (the last only for 1931-35).

These revised data are used in this "Review" in charts and tables, and the revisions are responsible for changes in numerous totals and subtotals.

For the years 1924 to 1929 inclusive, the revised wheat estimates differ but little from those hitherto published. For subsequent years the revisions are increasingly substantial, and those for the crops of 1933 to 1935 affect the total acreage and its distribution by significant percentages. The maximum change in total production, for 1934, is an increase of 29.5 million bushels, or 6 per cent of the former estimate. For the crop of 1934, average yields are altered appreciably for many states. In the main, however, changes in the production estimates are due chiefly to acreage revisions.

Chart 27 shows the sown and harvested acreage of winter, spring, and total wheat according

CHART 27.—WHEAT ACREAGE SOWN AND HARVESTED IN THE UNITED STATES, CROPS OF 1919-36*



* Estimates of Bureau of Agricultural Economics, recently revised from 1924; see Appendix Note B (1). Data for 1928-36 in Table VII, which contains slight revisions published Dec. 18, 1936. The preliminary estimate released Dec. 21, 1936, gives 57.2 million acres sown to winter wheat for the 1937 crop—far above the previous record (1919).

to the best data now available. The slender vertical bars of varying length represent acreage abandoned. Attention here needs to be directed to only three points: (1) the amazingly slight changes in the area sown for the crops of 1927 to 1935 (except for winter wheat in 1928 and spring wheat in 1933 and 1934), despite the depression and AAA production control programs; (2) the fact that winter-wheat acreage sown for the crop of 1936, though sown while restriction

contracts were considered in force, was the highest since 1919, as the spring-wheat acreage also proved to be; and (3) the occurrence of heavy abandonment of sown acreage (indicated by the slender vertical bars), in spring wheat as well as winter, for the last four successive years.

The Crop Reporting Board gives the following explanations pertinent to the revisions of wheat data:

... The estimates of acreage and yield have been revised in line with the Board policy to be consistent with the enumerations of the 1935 Census of Agriculture published by the Bureau of the Census. ...

... For certain crops, also, enumerations for 1934 were rendered exceedingly difficult by the extreme drought of that year. These instances are discussed in more detail with the individual crops.

Wheat.—In preparing the estimates of acreage and production of wheat in 1934, and the revisions for the years 1930 to 1933, the Board had available supplementary information on receipts of wheat at mills, elevators and warehouses, shipments of wheat by railroads for the principal producing States, and sample data on other utilization. This information indicated the possibility of some under-enumeration of wheat in a few areas and the Department's estimates for 1934 slightly exceed the 1935 Census figures.

National totals for 1934, for harvested area and production, and national average yields per harvested acre, are given below with changes (A) from previous estimates and (B) from census data for 1934:

Item	Total	Winter	Spring
Harvested area (thousand acres)			
Revised	43,400	34,638 ^a	8,762
Change (A)	+ 1,151	+ 1,670 ^a	— 519
Change (B)	+ 1,457	+ 576	+ 881
Yield per acre (bushels)			
Revised	12.1	12.6	10.1
Change (A)	+ .3	+ .3	+ .3
Change (B)	— .1	— .1	— .3
Production (million bushels)			
Revised	526.4	438.0	88.4
Change (A)	+ 29.5	+ 32.4	— 2.9
Change (B)	+ 13.2	+ 6.9	+ 0.3

^a The revised figure for sown area is 44,585 thousand acres, an increase of 2,706 thousand over the former estimate. No estimates of spring-sown acreage for 1934 had previously been published.

The revised acreage figures for 1934 show increases over the previous standing estimates in all important states except those on the western border of the Great Plains. In this region the standing estimates are lowered in all states except Texas, the maximum decrease being 10.3 per cent, in North Dakota. The revised acreages are identical with those of the census, or very close to them, except in Kansas and in the spring-wheat states. In the important spring-

wheat states the revised acreages are 12.6 to 19.5 per cent above the census figures except in South Dakota, where less than 6 per cent of the acreage sown in 1934 was harvested.

The revised yield figures for 1934 are identical with those derived from the census data for most states, though in a few states a slight change appears. The slight difference in national average yields, as shown by the revised estimates compared with yields based on the census, is almost wholly due to acreage deviations from the census data.

The 1934 census of wheat acreage and production was probably the best ever taken, though of course not a perfect enumeration. Presumably the revisions made with its aid are an improvement on earlier estimates, and it is noteworthy that the revised figures appreciably exceed the census figures. Yet it is by no means clear that the revised estimates are fully comparable throughout the period covered, or with standing data for earlier years. To say this is not to cast aspersions on the Crop Reporting Board, but to emphasize the difficulties in getting trustworthy basic statistics over a period of years, even on a major crop in a country which has long taken great pains in this connection.

2. WHEAT CARRYOVERS, 1923-36

The Bureau of Agricultural Economics has recently revised its computations of wheat stocks in the United States as of July 1, 1923-36.¹ The new data, shown in Table XIII, yield totals for 1927-36 which are 6.4 to 18.3 million bushels lower than totals we have carried previously, while for 1923-26 the totals are 4.6 to 7.2 million bushels lower than those used previously.²

The changes in total stocks arise chiefly from

decreases in the estimates of stocks in merchant or "city" mills (Table XIV). These result mainly from exclusion of wheat reported in transit to mills. The "in transit" figure as of July 1, the Bureau states, has been found to include mostly "to arrive" wheat, which has been purchased by the mills but remains in positions presumably covered under other categories of stocks. For years prior to 1929, decreases owing to elimination of "in transit" stocks are partly offset by additions for wheat not hitherto included but estimated to have been held by mills "stored for others."

Decreases in totals for 1927-29 include also reductions of 3.6 to 5.3 million bushels in the "commercial stocks" figures, resulting from substitution of the Bureau's data for Bradstreet's "visibles" which had previously been carried for this category in these years. For commercial stocks in 1923-26, Bradstreet's figures continue to be used, but are adjusted to exclude wheat in country elevators. Other changes in the data on stocks amount to less than one million bushels in any year, except for increases in estimates of farm stocks in 1934 and 1935 (2.2 and 2.4 million bushels) incident to revision in the production estimates for those years.

The revised total for July 1, 1936 is given as 136.8 million bushels as compared with the earlier figure of 150.4 million, while the peak carryover of 1933 now appears as 377.9 million instead of 393.4 million. The indicated reduction of carryover in 1935-36 is 8.8 million bushels instead of 4.3 million.

As thus revised, the statistics for United States stocks include no allowance for wheat in transit by rail or water. The omission on this account is probably of minor importance in the statistics for July 1, for it is unlikely that there is much wheat in transit as of this date except new-crop wheat,³ which it is desired to exclude from the data; but variations from year to year may be appreciable. In addition, the data on "commercial stocks" are not fully comprehensive, for points that are occasionally of some importance in the aggregate are not covered.

As the statistics of stocks in the United States now stand, however, the chief point of weakness appears to lie in the element of stocks in "country mills and elevators." Stocks in this category are estimated by the Division of Crop and Livestock Estimates with the aid of reports from some 3,000 to 3,500 elevators and mills. The basis for estimating the total country elevator and mill stocks from these incomplete reports has never been made clear, nor the extent of estimation involved. Moreover, it is questionable whether "country mills" should be included in this category, since the category of stocks in "merchant mills" includes both stocks of reporting mills and estimates for stocks of merchant mills not reporting. Custom mills presumably may be

¹ See *World Wheat Prospects*, October 1936.

² Details of the changes for 1923-35, since our previous "Review" are as follows in million bushels:

Year	In country			In city	Total
	On farms	mills and elevators	cial stocks		
19230	— .4	— 4.2	— 4.6
1924	+ .1	— .5	— 6.8	— 7.2
19250	— .4	— 6.0	— 6.4
19260	— .4	— 4.4	— 4.8
1927	— .1	— 4.4	— 8.3	— 12.8
19280	— 3.6	— 7.9	— 11.5
1929	+ .1	— 5.3	— 13.2	— 18.3
1930	+ .1	.0	— 14.7	— 14.6
1931	— .1	.0	— 12.5	— 12.7
1932	+ .6	.0	— 10.1	— 9.5
1933	+ .6	.0	— 16.1	— 15.5
1934	+ 2.2	.0	— 14.1	— 11.9
1935	+ 2.4	.0	— 9.1	— 6.4

³ Old-crop wheat in transit by rail and water on July 1 is probably ordinarily less than one-third of June receipts at primary markets; at the thirteen markets covered by Table X, June receipts over the past seven years have ranged from 10 to 30 million bushels.

neglected in a calculation of wheat stocks, since by definition they are mills which do not purchase wheat but grind only on exchange or for a toll, and therefore have little or no occasion to accumulate stocks of wheat.

Finally, for certain uses of the data it should

be noted that, while in the main the carryover data represent wheat grown in the United States, in years such as 1935 and 1936 there is probably included some Canadian wheat imported for consumption, cleared from customs, and in store in mills or terminal elevators.

NOTE C. SOME RECENT LITERATURE ON THE WHEAT SITUATION

In reviewing developments during the crop year, examination of many sources of information brings to light significant materials to which the attention of other students of the wheat situation may well be drawn. Without presuming to select the most significant contributions during the past year, we venture to note a few that deserve special comment.

1. BASIC FACTORS IN THE EUROPEAN WHEAT SITUATION

In September 1936 the United States Department of Agriculture published as Technical Bulletin No. 535, *Wheat Requirements in Europe (Especially Pertaining to Quality and Type, and to Milling and Baking Practices)*. This is the work of J. H. Shollenberger, a principal marketing specialist in the Foreign Agricultural Service Division of the Bureau of Agricultural Economics, who has spent several years in Europe on this investigation. The 190-page bulletin, with its 99 tables and 23 charts or other illustrations, is a valuable contribution to the understanding of many aspects of the wheat situation in Europe on which little information is readily accessible.

About three-fourths of the text (pp. 45-170) deals with fourteen countries one by one. Most of the preceding fourth of the text (pp. 8-44) presents a summary for Europe as a whole, with respect to the following points:

- General characteristics of European wheats
- General milling practices
- Type and quality of wheat required for European trade
- History and present status of European bread consumption
- The breads of Europe
- Certain economic factors affecting the European wheat-requirement situation
- European bread-grain production
- Government regulations affecting the wheat-requirement situation
- General conclusions regarding factors affecting the future European demand for wheat

In view of the points on which stress is laid, the bulletin is a far more useful handbook than its title suggests.

2. INFORMATION ON GOVERNMENT MEASURES

In recent years, particularly during the depression, government intervention in wheat has become well-nigh universal, in manifold ways

extending far beyond the customs duties that were formerly the principal means of "protection" to wheat growers and millers. In some of our previous "Surveys" and "Reviews" certain of these measures have been discussed at considerable length, with references and some tabulations.¹ The variety of measures employed, and the multiplicity of changes in details of their operation, make it impossible nowadays to cover these matters at all comprehensively in our annual "Review." These are best left for regional or other special studies, in which more extensive analysis of schemes, operations, and results can be given.²

There are, however, several sources which more or less conveniently summarize the status of such measures, or recent changes therein. Of these the newest, most specialized, and most authoritative, though somewhat out of date when it becomes available, is a quarterly series started early in 1935 by the International Institute of Agriculture, entitled *Government Measures Affecting Agricultural Products*. A most convenient and extensive summary, though by no means comprehensive, is given on pages 78-96 of the first number of Year II (1936), under the misleadingly restricted title "Import Duties on Cereals."

Commerce Reports, published weekly by the United States Bureau of Foreign and Domestic Commerce, reports many changes in tariff duties, import quotas, licensing systems, and other regulations affecting international trade; but for any one commodity, such as wheat, these cannot be picked out with ease. Of occasional special articles in this official weekly, one of the most useful is Henry Chalmers, "Foreign Tariffs and

¹ See WHEAT STUDIES, VIII, 149-73, 218-29; IX, 77-86, 147-49, 352-57; X, 83-92, 150-58, 253-57; XI, 14-19, 135-48; XII, 113-14, 199-203.

² See the following issues of WHEAT STUDIES: A. E. Taylor, "Economic Nationalism in Europe as Applied to Wheat," February 1932, VIII, No. 4; Ada F. Wyman and J. S. Davis, "Britain's New Wheat Policy in Perspective," July 1933, IX, No. 9; A. E. Taylor, "International Wheat Policy and Planning," June 1935, XI, No. 10; C. L. Alsberg, "Japanese Self-Sufficiency in Wheat," November 1935, XII, No. 3; W. Sanford Evans, "Canadian Wheat Stabilization Operations, 1929-35," March 1936, XII, No. 7; and Naum Jasny, "Wheat Problems and Policies in Germany," November 1936, XIII, No. 3.

Commercial Policies during 1935," in the issue of February 15, 1936, pp. 115-19, 126. Data from Dr. Chalmers' section of the Bureau, showing tariff rates in force on grains and grain products as of January 1, appear annually in April in the *Northwestern Miller Almanack*.

For governmental measures affecting wheat, flour, and various other agricultural products, certain mimeographed publications of the United States Bureau of Agricultural Economics are more helpful. *Foreign Crops and Markets*, issued weekly by the Foreign Agricultural Service Division, is particularly useful for frequent special articles. News items based on reports from field representatives of this division appear in this weekly and also in *World Wheat Prospects*, issued late each month. The latter was renamed *The Wheat Situation*, beginning with November 1936.¹ Occasionally special press releases are issued by the same bureau.

Reciprocal trade agreements entered into between the United States and foreign countries, and trade developments thereunder, are analyzed in *Commerce Reports*, *Foreign Crops and Markets*, and also in a new series of reports issuing from the Department of State.

Much the same ground that is covered by the foregoing publications of the United States Departments of Commerce, Agriculture, and State, is covered also by the *Commercial Intelligence Journal*, published weekly by the Department of Trade and Commerce, Dominion of Canada, Ottawa. This is admirably printed, well cross-referenced, and indexed semi-annually. Much of it is made up of reports from Canadian trade commissioners abroad, which are usually very well done. As a rule, the reported changes in government measures are embodied in a discussion which shows their relation to previous measures and how these have operated.

The various grain and milling journals occasionally contain news items, notes, or articles based on information from regular correspondents or special contributors, which usefully supplement the official publications mentioned above.

3. CANADIAN WHEAT BOARD INVESTIGATION

On March 18, 1936, the House of Commons in Canada set up a Special Committee on the Marketing of Wheat and Other Grains under Guarantee of the Dominion Government. Leaders of the majority party suggested the appointment of this committee when the minority leader, ex-Premier R. B. Bennett, made in the House certain allegations concerning the operations of the reconstituted Canadian Wheat Board in December 1935. The committee was headed by the Minister of Trade and Commerce, W. D. Euler, who is also chairman of the cabinet committee charged with special responsibilities in relation to the board;² but it included several members of the minority party in addition to Mr. Bennett.

The committee held open sessions on March 24, and on nine other days between April 21 and May 4. The principal witness was James R. Murray, chief commissioner of the Wheat Board; and Mr. Bennett was the chief interrogator. The published *Minutes of Proceedings and Evidence* covering these sessions throw much light on matters that had hitherto been known to few, and that are important for understanding the year's wheat developments. Since the grain of significant facts is easily lost in the chaff that any such oral inquiry produces, we have drawn heavily upon these reports for the condensed discussion of operations of the "old" and "new" boards given on pp. 165-70.

On the first day of the committee's sessions, the secretary of the Winnipeg Grain Exchange (A. E. Darby) gave an up-to-date summary of grain marketing procedures in Canada, with special reference to the part played by futures trading (*Minutes*, pp. 1-25).

Mr. Murray filed three illuminating memoranda: *Re United Kingdom Imports*; *Re United Kingdom Import Statistics*; and *Canada's Trade Structure in Relation to the Marketing of Wheat* (*Minutes*, pp. 235-38, 313-29). Though prepared by the Canadian Wheat Board, these rest largely upon the work of the External Trade Branch of the Dominion Bureau of Statistics. They represent the results of a serious effort to get at, and summarize statistically, the true facts regarding Canadian wheat exports to countries of ultimate destination, and British imports of Canadian wheat, during the past decade or so. Students have been aware that Canadian export data have long effectually misrepresented the facts in this respect, even with respect to exports to the United Kingdom and the United States; and also that British official trade statistics, prior to 1932-33, materially understated British imports of Canadian wheat and overstated the imports of United States wheat.³ This is because the data are based on documents which do not yield the information that "consumers" of the statistics really want. In consequence, extremely misleading interpreta-

¹ Since September 1930 the Dominion Bureau of Statistics in Canada has issued a *Monthly Review of the Wheat Situation*; and the Commonwealth Government of Australia began doing the same in July 1936. Each of these is of value, but not so much in the field of government measures.

² This committee also includes C. A. Dunning, Minister of Finance, J. G. Gardiner, Minister of Agriculture, and T. A. Crerar, Minister of Mines, and formerly president of the United Grain Growers, Ltd.

³ See also a British document, *The Wheat Situation 1931*, Reports of the Imperial Economic Committee, Twentieth Report, pp. 53-54, 110; and A. E. Taylor, "British Preference for Empire Wheat," *WHEAT STUDIES*, October 1933, X, 9-10.

tions have been put upon these data in the past. The memoranda go far toward clearing up the controversial subjects for the period with which they deal.

The third memorandum also contains some brief observations on the need for reorientation of Canada's trade policy with continental European countries, if Canada is "to sell the necessary volume of Canadian wheat in continental European countries . . ." (*Minutes*, p. 321).

On April 30, after having been pressed for answers to several basic and controversial questions regarding Canadian wheat marketing and policy, Mr. Murray read a statement urging that the whole matter be referred to a competent fact-finding commission (*Minutes*, pp. 226-28). A recent Order in Council designated Justice W. F. A. Turgeon a Royal Grain Inquiry Commission with very broad terms of reference, including matters that were discussed before the Special Committee. Justice Turgeon opened the inquiry in Winnipeg on December 1.¹

4. REPORTS OF THE AUSTRALIAN ROYAL COMMISSION

In Australia, increasing governmental concern over the economic position of wheat growers led to the appointment on January 25, 1934, of a Royal Commission on the Wheat, Flour, and Bread Industries. This was instructed "to inquire into and report upon the economic positions of the industries of growing, handling, and marketing wheat, manufacturing flour and other commodities from wheat, and manufacturing, distributing and selling bread." The Commission consisted of Sir Herbert W. Gepp (chairman), T. S. Cheadle, C. W. Harper, E. P. M. Sheedy, and Professor S. M. Wadham. Through comprehensive questionnaires and oral hearings, the commission secured information from government officials, representative wheat growers, millers, bakers, banking and other financial institutions, railway officials, retailers of goods purchased largely by farmers, wheat merchants, and farmers' co-operative organizations. The five reports of this commission represent a valuable contribution to the recent literature on wheat and related trades and industries.

The First Report, published July 30, 1934, a Supplement to it issued on November 27, and

the Second Report published on February 2, 1935, are concerned solely with information on and recommendations for the wheat industry. The First Report is in the nature of an interim report presented "because of the necessity to suggest measures of assistance to the industry in respect of the 1934-35 harvest." In the First Report proper, the recommendations are of a general character; but in the Supplement to the First Report these recommendations are made specific and detailed, providing for a governmental subsidy to wheat-growers of 3d. per bushel on wheat of the 1934 crop, payable largely out of funds accumulated through taxes on flour sold in the domestic market.

The Second Report is a comprehensive document which contains a mass of valuable information on historical and current aspects of the world wheat position (pp. 7-43); costs of production and debt structure in the Australian wheat industry (pp. 43-159, and 205-47); the marketing of Australian wheats, including consideration of baking quality, and the nature and results of agricultural education in Australia. The last ten pages of the report are devoted to a summary of the Findings and Recommendations of the Commission on the Wheat Industry.

The last three reports, which complete the series, were published in February 1936. The Third and Fourth Reports deal respectively with the economic positions of the bread-baking industry and the flour-milling industry. The historical and statistical background of each of these industries is discussed; their costs of production and financial structures are considered; and attention is given to the general problem of drastic price competition and means employed to solve this problem. In addition, the report on the baking industry gives substantial space to consideration of existing regulations pertaining to hours and wages of labor and to special matters of hygiene in bake-houses.

In the Fifth Report, the Commission undertook (1) "to review the changes which have taken place in the circumstances of the wheat industry since the presentation of the Second Report in order to assess the probable importance of those changes and the extent to which they are likely to affect the future of that industry," and (2) to consider "a number of matters in which all three industries are concerned and to which reference would be more suitably made in a General Report."

¹ *Northwestern Miller*, Dec. 2, 1936, p. 582.

APPENDIX TABLES

TABLE I.—WHEAT PRODUCTION, ACREAGE, AND YIELD PER ACRE IN PRINCIPAL PRODUCING AREAS, 1925-35*

Year	World ex-Russia ^a			Four chief exporters					Europe ex-Russia			French North Africa ^c	India	Others ex-Russia ^a	USSR
	Total	North-ern Hemisphere	South-ern Hemisphere	United States	Canada	Australia	Argentina	Total	Total	Lower Danube ^b	Other Europe				
A. PRODUCTION (Million bushels)															
1925.....	3,408	3,043	365	669	395	115	191	1,370	1,402	296	1,106	68	331	237	764
1926.....	3,523	3,075	448	832	407	161	230	1,630	1,220	294	926	57	325	291	898
1927.....	3,705	3,236	469	875	480	118	282	1,755	1,280	272	1,008	60	335	275	792
1928.....	4,038	3,464	574	914	567	160	349	1,990	1,409	367	1,042	69	291	279	807
1929.....	3,607	3,242	365	823	305	127	163	1,418	1,449	303	1,146	77	321	342	694
1930.....	3,881	3,380	501	886	421	214	232	1,753	1,359	353	1,006	64	391	314	989
1931.....	3,868	3,395	473	937	321	191	220	1,669	1,434	370	1,064	69	347	349	753
1932.....	3,845	3,325	520	757	443	214	241	1,655	1,488	222	1,266	75	337	290	744
1933.....	3,811	3,268	543	552	282	177	286	1,297	1,742	367	1,375	70	353	349	1,019 ^d
1934.....	3,485	3,042	443	526	276	133	241	1,176	1,546	249	1,297	97	352	314	1,117 ^d
1935.....	3,547	3,177	370	626	277	143	141	1,187	1,575	302	1,273	70	363	352	1,133 ^d
Average 1928-32..	3,848	3,361	487	863	412	181	241	1,697	1,428	323	1,105	71	337	315	797
B. ACREAGE (Million acres)															
1925.....	229.7	197.9	31.8	52.4	20.8	10.2	17.6	101.0	69.3	18.5	50.8	7.9	31.8	19.7	61.5
1926.....	239.7	205.0	34.7	56.6	22.9	11.7	19.0	110.2	70.0	18.7	51.3	8.1	30.5	20.9	73.9
1927.....	243.6	206.5	37.1	59.6	22.5	12.3	20.2	114.6	71.3	18.9	52.4	7.1	31.3	19.3	77.4
1928.....	254.0	212.2	41.8	59.2	24.1	14.8	22.4	120.5	71.4	19.6	51.8	8.3	32.2	21.6	68.5
1929.....	251.1	215.3	35.8	63.3	25.3	15.0	15.9	119.5	70.0	18.3	51.7	8.5	32.0	21.1	73.5
1930.....	260.5	218.0	42.5	62.6	24.9	18.2	19.5	125.2	73.6	20.0	53.6	8.9	31.6	21.2	83.5
1931.....	256.1	220.1	36.0	57.6	26.4	14.7	16.0	114.7	75.9	20.9	55.0	8.2	32.2	25.1	91.1
1932.....	260.0	221.5	38.5	57.8	27.2	15.8	17.8	118.6	75.2	18.8	56.4	8.8	33.8	23.6	85.3
1933.....	250.9	212.5	38.4	49.4	26.0	14.9	18.0	108.3	77.8	19.9	57.9	9.0	33.0	22.8	82.1
1934.....	241.6	206.4	35.2	43.4	24.0	12.5	17.2	97.1	77.6	19.5	58.1	9.0	36.0	21.9	87.1
1935.....	246.7	216.2	30.5	51.2	24.1	11.9	11.9	99.1	79.0	20.7	58.3	9.5	34.5	24.6	91.6
Average 1928-32..	256.3	217.4	38.9	60.1	25.6	15.7	18.3	119.7	73.2	19.5	53.7	8.5	32.4	22.5	80.4
C. YIELD PER ACRE (Bushels)															
1925.....	14.8	15.4	11.5	12.8	19.0	11.2	10.8	13.6	20.2	16.0	21.8	8.7	10.4	12.0	12.4
1926.....	14.7	15.0	12.9	14.7	17.8	13.8	12.1	14.8	17.4	15.7	18.0	7.0	10.7	13.9	12.2
1927.....	15.2	15.7	12.6	14.7	21.4	9.6	14.0	15.3	18.0	14.4	19.2	8.5	10.7	14.2	10.2
1928.....	15.9	16.3	13.7	15.4	23.5	10.8	15.6	16.5	19.7	18.8	20.1	8.3	9.0	12.9	11.8
1929.....	14.4	15.1	10.2	13.0	12.1	8.5	10.2	11.9	20.7	16.6	22.2	9.1	10.0	16.2	9.4
1930.....	14.9	15.5	11.8	14.2	16.9	11.8	11.9	14.0	18.5	17.6	18.8	7.2	12.4	14.8	11.8
1931.....	15.1	15.4	13.1	16.3	12.2	12.9	13.7	14.6	18.9	17.7	19.3	8.4	10.8	13.9	8.3
1932.....	14.8	15.0	13.5	13.1	16.3	13.6	13.5	14.0	19.8	11.8	22.4	8.5	10.0	12.3	8.7
1933.....	15.2	15.4	14.1	11.2	10.8	11.9	15.9	12.0	22.4	18.4	23.7	7.8	10.7	15.3	12.4
1934.....	14.4	14.8	12.6	12.1	11.5	10.6	14.0	12.1	19.9	12.8	22.3	10.8	9.8	14.3	12.8
1935.....	14.4	14.7	12.1	12.2	11.5	12.0	11.8	12.0	19.9	14.6	21.8	7.4	10.5	14.3	12.4
Average 1925-34..	14.9	15.3	12.6	13.8	16.0	11.5	13.3	13.9	19.6	16.0	20.8	8.4	10.4	14.0	10.9

* Data summarized from Tables II and III (except for India and USSR), with yields computed throughout from production and acreage.

^a Excludes China, Iran, and Iraq, but includes Turkey, Syria and Lebanon, Palestine, Cyprus, Manchukuo, Brazil, and Peru formerly omitted from our series. See Appendix Note A.

^b Hungary, Yugoslavia, Rumania, Bulgaria.

^c Morocco, Algeria, Tunis.

^d Not fairly comparable with other production data; see p. 150.

TABLE II.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1924-36*
(Million bushels)

Year	U.S. total	U.S. winter	U.S. spring	Canada	Australia	Argentina	Uruguay	Chile	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunisia
1924.....	841.6	573.6	268.0	262.1	164.6	191.1	9.9	24.5	51.6	57.8	70.4	24.7	28.8	17.3	5.1
1925.....	668.7	400.6	268.1	395.5	114.5	191.1	10.0	26.7	71.7	78.6	104.7	41.4	23.9	32.7	11.8
1926.....	832.2	631.6	200.6	407.1	160.8	230.1	10.2	23.3	74.9	71.4	110.9	36.5	20.6	23.6	13.0
1927.....	875.0	548.2	326.8	479.7	118.2	282.3	15.4	30.6	76.9	56.6	96.7	42.1	23.5	28.3	8.1
1928.....	914.4	579.1	335.3	566.7	159.7	349.1	12.3	29.7	99.2	103.3	115.5	49.2	24.7	30.3	13.7
1929.....	823.2	586.2	237.0	304.5	126.9	162.6	13.2	33.5	75.0	95.0	99.8	33.2	31.8	33.3	12.3
1930.....	886.5	633.6	252.9	420.7	213.6	232.3	7.4	21.2	84.3	80.3	130.8	57.3	21.3	32.4	10.4
1931.....	936.8	820.5	116.3	321.3	190.6	219.7	11.3	21.2	72.6	98.8	135.3	63.8	29.8	25.6	14.0
1932.....	756.9	491.8	265.1	443.1	213.9	240.9	5.4	28.7	64.5	53.4	55.5	48.1	28.0	29.2	17.5
1933.....	551.7	376.5	175.2	281.9	177.3	286.1	14.7	35.3	96.4	96.6	119.1	55.5	28.9	32.0	9.2
1934.....	526.4	438.0	88.4	275.8	133.4	240.7	10.7	30.1	64.8	68.3	76.6	39.6	39.6	43.5	13.8
1935.....	626.3	465.3	161.0	277.3	142.6	141.0	15.1	34.2	84.2	73.1	96.4	47.9	20.0	33.5	16.5
1936.....	626.5	519.0	107.5	233.5	133.5	249.9	...	...	87.1	107.4	128.7	59.3	13.2	27.7	7.7
Average 1930-34...	731.7	552.1	179.6	348.6	185.8	243.9	9.9	27.3	76.5	79.5	103.5	52.9	29.5	32.5	13.0

Year	United Kingdom	Irish F.S.	France	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^a	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1924.....	52.9	1.03	281.2	170.1	98.1 ^b	32.2	8.5	3.33	13.3	4.6	5.9	.49	6.8	121.8	10.6
1925.....	52.9	.75	330.3	240.8	124.1 ^b	39.3	10.7	3.76	15.0	5.6	9.7	.49	13.4	162.6	12.5
1926.....	51.0	1.16	231.8	220.6	100.2 ^b	39.9	9.4	4.04	13.4	5.5	8.8	.59	12.2	146.6	8.6
1927.....	55.8	1.42	276.1	195.8	126.5 ^b	47.2	12.0	4.12	17.0	6.2	9.4	.60	15.3	144.8	11.4
1928.....	49.8	1.19	281.3	228.6	141.6	52.9	12.9	4.24	17.9	7.3	12.2	.80	18.3	122.6	7.5
1929.....	49.8	1.18	337.3	260.1	123.1	52.9	11.6	4.21	13.5	5.5	11.8	.75	19.0	154.2	10.6
1930.....	42.2	1.09	228.1	210.1	139.2	50.6	12.0	3.60	13.7	6.1	10.2	.72	20.8	146.7	13.5
1931.....	37.8	.78	264.1	244.4	155.5	41.2	11.0	4.04	14.2	6.8	10.1	.59	17.0	134.4	13.0
1932.....	43.6	.83	333.5	276.9	183.8	53.7	12.2	4.00	16.1	12.8	11.0	.75	24.1	184.2	23.8
1933.....	62.4	1.98	362.3	298.5	205.9	72.9	14.6	4.96	16.1	15.3	11.5	.76	26.3	138.2	15.1
1934.....	69.8	3.80	338.5	233.1	166.5	50.0	13.3	5.34	17.3	18.0	12.8	1.20	28.4	186.8	24.7
1935.....	65.4	6.69	285.0	283.9	171.5	62.1	15.5	5.99	15.8	16.7	14.7	1.87	23.6	158.0	22.1
1936.....	53.7	10.00	244.4	227.1	169.4	55.6	13.5	4.70	16.8	16.3	12.9	2.16	22.7	121.5	8.4
Average 1930-34...	51.2	1.70	305.3	252.6	170.2	53.7	12.6	4.39	15.5	11.8	11.1	.80	23.3	154.1	18.0

Year	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Turkey	Other Near East ^c	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1924.....	37.5	3.3	1.58	.54	.79	7.7	...	17.6	34.2	25.4	10.3	25.8	10.4	7.1	5.45
1925.....	63.9	5.3	2.16	.79	.93	11.2	39.5	16.5	36.2	29.5	10.5	35.3	9.2	9.2	4.62
1926.....	52.5	4.2	1.86	.88	.92	12.4	90.7	19.2	37.2	29.7	10.2	35.6	10.3	8.3	7.95
1927.....	61.1	5.2	2.64	1.08	1.06	13.0	49.0	20.3	44.3	30.5	9.0	41.0	11.9	5.7	9.54
1928.....	59.2	6.3	2.50	1.04	1.00	13.1	59.2	10.7	37.3	32.2	8.6	54.5	11.0	7.2	8.83
1929.....	65.9	9.3	2.34	1.26	.76	11.4	99.9	22.3	45.2	31.9	8.3	47.8	11.3	10.6	7.24
1930.....	82.3	9.0	4.06	1.64	.87	9.7	93.9	24.5	39.8	30.1	9.4	49.8	11.4	9.3	7.58
1931.....	83.2	8.3	3.39	1.74	1.12	11.2	104.9	18.8	46.1	32.3	8.7	58.4	16.2	13.7	6.58
1932.....	49.5	9.4	5.29	2.08	1.48	17.1	69.0	12.9	52.6	32.8	9.0	39.4	9.7	10.6	11.06
1933.....	79.9	8.2	6.72	2.45	2.46	28.4	98.2	16.7	40.0	40.4	8.9	52.5	12.1	11.8	9.04
1934.....	76.4	10.5	8.05	3.11	3.28	25.7	99.7	18.7	37.3	45.6	9.3	23.9	11.0	15.3	5.93
1935.....	73.9	10.1	6.52	2.27	4.23	27.2	92.6	25.4	43.2	48.7	9.7	36.9	10.7	20.2	8.86
1936.....	78.3	7.5	5.25	2.38	5.29	23.7	80.3	...	45.7	45.2	9.0	30.7	13.0	15.8	...
Average 1930-34...	74.3	9.1	5.50	2.20	1.84	18.4	93.1	18.3	43.2	36.2	9.1	44.8	12.1	12.1	8.04

* Data of U.S. Department of Agriculture and International Institute of Agriculture. Figures for 1936 are preliminary; those in italics unofficial. Dots (...) indicate that comparable data are not available. See also Table VIII. For 1909-13 averages, so far as available, see last year's "Review."

^a Including Luxemburg.

^b Adjusted data; see WHEAT STUDIES, XIII, 128, 136.

^c Syria, Lebanon, Palestine, Cyprus.

TABLE III.—WHEAT ACREAGE IN PRINCIPAL PRODUCING COUNTRIES, 1924-36*

(Million acres)

Year	U.S. total	U.S. winter	U.S. spring	Canada ^a	Australia	Argentina	Uruguay	Chile	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis
1924.....	52.46	35.42	17.04	22.06	10.82	15.98	.85	1.43	3.50	4.24	7.84	2.49	2.46	3.53	1.20
1925.....	52.44	31.96	20.48	20.79	10.20	17.62	.96	1.45	3.52	4.31	8.16	2.55	2.62	3.61	1.62
1926.....	56.62	37.60	19.02	22.90	11.69	18.95	.99	1.48	3.71	4.18	8.22	2.62	2.56	3.74	1.84
1927.....	59.63	38.20	21.43	22.46	12.28	20.20	1.15	1.84	4.02	4.52	7.66	2.67	2.30	3.47	1.38
1928.....	59.22	36.85	22.37	24.12	14.84	22.43	1.08	1.72	4.14	4.68	7.92	2.81	2.66	3.66	2.02
1929.....	63.33	41.19	22.14	25.26	14.98	15.90	1.10	1.72	3.71	5.21	6.76	2.66	3.01	3.80	1.73
1930.....	62.61	41.07	21.54	24.90	18.16	19.53	.96	1.61	4.19	5.25	7.55	3.01	2.96	4.03	1.90
1931.....	57.56	43.33	14.23	26.36	14.74	16.03	1.08	1.52	4.01	5.29	8.57	3.05	2.54	3.64	1.98
1932.....	57.84	36.06	21.78	27.18	15.77	17.79	.95	1.47	3.79	4.82	7.09	3.12	2.71	3.74	2.39
1933.....	49.44	30.27	19.17	25.99	14.90	18.04	1.19	2.10	3.92	5.14	7.70	3.10	3.21	3.99	1.75
1934.....	43.40	34.64	8.76	23.98	12.54	17.15	1.10	2.12	3.80	5.00	7.61	3.11	3.02	4.07	1.95
1935.....	51.23	33.40	17.83	24.12	11.93	11.91	1.27	2.05	4.14	5.31	8.50	2.73	3.62	4.10	1.83
1936.....	48.82	37.61	11.21	25.29	12.64	15.73	....	....	4.11	5.46	7.17	2.64	3.14	4.29	1.22
Average 1930-34..	54.17	37.07	17.10	25.68	15.22	17.71	1.06	1.76	3.94	5.10	7.70	3.08	2.89	3.89	1.99

Year	United Kingdom	Irish F.S.	France	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^b	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1924.....	1.60	.033	13.62	11.28	3.62	1.50	.482	.111	.362	.118	.149	.021	.322	10.38	1.04
1925.....	1.55	.022	13.87	11.67	3.84	1.53	.484	.112	.392	.132	.199	.022	.363	10.72	1.05
1926.....	1.65	.029	12.97	12.14	3.96	1.80	.500	.127	.386	.132	.252	.022	.381	10.78	1.06
1927.....	1.71	.034	13.06	12.30	4.32	1.85	.505	.127	.427	.153	.274	.025	.561	10.83	1.06
1928.....	1.46	.031	12.96	12.26	4.27	1.92	.514	.127	.445	.148	.252	.028	.561	10.57	1.10
1929.....	1.38	.029	13.34	11.79	3.96	2.02	.515	.129	.377	.112	.260	.030	.574	10.62	1.08
1930.....	1.40	.027	13.28	11.92	4.40	1.96	.508	.134	.436	.142	.249	.030	.647	11.13	1.10
1931.....	1.25	.021	12.84	11.88	5.36	2.05	.517	.134	.404	.192	.259	.029	.683	11.24	1.27
1932.....	1.34	.021	13.43	12.18	5.64	2.06	.534	.137	.417	.297	.245	.028	.688	11.25	1.46
1933.....	1.74	.050	13.50	12.59	5.73	2.27	.543	.140	.406	.338	.261	.028	.748	11.17	1.42
1934.....	1.87	.094	13.35	12.27	5.43	2.30	.573	.165	.411	.366	.280	.046	.718	11.39	1.34
1935.....	1.88	.163	13.25	12.43	5.20	2.38	.609	.150	.430	.380	.311	.059	.674	11.25	1.49
1936.....	1.80	.255	12.71	12.36	5.13	2.30	.629	.171	.429	.375	.295	.075	.693	10.13	1.20
Average 1930-34..	1.52	.043	13.28	12.17	5.31	2.13	.535	.142	.415	.267	.259	.032	.697	11.24	1.32

Year	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Turkey	Other Near East ^c	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1924.....	3.16	.210	.106	.044	.037	1.15	4.13	2.05	1.42	1.15	.884	1.84	1.40	.76	.167
1925.....	3.20	.277	.119	.051	.038	1.15	7.06	1.89	1.38	1.15	.887	2.17	1.13	.97	.152
1926.....	3.25	.303	.122	.059	.039	1.30	7.99	1.87	1.53	1.15	.895	2.21	1.29	.88	.220
1927.....	3.36	.297	.145	.067	.044	1.23	5.05	1.86	1.66	1.16	.897	2.81	1.31	.77	.261
1928.....	3.19	.393	.164	.070	.046	1.33	7.06	1.67	1.59	1.20	.896	3.25	1.28	.82	.255
1929.....	3.53	.488	.145	.082	.034	1.24	6.36	1.59	1.61	1.21	.874	3.18	1.29	1.08	.236
1930.....	4.07	.415	.179	.090	.035	1.43	6.39	1.84	1.52	1.20	.848	3.39	1.22	1.27	.249
1931.....	4.50	.478	.215	.099	.045	1.50	8.77	2.04	1.65	1.23	.817	3.92	1.50	1.74	.269
1932.....	4.26	.509	.255	.128	.059	1.50	8.56	1.71	1.76	1.25	.793	3.45	1.10	1.53	.303
1933.....	4.19	.499	.309	.155	.091	1.71	7.26	1.80	1.43	1.51	.790	3.40	1.17	1.26	.286
1934.....	4.38	.514	.351	.161	.125	1.96	7.62	1.64	1.44	1.59	.798	2.04	1.22	1.42	.231
1935.....	4.33	.536	.347	.154	.174	2.09	8.47	1.86	1.46	1.63	.800	2.45	1.14	2.50	.249
1936.....	4.30	.485	.319	.157	.191	2.10	7.20	....	1.46	1.69	....	2.64	1.22	2.47	.222
Average 1930-34..	4.28	.483	.262	.127	.071	1.62	7.72	1.81	1.56	1.36	.809	3.24	1.24	1.44	.268

* For general notes see Table II. Mainly harvested acreage, but see note a. See also Table VII.

^a Including sown acreage for spring wheat.^b Including Luxemburg.^c Syria, Lebanon, Palestine, Cyprus. Prior to 1931 our rough approximations for Palestine.

TABLE IV.—WHEAT YIELD PER ACRE IN PRINCIPAL PRODUCING COUNTRIES, 1924-36*
(Bushels of 60 pounds)

Year	U.S. total	U.S. winter	U.S. spring	Canada	Australia	Argentina	Uruguay	Chile	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis
1924.....	16.0	16.2	15.7	11.8	15.2	12.0	11.7	17.1	14.7	13.6	9.0	9.9	11.7	4.9	4.3
1925.....	12.8	12.5	13.1	19.0	11.2	10.8	10.5	18.4	20.3	18.3	12.8	16.2	9.1	9.1	7.2
1926.....	14.7	16.8	10.5	17.8	13.8	12.1	10.4	15.7	20.2	17.1	13.5	14.0	8.0	6.3	7.1
1927.....	14.7	14.4	15.2	21.4	9.6	14.0	13.4	16.6	19.1	12.5	12.6	15.8	10.2	8.2	5.8
1928.....	15.4	15.7	15.0	23.5	10.8	15.6	11.3	17.3	23.9	22.1	14.6	17.5	9.3	8.3	6.8
1929.....	13.0	14.2	10.7	12.1	8.5	10.2	12.0	19.4	20.2	18.2	14.7	12.5	10.6	8.8	7.1
1930.....	14.2	15.4	11.7	16.9	11.8	11.9	7.7	13.2	20.1	15.3	17.3	19.1	7.2	8.1	5.5
1931.....	16.3	18.9	8.1	12.2	12.9	13.7	10.4	14.0	18.1	18.7	15.8	20.9	11.7	7.0	7.1
1932.....	13.1	13.6	12.2	16.3	13.6	13.5	5.7	19.5	17.0	11.1	7.8	15.4	10.3	7.8	7.3
1933.....	11.2	12.4	9.2	10.8	11.9	15.9	12.4	16.8	24.6	18.8	15.5	17.9	9.0	8.0	5.3
1934.....	12.1	12.6	10.0	11.5	10.6	14.0	9.7	14.1	17.0	13.6	10.0	12.7	13.1	10.6	7.1
1935.....	12.2	13.9	9.0	11.5	12.0	11.8	11.9	16.7	20.3	13.8	11.3	17.5	5.5	8.2	9.0
1936.....	12.8	13.8	9.6	9.2	10.6	15.9	....	....	21.2	19.7	17.9	22.5	4.2	6.5	6.3
Average 1925-34..	13.8	14.8	11.9	16.0	11.5	13.3	10.5	16.5	20.1	16.6	13.5	16.3	9.9	8.2	6.7

Year	United Kingdom	Irish F.S.	France	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^a	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1924.....	33.1	31.2	20.6	15.1	27.1 ^b	21.5	17.6	30.0	36.8	39.2	39.4	23.5	21.1	11.7	10.2
1925.....	34.1	34.1	23.8	20.6	32.3 ^b	25.7	22.0	33.6	38.3	42.4	49.0	22.3	36.8	15.2	11.9
1926.....	30.9	40.0	17.9	18.2	25.3 ^b	22.2	18.9	31.9	34.8	41.6	34.8	26.6	31.9	13.6	8.1
1927.....	32.6	41.8	21.1	15.9	29.3 ^b	25.5	23.7	32.5	39.8	40.2	34.3	24.2	27.3	13.4	10.8
1928.....	34.1	38.4	21.7	18.6	33.2	27.6	25.1	33.4	40.3	49.6	48.5	28.5	32.7	11.6	6.8
1929.....	36.1	40.7	25.3	22.1	31.1	26.2	22.4	32.6	35.8	48.8	45.3	25.0	33.1	14.5	9.9
1930.....	30.1	40.4	17.2	17.6	31.6	25.8	23.6	26.9	31.4	42.6	41.0	24.0	32.2	13.2	12.3
1931.....	30.2	37.1	20.6	20.6	29.0	20.1	21.3	30.1	35.2	35.2	38.8	20.4	24.9	12.0	10.2
1932.....	32.5	39.5	24.8	22.7	32.6	26.1	22.8	29.2	38.6	43.1	44.9	26.8	35.0	16.4	16.3
1933.....	35.9	39.6	26.8	23.7	35.9	32.1	26.9	35.4	39.7	45.3	44.1	27.1	35.2	12.4	10.6
1934.....	37.3	40.4	25.3	19.0	30.6	21.7	23.2	32.3	42.1	49.1	45.7	26.1	39.6	16.4	18.4
1935.....	34.8	41.0	21.5	22.8	33.0	26.1	25.5	39.9	36.7	43.9	47.3	31.7	35.0	14.0	14.8
1936.....	29.8	39.2	19.2	18.4	33.0	24.2	21.5	27.5	39.2	43.5	43.7	28.8	32.8	12.0	7.0
Average 1925-34..	33.4	39.4	22.5	19.9	31.3	25.3	23.1	31.8	37.6	44.3	42.7	24.8	32.9	13.9	11.8

Year	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Turkey	Other Near East ^c	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1924.....	11.9	15.8	14.9	12.3	21.4	6.7	...	9.6	24.1	22.1	11.7	14.0	7.4	9.4	32.6
1925.....	19.9	19.1	18.2	15.5	24.5	9.8	5.6	8.7	26.2	25.7	11.8	16.3	8.2	9.5	30.4
1926.....	16.2	13.9	15.2	14.9	23.6	9.5	11.4	10.3	24.3	25.8	11.4	16.1	8.0	9.4	36.1
1927.....	18.2	17.5	18.2	16.1	24.1	10.5	9.7	10.9	26.8	26.3	10.0	14.6	9.1	7.3	36.6
1928.....	18.6	16.0	15.2	14.8	21.7	9.8	8.4	6.4	23.5	26.8	9.6	16.8	8.6	8.8	34.6
1929.....	18.7	19.1	16.1	15.4	22.4	9.2	15.7	14.0	28.0	26.4	9.5	15.0	8.8	9.8	30.7
1930.....	20.2	21.7	22.7	18.2	24.7	6.8	14.7	13.3	26.1	25.1	11.4	14.7	9.4	7.3	30.4
1931.....	18.5	17.4	15.8	17.6	24.9	7.5	12.0	9.2	27.9	26.3	10.6	14.9	10.8	7.9	24.5
1932.....	11.6	18.5	20.7	16.2	25.1	11.4	8.1	7.5	29.9	26.2	11.3	11.4	8.8	6.9	36.5
1933.....	19.1	16.4	21.7	15.8	27.0	16.6	13.5	9.3	28.0	26.8	11.3	15.4	10.3	9.4	31.6
1934.....	17.4	20.4	22.9	19.3	26.2	13.1	13.1	11.4	25.9	28.7	11.7	11.7	9.0	10.8	25.7
1935.....	17.1	18.8	18.8	14.7	24.3	13.0	10.9	13.7	29.6	29.9	12.1	15.1	9.4	8.1	35.6
1936.....	18.2	15.5	16.5	15.2	27.7	11.3	11.2	....	31.3	26.7	....	11.6	10.7	6.4	....
Average 1925-34..	17.8	18.2	19.5	16.8	24.8	10.6	11.2	10.1	26.7	26.6	10.8	14.7	9.1	8.7	31.9

* Computed from data in Tables II and III. Averages for 1925-34 are computed from average production and acreage.

^a Including Luxemburg.^b See Table II, footnote b.^c Syria, Lebanon, Palestine, Cyprus.

TABLE V.—PRODUCTION OF OTHER GRAINS AND POTATOES IN PRINCIPAL PRODUCING AREAS, 1929-35*
(Million bushels)

Year	Rye												
	Europe ex-Russia	Ger- many	Poland	Czecho- slovakia	Austria	France	Spain	Lower Danube	Baltic States	Scandi- navia	Nether- lands	Bel- gium ^a	United States
1929....	939	321.0	276.0	72.2	20.1	36.5	22.9	60.3	47.7	27.2	18.3	22.6	35.3
1930....	923	302.3	273.9	70.4	20.6	28.4	21.5	67.1	62.8	27.8	14.9	19.1	45.1
1931....	775	263.0	224.5	54.6	18.9	29.5	21.1	53.9	40.1	19.9	14.2	20.8	33.4
1932....	931	329.3	240.6	85.7	24.2	33.9	25.9	58.2	54.4	26.3	13.9	24.2	39.4
1933....	1,003	343.6	278.5	82.1	27.0	35.3	20.7	74.6	59.1	28.6	15.6	22.9	21.4
1934....	890	299.5	254.5	56.0	22.6	33.0	21.6	46.8	67.1	31.9	19.8	22.8	17.1
1935....	890	294.4	260.5	64.5	24.4	29.4	19.2	56.9	60.1	28.8	18.4	19.0	58.6
Average 1930-34..	904	307.5	254.4	69.8	22.7	32.0	22.2	60.1	56.7	26.9	15.7	22.0	31.3

Year	CORN (Maize)								BARLEY				
	Europe ex-Russia	Ru- mania	Yugo- slavia	Hun- gary	Italy	United States	Argen- tina ^b	South Africa ^b	Europe ex-Russia	Ger- many	Lower Danube	Canada	United States
1929....	705	251	163	71	100	2,297	281	80	827	146	186	102	286
1930....	611	178	136	55	118	2,080	420	57	758	131	175	135	300
1931....	629	239	126	60	77	2,573	299	68	690	139	121	67	199
1932....	762	236	189	96	119	2,927	268	30	777	148	132	81	298
1933....	610	179	141	71	102	2,397	257	85	775	159	163	63	154
1934....	724	191	203	83	126	1,478	452	66	715	147	92	64	117
1935....	608	212	119	56	95	2,292	392	53	698	156	98	84	282
Average 1930-34..	667	205	159	73	108	2,291	339	61	743	145	137	82	214

Year	OATS						POTATOES						
	Europe ex-Russia	Ger- many	France	Poland	Scandi- navia	United States	Europe ex-Russia	Ger- many	Poland	Czecho- slovakia	France	British Isles	United States
1929....	2,060	509	373	203	169	1,113	5,181	1,473	1,167	392	594	331	332
1930....	1,713	390	286	162	160	1,275	5,049	1,731	1,135	329	512	254	341
1931....	1,695	427	316	159	142	1,124	5,029	1,612	1,139	357	599	216	384
1932....	1,855	458	332	165	172	1,251	5,361	1,728	1,101	341	606	321	376
1933....	1,940	479	391	185	157	733	5,001	1,619	1,041	301	545	299	342
1934....	1,696	376	302	176	165	542	5,471	1,719	1,230	352	612	296	406
1935....	1,669	371	307	179	172	1,195	4,904	1,507	1,194	282	526	268	386
Average 1930-34..	1,780	426	325	169	159	985	5,182	1,682	1,129	336	575	277	370

* For general note see Table II. For data on USSR, see p. 150.

^a Including Luxemburg.^b Crops harvested in March-July of the following year.TABLE VI.—UNITED STATES WHEAT PRODUCTION
BY CLASSES, 1928-36*
(Million bushels)

Crop of	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1928 ^a	392	128	93	202	98	913
1929.....	371	164	85	146	57	823
1930.....	404	180	86	157	59	886
1931.....	509	262	71	73	22	937
1932.....	281	159	85	190	42	757
1933.....	177	162	88	107	18	552
1934.....	208	188	70	53	7	526
1935.....	203	204	86	108	25	626
1936.....	260	207	98	52	9	626
Average 1928-32..	391	178	84	154	56	863

* Latest estimates of U.S. Department of Agriculture, chiefly from *Crops and Markets*, October 1936, p. 341.^a Unrevised.TABLE VII.—WHEAT ACREAGE IN THE UNITED
STATES AND ARGENTINA, 1928-36*
(Million acres)

Harvest year	U.S. total		U.S. winter		U.S. spring		Argentina	
	Sown	Har- vested	Sown	Har- vested	Sown	Har- vested	Sown	Har- vested
1928....	71.1	59.2	48.4	36.8	22.7	22.4	22.8	22.4
1929....	66.9	63.3	44.0	41.2	22.9	22.1	20.5	15.9
1930....	67.1	62.6	45.0	41.1	22.1	21.5	21.3	19.5
1931....	65.9	57.5	45.5	43.3	20.4	14.2	17.3	16.0
1932....	65.9	57.8	43.4	36.0	22.5	21.8	19.8	17.8
1933....	68.4	49.4	44.4	30.3	24.0	19.1	19.7	18.0
1934....	63.6	43.4	44.6	34.6	19.0	8.8	18.8	17.2
1935....	69.2	51.2	47.1	33.4	22.1	17.8	14.2	11.9
1936....	73.6	48.8	49.7	37.6	23.9	11.2	17.5	15.7
Average 1930-32..	66.3	59.3	44.6	40.1	21.7	19.2	19.5	17.8
1928-32..	67.4	60.1	45.3	39.7	22.1	20.4	20.3	18.3

* Latest official data. See Appendix Note B (1).

TABLE VIII.—WHEAT PRODUCTION IN MISCELLANEOUS COUNTRIES, 1925-35*
(Million bushels)

Year	China	Iran (Persia)	Syria, Lebanon	Palestine	Cyprus	Brazil	Peru
1925...	...	...	10.7	3.71	2.08	5.67	3.18
1926...	...	...	13.9	3.64	1.62	4.96	2.67
1927...	...	...	14.8	3.65	1.87	4.64	3.15
1928...	...	...	6.7	2.40	1.56	4.63	3.08
1929...	...	...	16.8	3.23	2.20	6.27	4.47
1930...	...	...	19.4	3.21	1.87	5.20	4.52
1931...	794	44.1	14.2	2.93	1.62	6.04	3.48
1932...	835	50.9	9.8	1.88	1.14	6.25	3.12
1933...	828	68.0	13.5	1.63	1.64	6.43	2.67
1934...	825	...	13.4	3.05	2.20	5.46	1.76
1935...	783	...	20.0	3.78	....	....	....
Average 1931-33	819	54.3	12.5	2.15	1.47	6.24	3.09

* For general note see Table II. Official data for China, exclusive of the provinces now in fact included in Manchukuo, from *Crop Reports* of the National Agricultural Research Bureau. On the work of this bureau, see *Commercial Intelligence Journal*, Dec. 5, 1936, pp. 1034 ff.

TABLE IX.—PROTEIN CONTENT AND GRADINGS OF CANADIAN HARD RED SPRING WHEAT, 1928-36*

Aug.-July	Protein content ^a	Percentage of inspections grading						
		No. 1 ^b	No. 2	Nos. 1-3	Nos. 4-5	No. 6, feed	Tough and damp ^c	Other ^d
1928-29..	....	1.3	12.4	35.0	40.1	22.6	1.6	.7
1929-30..	13.3	41.3	39.2	93.5	2.9	.4	1.5	1.7
1930-31..	13.1	42.3	22.5	70.3	2.1	.1	25.3	2.2
1931-32..	13.7	34.5	35.9	81.4	4.1	1.0	12.3	1.2
1932-33..	14.0	57.5	30.8	92.0	2.7	.3	4.1	.9
1933-34..	13.9	48.3	30.5	83.5	4.2	.8	10.8	.7
1934-35..	14.1	43.1	24.5	74.8	11.9	2.4	10.2	.7
1935-36..	14.2 ^e	24.5	14.1	53.0	20.5	12.7	5.2	8.6 ^f

* Data from *Annual Reports* of Dominion Grain Research Laboratory and *Canadian Grain Statistics*. Exclusive of durum, white springs, winters, etc.

^a Average (by weight) of samples of No. 1 Hard to No. 3 Manitoba Northern, 13.5 per cent moisture basis.

^b Including No. 1 Hard and No. 1 Northern.

^c Wheat of straight grades, but with higher moisture content. Before 1930-31 called "No grade."

^d Including "smutty," "rejected," "condemned," "sample."

^e The figure becomes 13.9 if samples of No. 4 Northern, No. 4 Special, and Nos. 1 and 2 C. W. Garnet are included.

^f Including much rusted wheat graded Nos. 4-6 Special.

TABLE X.—WHEAT MARKETINGS IN NORTH AMERICA, MONTHLY, 1935-36, WITH COMPARISONS

Year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
UNITED STATES: PERCENT GE MARKETED BY FARMERS ^a															
1928-29...	1.3	19.0	18.3	17.2	12.0	7.2	5.4	4.2	4.3	3.5	2.8	2.7	2.1	...	100
1929-30...	5.1	25.5	22.3	14.0	8.6	4.8	4.5	3.1	2.9	2.5	2.5	2.6	1.6	...	100
1930-31...	3.9	25.2	21.0	12.3	7.1	4.5	4.7	4.7	4.7	3.5	3.1	3.9	1.4	...	100
1931-32...	6.0	27.6	18.5	9.5	7.5	4.3	4.4	4.0	5.8	3.4	3.5	4.0	1.5	...	100
1932-33...	4.8	18.7	19.6	14.0	7.8	5.5	4.8	3.6	3.4	3.4	4.3	5.4	4.7	...	100
1933-34...	9.0	21.5	20.4	13.8	7.0	5.0	3.6	3.6	3.3	3.4	2.7	3.0	3.7	...	100
1934-35...	12.2	29.6	15.4	9.5	5.3	4.3	4.5	2.9	3.5	2.9	4.4	3.5	2.0	...	100
1935-36...	....	....	....	....	....	...	...	...	...	...	...	...	...	...	...
UNITED STATES: RECEIPTS AT THIRTEEN PRIMARY MARKETS ^b (Million bushels)															
1933-34...	....	37.2	26.7	22.6	17.6	11.6	11.2	8.7	10.0	9.1	8.4	12.5	23.4	...	199
1934-35...	....	49.7	23.0	19.1	12.9	9.2	7.8	5.1	3.8	4.7	6.4	8.3	10.0	...	160
1935-36...	....	28.9	48.2	42.3	27.9	14.5	9.9	9.3	5.5	9.8	7.4	11.1	14.8	...	230
CANADA: RECEIPTS AT COUNTRY ELEVATORS AND PLATFORM LOADINGS ^c (Million bushels)															
1933-34...	....	....	25.6	55.6	46.4	23.0	10.3	10.4	8.3	9.1	7.3	8.3	12.3	10.9	228
1934-35...	....	....	30.8	55.6	50.8	23.6	12.5	3.9	8.8	8.1	6.6	5.6	9.3	12.6	228
1935-36...	....	....	13.3	73.2	60.0	21.0	14.2	3.2	2.1	7.2	4.6	5.5	8.7	4.0	217

^a Estimates of Bureau of Agricultural Economics on the basis of reports from about 3,500 mills and elevators. Based on June-May for Kansas, Oklahoma, Texas, New Mexico, Arizona, and California; on July-June for other states. See *Agriculture Yearbook*, 1935, p. 359. Data for 1935-36 are not yet available.

^b Trade data, here compiled from *Survey of Current Business*. Includes Chicago, Detroit, Duluth, Indianapolis,

Kansas City, Milwaukee, Minneapolis, Omaha, Peoria, Sioux City, St. Joseph, St. Louis, and Wichita. For earlier data, see our previous "Reviews."

^c Data for Prairie Provinces only, computed from official figures given in *Canadian Grain Statistics*. For corresponding data for 1921-22 to 1932-33, see "The Timing of Wheat Marketing in Western Canada," WHEAT STUDIES, October 1936, XIII, 62.

TABLE XI.—WORLD WHEAT VISIBLE SUPPLIES, AUGUST 1, 1925-36, AND MONTHLY, 1935-36*
(Million bushels)

Date	Totals ^a	U.S. grain		Canadian grain		Total North America ^a	Afloat to Europe	U.K. ports	Total U.K. and afloat	Australia	Argentina
		United States	Canada	Canada	United States ^b						
Aug. 1											
1925.....	116.6	34.0 ^c	2.4	18.5	3.0	57.9	33.4	8.4	41.8	8.4	8.5
1926.....	121.9	34.6 ^c	.3	27.1	3.7	65.7	38.6	7.0	45.6	6.2	4.4
1927.....	150.9	33.7	1.3	37.8	4.8	77.6	46.1	8.2	54.3	12.8	6.2
1928.....	200.2	63.1	2.3	52.4	13.6	131.4	43.6	9.8	53.4	9.5	5.9
1929.....	325.4	136.4	2.3	83.8	22.9	245.4	37.6	6.2	43.8	20.0	16.2
1930.....	358.0	161.9	4.0	89.5	16.1	271.5	39.2	6.8	46.0	33.5	7.0
1931.....	447.8	233.6	22.9	105.8	5.5	367.8	37.9	10.6	48.5	24.5	7.0
1932.....	385.5	175.9	15.4	116.8	4.7	312.8	31.4	9.1	40.5	26.0	6.2
1933.....	423.2	135.0	3.7	190.4	6.7	335.8	31.6	11.4	43.0	31.5	12.9
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.....	237.5	67.3	.0	99.5	19.3	186.1	20.6	9.7	30.3	11.5	9.6
1935-36											
Sept. 1...	316.8	62.5	.0	175.3	18.6	256.4	18.6	7.6	26.2	23.2	11.0
Oct. 1...	366.1	79.7	.0	213.2	20.6	313.5	23.9	5.9	29.8	13.2	9.6
Nov. 1...	409.1	84.3	.0	239.4	32.1	355.8	28.7	6.2	34.9	10.7	7.7
Dec. 1...	396.6	81.2	.0	232.3	32.8	346.3	26.8	8.8	35.6	8.5	6.2
Jan. 1...	441.5	76.7	.0	226.4	34.8	337.9	20.2	10.3	30.5	68.0	5.1
Feb. 1...	429.9	70.3	.0	215.2	29.3	314.8	26.2	9.0	35.2	74.0	5.9
Mar. 1...	394.2	59.9	.0	199.7	23.1	282.7	39.3	8.0	47.3	56.8	7.4
Apr. 1...	348.6	47.9	.0	190.0	15.5	253.4	37.0	8.9	45.9	40.5	8.8
May 1...	308.6	40.7	.0	173.3	11.9	225.9	33.2	9.8	42.0	31.5	9.2
June 1...	265.4	31.2	.0	148.7	13.3	193.2	31.8	9.9	41.7	20.2	10.3
July 1...	221.0	25.2	.0	120.2	15.3	160.7	26.7	9.9	36.6	14.5	9.2

* 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*.

^a The significance of the totals is reduced by two facts: wheat at country shipping points is included for Canada and Australia but not for the United States and Argentina; and corresponding data for continental Europe and most of ex-Europe are lacking.

^b In bond for transit through, or use in, the United States.
^c *Bradstreet's* data, slightly too high for proper comparisons. See Table XIII, footnote d.

TABLE XII.—WORLD WHEAT STOCKS ex-RUSSIA (APPROXIMATE), ABOUT AUGUST 1, 1923-36*
(Million bushels)

Year	Total	Four chief ex-ports	Total North America	United States grain	Canadian grain	Australia	Argentina	Lower Danube ^a	North Africa ^b	Europe ex-Danube	Afloat to Europe	Afloat to ex-Europe	Japan	India ^c
1923.....	551	263	166	133	33	33	64	36	9	154	39	8	6	36
1924.....	682	285	185	137	48	34	66	45	18	217	42	8	11	56
1925.....	526	227	141	111	30	28	58	20	15	170	33	6	4	51
1926.....	612	232	141	101	40	24	67	40	24	211	39	7	10	49
1927.....	645	268	164	111	53	35	69	46	26	206	46	9	8	36
1928.....	693	338	207	115	92	36	95	25	22	210	44	13	6	35
1929.....	954	530	359	232	127	41	130	75	21	237	38	16	8	29
1930.....	909	535	421	294	127	49	65	44	30	219	39	7	6	29
1931.....	997	609	469	329	140	60	80	57	18	182	38	14	8	71
1932.....	991	643	528	391	137	50	65	49	11	183	31	10	13	51
1933.....	1,083	730	600	382	218	55	75	27	16	233	32	11	5	29
1934.....	1,149	681	478	274	204	85	118	54	11	323	35	11	5	29
1935.....	905	503	361	146	215	57	85	20	23	298	17	11	4	29
1936.....	724	368	266	137	129	42	60	25	18	246	21	11	6	29
Average 1923-27..	603	255	159	118	41	31	65	37	18	192	40	7	8	46

* Based so far as possible upon stocks reported either officially (e.g., North America) or unofficially (e.g., afloat to Europe); see Tables XI, XIII, XXX, and WHEAT STUDIES, February 1933, IX, No. 5. United States stocks as of July 1; others as of August 1 or nearest date possible. On recent revisions in United States figures, see Appendix Note B (2).

^a Hungary, Yugoslavia, Rumania, Bulgaria.

^b Morocco, Algeria, Tunis, Egypt.

^c Old-crop wheat.

TABLE XIII.—WHEAT CARRYOVERS IN THE UNITED STATES AND CANADA, 1923-36*
(Million bushels)

Year	United States (July 1)						Canada (Aug. 31, 1923; July 31, 1924-36)						
	On farms	In country mills and elevators	Commercial stocks	In city mills ^a	Total in four positions	U.S. grain in Canada	On farms	In country mills and elevators ^b	In terminal elevators	In transit	In flour mills	Total in five positions	Canadian grain in U.S. ^c
1923.....	35.2	37.1	29.0 ^d	31.0	132.3	1.2	1.4	2.4	2.7	2.8	2.4	11.7	0.5
1924.....	29.4	36.6	38.1 ^d	33.0	137.1	0.3	7.4 ^e	4.7	22.7	5.9	4.5	45.2 ^e	3.0
1925.....	28.6	25.3	28.9 ^d	25.6	108.4	2.7	2.7	2.7	15.2	3.9	2.0	26.5	3.0
1926.....	27.1	29.5	16.1 ^d	27.5	100.2	1.0	3.9	1.3	24.1	3.2	3.9	36.4	3.7
1927.....	26.6	21.8	21.1	40.0	109.5	1.4	4.2	1.5	35.6	2.3	4.2	47.8	4.8
1928.....	19.6	19.3	38.6	34.9	112.4	2.5	4.2	4.7	48.9	13.7	6.1	77.6	13.6
1929.....	45.1	41.6	90.4	51.3	228.4	3.3	5.6	6.3	76.3	8.7	7.5	104.4	22.9
1930.....	60.2	60.2	109.3	59.2	288.9	4.7	5.3	16.8	69.3	12.8	6.9	111.1	16.1
1931.....	37.9	30.2	204.0	41.2 ^f	313.3	15.3	19.5	34.1 ^g	71.1	7.3	2.1 ^h	134.1	5.5
1932.....	93.4	41.6	168.4	71.7	375.1	15.9	7.5	33.5 ^g	78.6	9.3	2.9 ^h	131.8	4.7
1933.....	82.9	64.3	123.7	107.0	377.9	4.1	12.3	77.9 ^g	109.3	9.0	3.2 ^h	211.7	6.2
1934.....	62.5	48.2	80.5 ⁱ	83.1	274.3	.0	8.7	70.4 ^g	104.7	7.7	2.5 ^h	194.0	10.0
1935.....	44.3	31.8	22.0	47.5	145.6	.0	7.9	53.8 ^g	126.6	12.9	2.0 ^h	203.2	11.7
1936.....	43.8	23.8	20.6 ^j	48.6	136.8	.0	5.5	36.2 ^g	59.7	4.9	3.1 ^h	109.4	19.3

* Official data of U.S. Department of Agriculture and Dominion Bureau of Statistics, chiefly from *World Wheat Prospects*, October 1936, p. 9; *Canada Yearbooks*, *Canadian Grain Statistics*, and press releases. See Appendix Note B (2). The Canadian official *Monthly Review of the Wheat Situation* for Oct. 23, 1936 (p. 24), gives revised figures for certain data in the last two columns, with comments on changes affecting comparability.

^a Estimates of U.S. Department of Agriculture, based (except for 1923 and 1924) on wheat stocks in city mills reported to the Census Bureau (see first column of Table XIV), raised to allow for stocks in non-reporting mills.

^b Strictly "in country, private, and mill elevators in the Western Division," but see note *g*.

^c In bond, usually chiefly for export as wheat, exclusive of some bonded wheat in transit by rail.

^d Bradstreet's visible, excluding country elevator stocks.

^e Farm stocks as of Aug. 31, 1924.

^f For previous years, including amounts "stored for others" as estimated by the Bureau of Agricultural Economics.

^g Includes stocks in flour mills in the Western Division.

^h In the Eastern Division only.

ⁱ This may include somewhat more new wheat than usual, since marketings in the Southwest were relatively early in 1934. See Table X.

^j Wheat in store less 4.5 million bushels of new wheat.

TABLE XIV.—CITY MILL STOCKS IN THE UNITED STATES, JUNE 30, 1925-36*

Year	Wheat in mills ^a			Other wheat owned by mills				Total wheat owned by mills ^d	Flour as wheat ^e	Percentage of census flour output represented ^f
	Total	Owned	Stored for others ^b	Private terminals ^c	Public terminals	Transit to mills	Country elevators			
1925.....	.....	26.72 ^g	.....	.....	3.44	.....	2.16	32.32	15.73	87.4
1926.....	.....	22.44	.....	1.14	3.00	6.73	2.52	35.83	14.67	87.4
1927.....	.....	34.15	.....	1.61	3.88	10.39	2.56	52.59	16.76	90.1
1928.....	.....	29.78	.....	.55	3.68	10.16	1.91	46.08	17.08	90.4
1929.....	.....	45.91	.....	2.16	8.32	15.44	3.52	75.35	17.98	93.6
1930.....	.....	43.78	.....	1.79	3.80	13.79	3.50	66.66	16.61	91.8
1931.....	38.73	21.00	17.73	1.85	1.48	11.74	2.70	38.77	13.30	96.3
1932.....	67.06	60.33	6.73	3.30	2.33	9.43	2.55	77.94	15.00	93.5
1933.....	100.63	91.13	9.50	10.61	8.12	15.08	6.91	131.85	14.07	95.5
1934.....	76.97	70.06	6.91	9.70	5.22	13.02	4.97	102.97	18.40	92.6
1935.....	46.01	42.64	3.37	3.59	3.53	6.64	2.30	58.70	17.10	96.8
1936.....	47.10	40.94	6.16	2.47	3.26	13.28	2.69	62.64	20.00	97.0

* As reported to Bureau of the Census, here compiled from press releases of U.S. Department of Commerce. Available for Dec. 31, 1925, and quarterly from June 30, 1926. See *WHEAT STUDIES*, December 1931, VIII, 193.

^a And in elevators attached to mills.

^b Apparently first reported for 1930, and exceptionally large in 1931 because of stabilization operations.

^c Private terminal elevators not attached to mills.

^d Excluding wheat "stored for others."

^e Taking 1 bbl. = 4.7 bu., which is too high; see p. 156.

^f Percentage of flour output reported in Census of Manu-

factures for the second or third calendar year preceding. The percentages for 1935 and 1936 would be about 5 per cent lower if the census of 1933 had been as complete as earlier censuses. See *WHEAT STUDIES*, April 1936, XII, 275.

^g Including wheat in private terminal elevators not attached to mills, and in transit to mills, hence several million bushels too high to be comparable with later figures.

TABLE XV.—WHEAT CARRYOVERS IN THE UNITED STATES, BY CLASSES OF WHEAT, 1929-36*

(Million bushels)

July 1	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1929.....	90	22	18	90	27	247
1930.....	118	33	24	100	28	303
1931.....	150	26	25	96	28	325
1932.....	230	67	18	58	12	385
1933.....	193	33	38	114	13	391
1934.....	133	37	30	79	7	286
1935.....	67	32	16	26	5	146
1936.....	50	27	17	35	8	136

* Estimates of U.S. Department of Agriculture. Revised data only for 1935 and 1936, from *World Wheat Prospects*, October 1936. Unrevised data for earlier years, as given in *ibid.*, June 1934 and August 1935.

TABLE XVI.—UNITED STATES WHEAT GRAIN EXPORTS, BY CLASSES, ANNUALLY FROM 1928-29*

(Million bushels)

July-June	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1928-29..	35.0	3.0	15.4	2.2	47.5	103.1
1929-30..	54.4	2.7	18.4	1.9	14.8	92.2
1930-31..	47.3	2.6	13.7	0.6	12.1	76.3
1931-32..	75.5	2.2	14.0	0.1	4.7	96.5
1932-33..	17.0	.0	2.2	.0	1.7	20.9
1933-34..	1.4	.0	17.4	.0	.0	18.8
1934-35..	.2	.0	2.8	.0	.0	3.0
1935-36..	.1	.0	.2	.0	.0	.3

* Estimates of U.S. Department of Agriculture. For some earlier data see *World Wheat Prospects*, Jan. 25, 1935.

TABLE XVII.—UNITED STATES TRADE IN WHEAT AND FLOUR WITH FOREIGN COUNTRIES AND ALASKA, HAWAII, AND PUERTO RICO, ANNUALLY FROM 1930-31*

(Thousand bushels)

July-June	Wheat grain				Flour as wheat		Wheat and flour as wheat				
	Exports	Imports	Re-exports	Net exports	Exports	Net exports	Exports	Imports less re-exports	Net exports	Shipments to possessions	Net exports plus shipments
1930-31....	76,365	19,054	15	57,326	55,110	55,108	131,475	19,041	112,434	2,850	115,284
1931-32....	96,519 ^a	12,885	863	84,497 ^a	39,276	39,275	135,795 ^a	12,022	123,772 ^a	2,797	126,569 ^a
1932-33....	20,889	9,379	1,606	13,116	20,337	20,337	41,226	7,773	33,453	3,024	36,477
1933-34....	18,799	11,585	21	7,235	18,204	18,200	37,003	11,568	25,435	2,779	28,214
1934-35....	3,019	25,777	184	(22,574)	18,513	18,497	21,532	25,609	(4,077)	2,783	(1,294)
1935-36....	311	47,452	330	(46,811)	15,619	15,455	15,930	47,286	(31,356)	2,891	(28,465)

* Data from *Monthly Summary of Foreign Commerce*, and "general imports," since 1933-34, direct from U.S. Department of Commerce. Figures in parentheses are net imports. Flour converted to wheat equivalent at 4.7 bushels per barrel; this rate is somewhat too high (see p. 156), and particularly so for flour milled in bond from Canadian wheat and for flour exported from the Pacific Northwest. For earlier data see our previous "Reviews" and Table XXX below.

^a Probably understated by 7 to 9 million bushels. See WHEAT STUDIES, December 1932, IX, 104.

TABLE XVIII.—UNITED STATES IMPORTS OF WHEAT GRAIN, ANNUALLY FROM 1925-26*

(Thousand bushels)

July-June	For grinding in bond			For domestic use		
	Free	Dutiable ^a	Total	Total	42-cent duty	10% ad val. duty ^a
1925-26..	13,421	0	13,421	1,665	1,665	0
1926-27..	13,172	0	13,172	49	49	0
1927-28..	15,044	0	15,044	161	161	0
1928-29..	22,481	0	22,481	79	79	0
1929-30..	12,903	0	12,903	45	45	0
1930-31..	19,013	0	19,013	348	41	307
1931-32..	11,538	1,341	12,879	6	6	0
1932-33..	6,628	2,744	9,372	7	6	1
1933-34..	8,316	3,025	11,341	149	143	6
1934-35..	7,292	3,772	11,064	14,052	5,906	8,146
1935-36..	7,855	4,123	11,978	34,519	25,314	9,205

* Official data as now published currently in *Monthly Summary of Foreign Commerce and Foreign Crops and Markets*. Misleadingly termed "imports for consumption."

^a New classification in Tariff Act of 1930.

^b For export of flour to Cuba; see p. 179, footnote 4.

^c "Unfit for human consumption."

TABLE XIX.—CANADIAN EXPORTS OF WHEAT GRAIN, ANNUALLY FROM 1925-26*

(Million bushels)

Aug.-July	Grand total	To or through U.S.		Overseas from Canadian ports		
		To U.S. ^a	Total	Total ^b	Atlantic	Pacific
1925-26..	275.6	10.5	152.7	122.9	70.0	52.9
1926-27..	251.3	7.6	143.9	107.4	67.5	39.9
1927-28..	288.6	8.5	144.4	144.2	57.6	86.6
1928-29..	354.4	10.1	164.1	190.3	92.4	97.9
1929-30..	155.8	7.3	76.9	78.9	29.8	49.1
1930-31..	228.5	8.1	97.8	130.7	56.1	74.6
1931-32..	182.8	4.5	53.2	129.6	54.2	74.9
1932-33..	240.1	.3	55.1	185.0	85.8	96.5
1933-34..	170.2	.2	44.9	125.3	74.4	48.2
1934-35..	144.4	15.1	53.8	90.6	36.2	50.3
1935-36..	232.0	29.1	102.5	129.5	70.0	57.1

* Official data from *Canadian Grain Statistics*.

^a These figures understate the truth; see p. 179.

^b Including shipments from Port Churchill, Hudson Bay. Beginning with 1931-32 these have run as follows, in thousand bushels: 545; 2,758; 2,708; 4,050; and 2,407.

TABLE XX.—INTERNATIONAL SHIPMENTS OF WHEAT AND OTHER GRAINS, ANNUALLY FROM 1928-29*
(Million bushels or units of 60 pounds)

Year ending about Aug. 1	Wheat, including wheat flour, by areas of origin									Other grains			
	Total	North America	Argentina ^a	Australia	All other	India	Balkans	Russia	Others ^b	Rye	Barley	Oats	Malze
1928-29°	927.6	542.9	223.7	112.1	48.9	.2	37.4	...	11.3	29.7	120.3	32.4	283
1929-30....	612.5	318.4	151.9	64.6	77.6	4.2	46.8	6.4	20.2	30.1	113.3	35.7	236
1930-31....	786.7	354.3	123.2	154.0	155.2	3.6	37.6	98.7	15.3	37.5	138.3	46.5	345
1931-32....	769.6	331.2	138.4	153.2	146.8	.3	60.0	70.4	16.1	52.5	84.3	43.8	412
1932-33....	615.2	290.0	126.4	154.4	44.4	...	7.2	17.6	19.6	26.2	63.1	28.5	294
1933-34....	523.6	219.2	140.8	89.6	74.0	...	30.4	26.8	16.8	26.8	75.8	23.0	252
1934-35°	526.8	166.4 ^d	182.8	112.0	65.6	.3	22.0	1.6	41.7	36.7	51.6	27.6	285
1935-36....	494.4	236.0 ^d	71.2	106.4	80.8	.7	24.0	29.6	26.5	24.3	67.0	16.5	323
Average													
1927-32....	777.8	407.3	163.0	111.7	95.9	3.1	42.2	45.1	14.6	40.0	112.8	37.3	318

Year ending about Aug. 1	Wheat and flour to Europe				Wheat and flour to ex-Europe							
	U.K.	Orders	Continent	Total ^c	Total ^c	China, Japan	Central America ^f	Brazil	Egypt	North and South Africa	India	Others
1928-29°	158.8	145.1	399.3	702.8	224.8	69.5	70.4	30.3	17.8	7.3	27.6	1.9
1929-30....	137.4	120.4	225.3	483.1	129.4	33.6	50.1	28.2	7.6	2.7	6.3	.9
1930-31....	131.0	193.7	282.8	607.7	179.0	67.4	58.0	26.5	11.1	4.1	11.0	.9
1931-32....	135.8	193.2	252.9	581.6	188.0	88.1	56.7	31.2	8.4	3.1	...	.5
1932-33....	161.2	127.9	159.8	448.8	166.4	91.5	34.7	29.5	3.7	1.0	1.8	4.2
1933-34....	138.5	129.8	133.2	401.6	122.0	47.5	34.3	31.3	3.6	.8	.3	4.3
1934-35°	128.2	123.1	129.8	381.2	145.6 ^d	63.4	27.3	34.0	3.0	1.4	.2	16.5 ^d
1935-36....	165.6	69.7	123.0	358.4	136.0 ^d	29.2	29.5	34.3	2.6	.6	.5	39.2 ^d
Average												
1927-32....	143.7	159.3	311.1	607.4	170.5	58.0	58.2	28.6	10.8	4.6	11.6	1.0

* Broomhall's cumulative totals, from the *Corn Trade News*, converted from quarters of various weights.^a Includes Uruguay also.^b North Africa, Chile, Germany, France, etc.^c For 53 weeks.^d Including 10.8 and 34.0 million bushels to the United States in 1934-35 and 1935-36 respectively.^e As reported by Broomhall in different tables.^f Includes West Indies, Dutch East Indies, Venezuela, etc.TABLE XXI.—SUMMARY OF INTERNATIONAL TRADE IN WHEAT AND FLOUR, ANNUALLY FROM 1923-24*
(Million bushels)

Year Aug.-July	Net exports of net-exporting countries										Net imports of Europe ex-Danube			
	Total	United States	Canada	Australia	Argentina	Lower Danube	French North Africa ^a	India	Others ^b ex-Russia	USSR	Total ^c	British Isles	France, Germany, Italy ^c	Others ^c
1923-24....	833	130	346	86	173	34	11	20	11	22	594	240	169	185
1924-25....	776	259	192	124	125	26	1	38	11	(17)	630	226	215	189
1925-26....	702	106	324	77	97	45	8	8	10	27	522	208	150	164
1926-27....	853	202	292	103	144	45	2	12	3	50	679	236	262	181
1927-28....	823	187	332	71	178	32	9	8	4	2	656	232	219	205
1928-29....	947	154	406	109	222	37	13	(25)	6	(6)	667	219	232	216
1929-30....	629	145	185	63	151	56	14	1	5	9	505	224	95	186
1930-31....	839	116	258	152	125	46	17	(5)	11	114	609	245	174	190
1931-32....	795 ^d	115 ^d	207	156	140	82	22	2	6	65	606	261	135	210
1932-33....	630	33	264	150	132	12	20	(1)	2	17	441	234	47	160
1933-34....	557	29	194	86	147	35	20	0	12	34	387	238	20	129
1934-35....	538	(4)	165	109	182	22	26	1	31	2	350	217	5	128
1935-36....	524	(31)	254	103	70	24	19	1	24	29	340 ^e	220	14 ^e	106

* Mainly from data in Table XXII. Figures in parentheses represent net imports, ignored in arriving at totals.

^a Morocco, Algeria, Tunis. For Morocco, means of calendar-year data are used through 1926-27, and July-June years thereafter through 1931-32.^b Including various countries of Europe, Turkey, Iraq, Syria and Lebanon, Uruguay, and Chile. For Chile prior to 1928-29 and Uruguay throughout, net exports are esti-

mated from calendar-year data. For Iraq prior to 1931-32, data for April-March years are used. See Table XXV.

^c Deducting net exports by one or more of these countries in years in which they were net exporters.^d Probably understated by 7 to 9 million bushels.^e Including our estimate of 6 million bushels for Italy.

TABLE XXII.—INTERNATIONAL TRADE IN WHEAT AND FLOUR, ANNUALLY FROM 1925-26*

(Million bushels)

A. NET EXPORTS (In parentheses, net imports)

Year Aug.-July	United States ^a	Canada	Aus- tralia	Argen- tina	Brazil ^b	Chile	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Mo- rocco	Al- geria	Tunis	India	USSR ^c
1925-26 ..	106.2	324.2	77.2	97.3	...	...	19.79	10.81	9.93	4.37	.75	4.57	2.65	8.0	27.1
1926-27 ..	201.7	292.5	102.7	144.4	...	...	21.88	9.70	11.18	2.25	1.60	(1.61)	.30	11.5	49.5
1927-28 ..	186.7	332.5	70.7	178.1	...	...	21.84	.55	7.46	2.04	3.33	5.30	.57	8.5	1.6
1928-29 ..	153.9	406.2	108.6	222.4	(36.6)	.56	26.00	8.80	1.59	.28	4.35	3.28	5.31	(25.0)	(5.8)
1929-30 ..	144.8	184.9	62.6	151.0	(34.2)	1.24	30.05	22.92	2.82	(1.42)	3.79	4.62	5.81	.6	8.8
1930-31 ..	116.0	258.4	152.3	124.7	(30.9)	.93	18.28	5.61	16.08	5.91	2.03	9.56	5.84	(4.9)	113.7
1931-32 ..	114.8 ^d	206.9	156.3	140.3	(31.6)	.07	18.26	14.90	37.36	11.27	7.56	5.86	8.52	2.0	65.0
1932-33 ..	32.9	264.1	150.2	132.3	(30.5)	(2.55)	7.48	.97	.05	3.14	5.72	8.82	5.35	(.9)	16.7
1933-34 ..	29.1	194.4	86.1	147.1	(33.8)	(.36)	29.32	1.05	.23	4.09	7.88	12.15	(.06)	.4	34.3
1934-35 ..	(3.9)	164.9	109.1	181.5	(33.9)	.37	12.80	4.26	4.22	.37	7.57	13.08	4.80	1.0	1.9
1935-36 ..	(31.1)	254.1	103.1	69.9	...	(2.30)	16.58	.79	5.87	1.14	4.87	9.91	4.63	1.2	28.5
Average 1927-32 ..	143.2	277.8	110.1	163.3	(33.3) ^e	.70 ^e	22.89	10.56	13.06	3.62	4.21	5.72	5.21	(3.8)	36.7

B. NET IMPORTS (In parentheses, net exports)

Year Aug.-July	United King- dom	Irish F.S.	France ^f	Italy	Ger- many	Czecho- slo- vakia	Aus- tria	Switzer- land	Bel- gium ^g	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Portu- gal
1925-26 ..	189.4	18.8	24.6	67.9	57.4	21.7	14.7 ^b	15.6	39.2	27.2	6.00	6.70	6.10	(.73)	5.13
1926-27 ..	216.0	19.9	83.6	86.6	91.8	20.1	16.9	16.3	39.5	28.4	7.24	6.22	6.02	(1.01)	6.12
1927-28 ..	213.6	18.6	42.5	87.7	88.5	21.4	16.5	18.4	41.8	31.0	10.96	6.78	8.42	2.92	9.96
1928-29 ..	200.8	18.5	66.6	87.7	77.6	17.4	14.6	16.6	41.9	30.0	16.67	9.15	8.05	17.20	8.86
1929-30 ..	206.1	17.8	5.5	42.1	47.8	13.7	19.6	16.0	42.4	30.6	7.97	6.96	7.32	3.41	6.58
1930-31 ..	225.5	19.4	62.0	81.2	31.2	17.6	16.1	18.5	48.5	35.4	11.73	8.53	4.87	(.19)	2.71
1931-32 ..	240.8	20.2	79.1	33.0	23.2	24.8	13.7	21.1	46.6	31.2	17.55	8.70	6.83	10.76	2.80
1932-33 ..	216.0	18.2	32.1	10.5	4.6	12.1	13.3	19.1	39.3	27.3	12.16	8.69	3.23	(.02)	1.36
1933-34 ..	218.3	19.7	17.5	8.1	(5.4)	.2	10.5	17.6	42.9	22.4	12.61	8.47	1.20	(.08)	.96
1934-35 ..	200.5	17.0	(16.6)	11.5	10.1	1.4	9.8	17.9	39.8	19.5	18.99	8.88	(1.78)	(.00)	.70
1935-36 ..	205.4	15.0	7.8	...	(.3)	2.2	7.1	16.7	39.0	21.8	8.99	7.73	(1.89)	(.00)	(3.59)
Average 1927-32 ..	217.4	18.9	51.1	66.3	53.7	19.0	16.1	18.1	44.2	31.6	12.98	8.02	7.10	6.82	6.18

C. NET IMPORTS (In parentheses, net exports)

Year Aug.-July	Po- land	Lithu- uania	Latvia	Es- tonia	Fin- land	Greece	Tur- key	Syria, Leba- non	Egypt	Japan ^h	Man- chukuo	China	Cuba ⁱ	South Africa	New Zea- land
1925-26 ..	(4.60)	...	1.56	.97	5.23	18.8	...	...	12.78	22.7	...	...	6.03	...	2.76
1926-27 ..	8.07	...	1.68	.91	5.14	19.4	...	...	8.77	15.3	...	...	5.76	...	2.76
1927-28 ..	8.62	...	1.51	1.12	6.04	19.5	...	...	6.59	16.3	...	...	5.66	...	1.05
1928-29 ..	2.45	.04	2.99	1.25	6.93	22.0	6.07	5.58	13.65	17.2	...	...	5.93	7.99	.81
1929-30 ..	(.21)	(.10)	2.44	1.19	5.93	21.7	.82	1.21	11.27	13.6	...	...	5.65	3.88	.49
1930-31 ..	(4.41)	(.96)	1.55	.82	5.27	24.1	(.47)	.20	10.17	17.8	...	...	4.56	3.27	.76
1931-32 ..	(3.30)	(.10)	.96	.44	4.51	23.7	(1.54)	.42	7.44	20.4	...	...	4.17	1.75	.99
1932-33 ..	(1.18)	(.07)	.03	.00	4.47	19.7	(.44)	1.63	.48	3.7	...	55.9	3.67	.28	1.11
1933-34 ..	(2.49)	(.05)	(.00)	.00	4.56	10.5	(1.39)	1.56	.23	3.1	23.6	21.1	4.07	.08	.39
1934-35 ..	(3.89)	(.97)	(1.10)	(.20)	4.25	14.5	(4.39)	(.34)	2.18	1.1	31.0	21.1	4.58	.91	.59
1935-36 ..	(7.09)	(2.12)	(1.54)	.00	4.34	14.8	...	(.40)	.18	4.8	14.5	8.0	4.92	.07	.96
Average 1927-32 ..	.63	(.28) ^e	1.89	.96	5.74	22.2	1.22 ^e	1.85 ^e	9.82	17.1	...	...	5.19	4.22 ^e	.82

* Data from official sources, in large part through International Institute of Agriculture. Dots (...) indicate that data are not available. Table XXV gives calendar-year data for some countries.

^a Including shipments to possessions.

^b July-June.

^c Grain only through 1929-30; July-June through 1927-28; gross exports in 1925-26 and 1926-27.

^d Probably understated by 7 to 9 million bushels.

^e Average for 1928-32.

^f Net trade in "commerce général."

^g Including Luxemburg.

^h Exclusive of trade with Chosen and Taiwan; see Table XXV.

ⁱ Gross imports of flour, from unofficial sources.

TABLE XXIII.—NET EXPORTS AND NET IMPORTS OF WHEAT AND FLOUR, MONTHLY, 1935-36*

(Million bushels)

A. NET EXPORTS (In parentheses, net imports)

Month	United States ^a	Canada	Australia	Argentina	Chile	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis	India	USSR
July	(1.06)	10.90	7.63	11.36	(.04)	.42	.04	.80	.00	.28	.75	1.11	.10	.25
Aug.	(2.09)	23.36	5.13	10.95	.06	.44	.01	1.53	{.00	.40	.70	1.08	.10	4.05
Sept.	(3.12)	19.04	7.71	10.48	.08	2.37	.01		{.31	.90	1.48	.82	.17	6.97
Oct.	(4.89)	31.15	9.25	7.94	.07	2.10	.02	2.07	.27	.29	1.24	.70	.24	6.32
Nov.	(4.27)	28.90	7.14	5.68	.15	1.63	.01	.81	.29	.15	1.13	{.38	.21	4.66
Dec.	(3.83)	19.01	6.92	4.13	.11	.29	.01	.29	.05	.21		{.40	(.20)	4.16
Jan.	(1.59)	8.95	9.38	3.95	.05	.46	.01		{.02	.37		{.57	.08	.46
Feb.	(1.50)	15.75	14.76	5.33	.12	.83	.01	.47	{.01	.48	3.03	{.19	.08	.49
Mar.	(2.05)	15.26	13.59	4.91	.76	1.13	.02		{.00	.48		{.16	.09	.54
Apr.	(.87)	7.82		3.70		{.76	.01	.08	.00	.57	1.18	{.13	.10	.12
May	(1.01)	29.31	8.36	4.25	.90	{.89	.02	.00	.00	.75		{.10	.08	.32
June	(2.28)	27.68	5.91	4.04	.00	2.71	.56	.00	.03	.20	.58	.03	.24	.31
July	(3.67)	27.90	5.18	4.51	...	2.98	.08	.28	.15	.06	.57	.08	.23	.12

B. NET IMPORTS (In parentheses, net exports)

Month	United Kingdom	Irish F.S.	France ^b	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^c	Netherlands	Denmark	Norway	Sweden	Portugal
July	17.13	1.39	.03	1.97	.16	.25	1.18	1.92	3.25	1.60	1.15	.72	(.68)	.08
Aug.	14.18	1.42	.58	(.08)	.30	.29	.35	1.15	3.30	1.98	.70	.57	(.20)	.08
Sept.	14.47	.69	1.05	.38	(.19)	1.59	.46	2.05	3.92	2.19	.55	.45	(.50)	.04
Oct.	20.00	.74	2.32	...	.08	.13	.63	1.57	5.06	2.33	.76	.66	(.24)	.09
Nov.	20.07	1.70	2.09	...	.30	.14	.48	1.66	1.62	2.21	.60	.81	.15	.03
Dec.	18.43	1.25	1.38	...	.21	.00	.76	1.14	3.28	1.14	.62	1.43	.11	.04
Jan.	13.69	.97	(.23)	...	(.12)	.00	.67	.69	3.68	1.77	.54	.55	.04	.00
Feb.	13.88	.87	(.58)	...	(.12)	.01	.45	.89	2.17	1.24	.62	.73	(.03)	.12
Mar.	18.81	1.22	(.14)	...	(.24)	.00	.62	1.38	2.70	1.52	.94	.15	(.27)	.03
Apr.	16.57	1.59	.59	...	(.33)	.00	.54	.95	3.19	1.39	.83	.55	(.28)	(1.07)
May	17.95	1.69	.95	...	.05	.01	.74	.92	4.26	2.00	.70	.75	(.16)	(1.53)
June	20.77	.91	(.12)	...	.01	.00	.60	2.61	2.49	2.07	1.00	.74	(.19)	(.55)
July	16.99	1.92	(.05)	...	(.30)	.01	.80	1.64	3.31	1.95	1.15	.38	(.36)	.01

C. NET IMPORTS (In parentheses, net exports)

Month	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Syria, Lebanon	Egypt	Japan	Manchukuo	China	Cuba ^d	South Africa	New Zealand
July	(1.39)	(.01)	(.61)	(.00)	.43	1.42	(.05)	.01	.26	1.84	.90	.35	...	.06
Aug.	(.36)	(.01)	(.53)	(.04)	.34	1.82	.00	.01	(.18)	2.00	1.41	.38	.01	.05
Sept.	(.33)	(.01)	(.27)	(.03)	.38	.97	.02	.01	(.42)	1.55	.90	.42	.01	.08
Oct.	(.85)	(.20)	(.36)	.00	.39	1.38	(.02)	.02	.10	.60	.35	.43	.00	.13
Nov.	(.74)	(.22)	(.19)	.00	.30	1.34	(.01)	.03	.15	1.24	.10	.33	.01	.07
Dec.	(.64)	(.49)	(.05)	.00	.10	.61	.02	.02	.62	1.38	.11	.35	.01	.12
Jan.	(.62)	(.25)	(.06)	.00	.45	.82	(.01)	.00	.19	1.13	.26	.41	.00	.11
Feb.	(.68)	(.32)	.00	.00	.26	.85	(.02)	.01	.99	.72	.08	.49	.00	.04
Mar.	(.54)	(.38)	.00	.00	.34	.82	(.05)	.01	1.61	.73	.43	.52	.01	.06
Apr.	(.63)	(.11)	.00	.00	.41	1.13	.04	.02	1.32	1.71	2.18	.45	.00	.07
May	(.72)	(.08)	.00	.13	.39	1.65	(.12)	.01	.08	.90	1.43	.41	.01	.03
June	(.50)	(.05)	.00	(.02)	.48	1.74	(.03)	.03	(.18)	1.63	.56	.35	.00	.17
July	(.47)	.00	(.08)	(.03)	.51	1.63	(.12)	.02	.52	.90	.16	.37	.01	.03

* Data from official sources, and International Institute of Agriculture. Dots (...) indicate that data are not available.

^a Including shipments to possessions.^c Including Luxemburg.^b Net trade in "commerce général."^d Gross imports of flour, from unofficial sources.

TABLE XXIV.—WHEAT AND FLOUR IMPORTS INTO THE UNITED KINGDOM, BY SOURCES,
ANNUALLY FROM 1932-33*

August- July	Total	British Europe	For- eign	U.S. and Canada	United States	Canada	Aus- tralia	Argen- tina	USSR	All other	India	Ger- many	Ru- mania	France	Italy
WHEAT GRAIN (Million bushels)															
1932-33...	204.3	153.5	50.8	105.0	2.21	102.75	50.29	33.28	3.96	11.76	.00	9.77	.07	...	...
1933-34...	199.5	110.3	89.2	68.6	.09	68.51	41.47	53.91	14.65	20.83	.00	10.51	4.21	...	...
1934-35...	188.4	102.5	85.9	65.9	.74	65.19	36.97	60.39	.00	25.06	.33	.20	1.21	...	...
1935-36...	190.2	139.3	50.9	95.1	.52	94.56	44.25	11.99	13.20	25.66	.44	.12	3.10	...	...
WHEAT FLOUR (Thousand barrels)															
1932-33...	4,854	3,624	1,230	2,498	93	2,405	1,210	207	....	939	....	....	....	583	...
1933-34...	5,963	4,002	1,961	2,656	71	2,585	1,416	168	....	1,723	....	....	....	719	335
1934-35...	4,639	3,314	1,325	2,379	57	2,322	992	123	....	1,145	....	....	....	730	228
1935-36...	4,861	3,709	1,152	2,462	43	2,419	1,286	110	....	1,003	....	....	....	443	107

* Data from Accounts Relating to the Trade and Navigation of the United Kingdom. See Appendix Note C (3), p. 209.

TABLE XXV.—NET IMPORTS OF WHEAT AND FLOUR
OF SPECIFIED COUNTRIES, CALENDAR YEARS
1926-35*(Million bushels; figures in parentheses
represent net exports)

Year	China	Chosen, Tai- wan ^a	Philip- pines ^b	Turkey	Iraq ^c	Pales- tine	Cyprus
1926..	22.5	2.62	3.52	.26	.06	1.05	.61
1927..	14.4	2.77	3.54	(.45)	(.28)	.82	.67
1928..	16.7	3.28	3.98	1.48	(.37)	1.42	.90
1929..	48.6	2.97	4.07	5.40	(.15)	1.85	.82
1930..	22.6	3.03	3.70	(.29)	(3.31)	.77	.54
1931..	66.0	2.83	4.15	(.63)	(1.19)	1.66	1.07
1932..	51.9	2.26	3.63	(1.19)	(.45)	1.83	1.50
1933..	47.5	2.08	3.64	(.98)	(.57)	3.62	1.47
1934..	19.4	3.73	3.65	(3.20)	(.71)	2.96	1.07
1935..	21.5	....	3.75	(2.37) ^d	....	2.37	....

Year	Bra- zil, total	Bra- zil, wheat	Uru- guay	Chile	Peru	South Africa	New Zea- land
1926..	31.5	19.9	(1.32)	(1.05)	3.10	4.54	2.97
1927..	32.6	21.9	(1.94)	.30	3.25	5.81	1.42
1928..	36.5	25.5	(6.05)	(.54)	3.22	8.81	1.21
1929..	35.9	27.4	(4.28)	(.29)	4.25	7.70	.52
1930..	31.8	23.8	(2.69)	(1.90)	2.91	2.80	.73
1931..	32.5	29.2	.62	(.10)	4.16	3.41	.74
1932..	28.6	28.4	.07	.60	3.22	.93	1.98
1933..	33.8	31.2	1.73	3.22	3.15	(.08)	(.14)
1934..	34.2	29.8	(2.84)	(1.76)	4.80	.75	.64
1935..	34.8	32.4	....	.00	5.18	.19	.81

* Data from Foreign Trade of China (Maritime Customs),
International Yearbooks of Agricultural Statistics, and U.S.
Department of Agriculture.^a In trade with Japan.^b Flour only.^c Years beginning April 1.^d Gross exports of grain; probably not very different
from total net.TABLE XXVI.—OCEAN FREIGHTS ON WHEAT TO EU-
ROPE, ANNUAL AND MONTHLY AVERAGES*

(U.S. cents per bushel)

Period	Can- ada ^a	New York ^b	North- ern Pa- cific ^c	Black Sea ^c	La Plata down river ^c	Aus- tralia ^c
Jan.-Dec. 1913.....	8.3	5.8	25.7	...	10.6	20.4
Aug.-July 1925-26.....	9.0	7.0	20.0	...	10.9	22.3
1926-27.....	12.0	9.7	23.9	...	19.9	28.5
1927-28.....	7.7	5.6	19.5	...	13.9	23.2
1928-29.....	8.5	6.1	19.6	...	14.9	23.1
1929-30.....	5.5 ^d	4.7	14.7	...	8.3	16.7
1930-31.....	5.6 ^d	4.6	14.5	7.1	10.9	19.3
1931-32.....	4.9 ^d	3.9	10.9 ^d	5.5	8.2	13.2
1932-33.....	4.0 ^d	3.3	9.9 ^d	4.8	6.7	11.8
1933-34.....	4.3 ^d	4.7	12.6 ^d	6.8 ^d	9.4	15.9
1934-35.....	4.9 ^d	4.6	12.0 ^d	6.5 ^d	9.8	16.2
1935-36.....	5.7 ^d	4.6 ^d	12.8	6.6 ^d	11.0	17.8
July	4.6 ^e	4.6	....	6.2	10.5	16.3
Aug.	4.7	4.7	10.6	6.5	10.5	16.3
Sept.	4.6	4.6	11.2	6.4	10.4	16.2
Oct.	4.9 ^e	4.6	13.4	6.9	10.8	17.3
Nov.	6.2 ^f	4.6	13.5	7.4	11.0 ^f	18.1
Dec.	6.7 ^f	4.6	13.7	6.6	11.1 ^e	18.2
Jan. ....	...	...	13.9	6.3	11.1 ^e	17.9
Feb. ....	...	...	13.6	6.4	11.2 ^e	18.1
Mar.	5.4 ^f	...	12.8	6.4 ^f	11.2 ^f	18.0
Apr.	5.8	...	12.6	...	11.1	17.9
May	5.8	...	12.8	...	11.1	18.0
June	6.3	...	12.9	6.4 ^e	11.3	18.8
July	6.3	...	12.8	7.1	11.3	18.8

* Averages of Friday rates published in International
Crop Report and Agricultural Statistics, for cargoes except
from New York. Dots (....) indicate lack of data.^a To United Kingdom.^b To Liverpool, parcels.^c To Antwerp and Hamburg.^d Average for months in which quotations are available.^e Three-week average.^f Two-week average.^g One week only.

TABLE XXVII.—INTERNATIONAL TRADE IN WHEAT FLOUR, ANNUALLY FROM 1925-26*

(Thousand barrels of 196 pounds)

A. NET EXPORTS (In parentheses, net imports)

Year Aug.-July	United States ^a	Canada	Aus- tralia	Argen- tina	Brazil ^b	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Mo- rocco	Al- geria	Tunis	India
1925-26....	10,130	10,847	5,009	1,642	(2,129)	1,817	310	849	465	(81)	(5)	(0)	685
1926-27....	13,913	9,190	5,169	1,760	(2,444)	1,587	302	983	336	(90)	(36)	24	717
1927-28....	12,226	9,792	4,381	1,829	(2,345)	2,108	(28)	441	115	(66)	98	9	671
1928-29....	13,992	11,732	5,845	1,738	(2,049)	2,615	23	197	51	(102)	115	50	497
1929-30....	13,477	6,695	4,676	1,328	(1,707)	2,889	162	162	4	(16)	40	79	567
1930-31....	12,314	6,677	5,307	1,050	(1,306)	2,045	43	215	112	(50)	107	123	525
1931-32....	8,286	5,363	7,139	789	(258)	1,086	53	437	383	(48)	51	64	426
1932-33....	4,896	5,344	6,404	844	(147)	441	29	7	28	(32)	233	59	172
1933-34....	4,439	5,365	5,571	1,248	(1,021)	748	28	3	47	20	405	(14)	132
1934-35....	4,489	4,552	7,335	1,091	(760)	413	21	0	1	26	410	288	155
1935-36....	3,913	4,918	6,198	898	...	637	38	1	0	2	385	193	200
Average 1927-32°...	12,059	8,052	5,470	1,347	(1,533)	2,149	51	290	133	(56)	82	65	537

B. NET IMPORTS (In parentheses, net exports)

Year Aug.-July	United Kingdom	Irish F.S.	France ^d	Italy	Ger- many	Czecho- slovakia	Austria	Bel- gium ^e	Nether- lands	Den- mark	Nor- way	Sweden	Spain
1925-26....	2,468	1,749	(2,309)	(334)	1,411	3,252	1,279 ^b	(151)	1,269	495	775	(17)	(157)
1926-27....	4,046	1,855	(772)	(195)	492	1,691	1,763	(64)	1,751	690	611	76	(218)
1927-28....	3,163	1,907	(1,150)	(207)	2	2,106	1,821	(145)	2,008	828	754	136	(82)
1928-29....	2,129	1,677	(1,752)	(441)	(401)	1,978	1,386	(176)	1,639	782	961	150	(74)
1929-30....	3,962	1,838	(3,202)	(666)	(263)	1,694	1,917	158	1,305	716	701	147	(34)
1930-31....	4,189	1,863	(3,477)	(492)	56	1,235	1,574	8	1,903	790	710	34	(38)
1931-32....	2,853	2,053	(2,300)	(995)	85	598	640	(11)	333	651	688	19	(9)
1932-33....	2,713	916	(1,824)	(1,732)	(1,103)	219	293	6	463	395	577	4	(5)
1933-34....	4,307	556	(1,631)	(1,804)	(2,818)	8	506	125	446	289	472	3	(16)
1934-35....	2,905	269	(1,385)	(1,864)	(299)	8	395	50	458	236	507	1	0
1935-36....	3,512	81	(1,005)	.....	(371)	9	381	16	612	100	449	(9)	(7)
Average 1927-32°...	3,259	1,868	(2,376)	(560)	(104)	1,522	1,468	(33)	1,438	753	763	97	(47)

C. NET IMPORTS (In parentheses, net exports)

Year Aug.-July	Poland	Finland	Greece	Syria, Lebanon	Egypt	Japan ^f	Chosen ^g	Man- chukuo	China	Indo- China	British Malaya	Java, Ma- dura ^h	Ceylon
1925-26....	43	1,115	1,506	...	2,436	(1,016)	...	.....	.....	...	...	...	...
1926-27....	76	1,098	1,194	...	1,891	(591)	...	.....	.....	258	...	...	219
1927-28....	84	1,293	617	...	1,490	(1,000)	...	.....	.....	271	...	...	223
1928-29....	1	1,481	376	598	2,586	(2,310)	...	.....	.....	266	...	...	239
1929-30....	(60)	1,269	252	216	2,411	(981)	...	.....	.....	267	...	...	220
1930-31....	(301)	1,097	85	75	1,816	(1,664)	...	.....	.....	219	...	523	227
1931-32....	(259)	814	34	155	1,239	(1,716)	338	.....	.....	198	499	584	204
1932-33....	(119)	631	11	358	104	(3,368)	273	.....	2,374	174	468	488	195
1933-34....	(144)	585	6	414	50	(2,830)	296	5,054	587	172	560	555	197
1934-35....	(382)	433	16	20	37	(3,651)	684	6,655	735	196	630	587	206
1935-36....	(1,103)	351	11	(23)	39	(1,974)	...	3,295	392	199	...	654	172
Average 1927-32°...	(107)	1,191	273	261	1,908	(1,534)	...	.....	.....	244	...	...	233

* Data from official sources, in large part through International Institute of Agriculture. Dots (....) indicate that data are not available. For crop-year total net exports, see p. 186.

^a Including shipments to possessions.

^b July-June.

^c Five years ending with 1931-32.

^d Net exports in "commerce général."

^e Including Luxemburg.

^f Exclusive of net outward shipments to Chosen and

Taiwan, which were 637 thousand barrels in 1934 and averaged 537 in the calendar years 1930-34.

^g Net imports from Japan.

^h For the four years ending with July 1935, net imports of other Netherlands East Indies averaged nearly 300 thousand barrels a year, with 263 in the poorest year 1932-33.

TABLE XXVIII.—UNITED STATES MILLING AND FLOUR DISPOSITION, ANNUALLY FROM 1922-23*

July-June	Wheat ground		Millfeed output (Thousand tons)	Flour production and disposition (Thousand barrels)							Per capita consumption	
	Total (Million bushels)	Per barrel (Bushels)		Output	Domestic exports ^a	Imports less re-exports	Shipments to possessions ^b	Net exports plus shipments	Net retention	Consumption	Flour (Pounds)	As wheat (Bushels)
1922-23..	531.3	4.632	4,698	114,700	14,883	416	601	15,068	99,632	100,000	176	4.16
1923-24..	552.6	4.632	4,887	119,300	17,253	156	611	17,708	101,592	101,900	176	4.16
1924-25..	538.4	4.582	4,637	117,500	13,896	2	591	14,485	103,015	103,600	176	4.12
1925-26..	536.7	4.635	4,753	115,789	9,542	6	568	10,104	105,685	105,100	176	4.17
1926-27..	557.4	4.568	4,764	122,026	13,384	2	644	14,026	108,000	106,500	176	4.11
1927-28..	556.0	4.620	4,886	120,355	12,821	2	558	13,377	106,978	107,900	176	4.15
1928-29..	562.1	4.578	4,830	122,779	12,888	(1)	660	13,547	109,232	109,000	176	4.12
1929-30..	558.5	4.603	4,864	121,332	12,994	(2)	620	13,616	107,716	107,800	172	4.05
1930-31..	537.9	4.613	4,709	116,595	11,726	0	593	12,319	104,276	105,100	167	3.92
1931-32..	514.6	4.575	4,414	112,470	8,356	(1)	571	8,928	103,542	102,700	162	3.77
1932-33..	503.9	4.585	4,347	109,900	4,379	0	630	5,009	104,891	101,000	158	3.70
1933-34..	455.5	4.582	3,923	99,413	3,873	1	579	4,451	94,962	97,700	152	3.55
1934-35..	463.4	4.561	3,945	101,609	3,934	0	576	4,510	97,099	98,400	152	3.53
1935-36..	476.0	4.628	4,200	102,843	3,364	35	597	3,926	98,917	99,400	152	3.60

* Holbrook Working's revised estimates of wheat ground, millfeed output, flour output, and flour consumption, combined with official trade data. Estimates of flour production 1923-24 and 1924-25 from WHEAT STUDIES, December 1927, IV, 100-01, where corresponding figures back to 1879-80 are given; 1925-26 and subsequently revised to conform with estimates for census years in "New Data on United States Flour Production since 1899," WHEAT STUDIES, April 1936, XII, 276, 304-05. Estimates of wheat milled per barrel are on the basis of ratios shown in the monthly milling reports of the Bureau of the Census, rather than on the slightly higher ratios shown in the Censuses of Manufactures; this change results in slight reductions in the estimates of wheat milled and of millfeed produced, as compared with our previous estimates.

^a Including flour milled in bond mainly or wholly from imported wheat.

^b Alaska, Hawaii, Puerto Rico, and, since January 1935, Virgin Islands.

TABLE XXIX.—UNITED STATES FLOUR PRODUCTION AND DISPOSITION, MONTHLY FROM JULY 1932*
(Thousand barrels)

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
A. REPORTED PRODUCTION, ALL REPORTING MILLS													
1932-33.....	7,828	9,005	9,395	9,382	8,719	8,323	8,077	7,216	8,867	9,298	8,777	8,577	103,464
1933-34.....	8,275	6,719	7,540	8,181	8,116	7,332	8,719	7,867	8,362	7,455	8,103	7,507	94,176
1934-35.....	7,325	8,654	8,822	9,181	8,211	7,547	8,316	7,599	7,986	7,786	7,806	7,381	96,614
1935-36.....	7,387	8,082	9,055	9,897	8,274	7,175	8,644	8,401	8,252	7,840	7,569	7,845	98,421
B. ESTIMATED TOTAL UNITED STATES PRODUCTION													
1932-33.....	8,331	9,585	10,001	9,989	9,284	8,865	8,602	7,685	9,423	9,829	9,268	9,038	109,900
1933-34.....	8,738	7,095	7,962	8,639	8,570	7,743	9,208	8,307	8,830	7,872	8,539	7,910	99,413
1934-35.....	7,719	9,120	9,296	9,664	8,643	7,944	8,753	8,000	8,406	8,196	8,156	7,712	101,609
1935-36.....	7,719	8,445	9,462	10,342	8,646	7,497	9,032	8,778	8,622	8,193	7,910	8,197	102,843
C. NET EXPORTS PLUS SHIPMENTS TO POSSESSIONS													
1932-33.....	399	460	420	417	537	447	392	344	392	392	384	425	5,009
1933-34.....	337	416	362	352	338	428	415	325	422	469	322	265	4,451
1934-35.....	322	486	489	434	432	354	319	315	359	333	347	320	4,510
1935-36.....	296	315	314	356	362	294	278	310	328	371	358	344	3,926
D. ESTIMATED NET RETENTION													
1932-33.....	7,932	9,125	9,581	9,572	8,747	8,418	8,210	7,341	9,031	9,437	8,884	8,613	104,891
1933-34.....	8,401	6,679	7,600	8,287	8,232	7,315	8,793	7,982	8,408	7,403	8,217	7,645	94,962
1934-35.....	7,397	8,634	8,807	9,230	8,211	7,590	8,434	7,685	8,047	7,863	7,809	7,392	97,099
1935-36.....	7,423	8,130	9,148	9,986	8,284	7,203	8,754	8,468	8,294	7,822	7,552	7,853	98,917

* Reported production and trade data from U.S. Department of Commerce, *Wheat Ground and Wheat Milling Products, Monthly Summary of Foreign Commerce, Foodstuffs Round the World*, and Statements Nos. 3009, 3013, and 3015; estimated production as for Table XXVIII. Monthly total production and net retention from January 1925 are given in WHEAT STUDIES, May 1936, XII, 335.

TABLE XXX.—WHEAT SUPPLIES AND DISPOSITION IN FOUR CHIEF EXPORTING COUNTRIES, FROM 1923-24*
(Million bushels)

A. UNITED STATES (JULY-JUNE)

Year	Supplies			Domestic utilization					Surplus over domestic use	Net exports ^g	Shipments to possessions ^g	Year-end stocks ^g
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^e	Fed on farms ^b	Residual ^e	Total ^f				
1923-24.....	132	759	891	470	74.1	67	+ 8	619	272	132	2.97	137
1924-25.....	137	840	977	472	79.9	56	+ 3	611	366	255	2.87	108
1925-26.....	108	669	777	490	78.8	28	-16	581	196	93	2.74	100
1926-27.....	100	832	932	493	83.3	34	+ 3	613	319	206	3.08	110
1927-28.....	110	875	985	494	89.9	44	+51	679	306	191	2.69	112
1928-29.....	112	914	1,026	500	83.7	55	+14	653	373	142	3.17	228
1929-30.....	228	823	1,051	495	83.4	59	-18	619	432	140	2.98	289
1930-31.....	289	886	1,175	481	80.9	157	+28	747	428	112 ^h	2.85	313
1931-32.....	313	937	1,250	474	80.0	174	+20	748	502	124 ^h	2.80	375
1932-33.....	375	757	1,132	481	81.2	125	+31	718	414	33	3.02	378
1933-34.....	378	552	930	435	75.5	72	+45	628	302	25	2.78	274
1934-35.....	274	526	800	443	82.5	84	+46	655	145	(4) ⁱ	2.78	146
1935-36.....	146	626	772	458	88.4	98	+19	663	109	(31) ⁱ	2.89	137

B. CANADA (AUGUST-JULY)

Year	Supplies			Domestic utilization							Surplus over domestic use	Net exports ^g	Year-end stocks ^g
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^e	Other A ^{b,k}	Other B ^{b,l}	Other C ^{b,m}	Residual ^e	Total ^f			
1923-24.....	32	474	506	41.5	38.7	19.4	...	11.9	+ 3	115	391	346	45
1924-25.....	45	262	307	42.1	38.5	12.0	...	10.0	-15	88	219	192	27
1925-26.....	27	395	422	42.3	39.8	11.2	...	6.3	-38	62	360	324	36
1926-27.....	36	407	443	42.8	39.3	12.3	...	19.1	-11	102	341	293	48
1927-28.....	48	480	528	43.5	42.2	27.6	...	6.7	- 3	117	411	333	78
1928-29.....	78	567	645	44.1	44.2	29.6	...	12.8	+ 4	135	510	406	104
1929-30.....	104	305	409	43.4	43.6	7.2	...	6.7	+12	113	296	185	111
1930-31.....	111	421	532	41.9	39.2	4.5	41	7.7	+ 6	140	392	258	134
1931-32.....	134	321	455	41.8	36.9	2.8	27	6.0	+ 2	116	339	207	132
1932-33.....	132	443	575	43.6	35.5	2.1	22	7.2	-11	99	476	264	212
1933-34.....	212	282	494	43.1	32.7	3.0	17	4.5	+ 6	106	388	194	194
1934-35.....	194	276	470	43.1	32.3	3.6	18	4.6	0	102	368	165	203
1935-36.....	203	277	480	43.4	33.3	9.9	23	4.0	+ 3	117	363	254	109

* Based on official data so far as possible.

^a See Table XIII, columns 5 and 12.^b Latest official estimates of U.S. Department of Agriculture and Dominion Bureau of Statistics, respectively.^c Exclusive of imports, which are taken into account in arriving at net exports.^d Wheat equivalent of flour production less flour exports. For the United States, Holbrook Working's estimates corresponding to data in Table XXVIII; for Canada, official estimates of "wheat milled for food."^e Difference between total domestic disappearance and the sum of other disappearance items. This is normally a positive item representing dockage (U.S.), feed elsewhere than on farms where grown, and use of wheat in some prepared breakfast foods, in mixed feeds, and in industry; but it is determined in part by errors in estimates of stocks, crops, specified domestic use items, and net exports. Negative items (e.g., Canada, 1924-27) ordinarily imply more or less underestimate of the crop and/or overestimates of amount fed on farms. For Canada the item includes wheat fed on farms before 1930-31.^f Total supplies less net exports (and for the United States, shipments to possessions) and year-end stocks.^g Official trade data, as in Tables XVII, XXII.^h Does not include all wheat shipped to Canada.ⁱ Net imports.^j On account of a change in the estimated seed requirement per acre, seed use figures from 1930-31 are not properly comparable with those for earlier years.^k Unmerchantable.^l Merchantable wheat fed on farms.^m Loss in cleaning.

TABLE XXX (Continued).—WHEAT SUPPLIES AND DISPOSITION IN FOUR CHIEF EXPORTING COUNTRIES, FROM 1923-24*

C. AUSTRALIA (AUGUST-JULY)

Year	Supplies			Domestic utilization				Surplus over domestic use	Net exports ^g	Estimated year-end stocks		
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^e	Residual ^f	Total ^f			Aug. 1 total ^a	Aug. 1 ex- portable ^h	Nov. 30 total ⁱ
1923-24.....	33	125	158	27.8	11.0	- 1	38	120	86	34	25	9.0
1924-25.....	34	165	199	29.7	10.6	+ 7	47	152	124	28	18	4.6
1925-26.....	28	115	143	32.8	11.6	- 2	42	101	77	24	13	6.9
1926-27.....	24	161	185	31.0	14.5	+ 2	47	138	103	35	25	12.1
1927-28.....	35	118	153	31.6	15.7	- 1	46	107	71	36	25	8.9
1928-29.....	36	160	196	29.1	15.9	+ 1	46	150	109	41	31	15.6
1929-30.....	41	127	168	32.1	19.1	+ 5	56	112	63	49	38	13.8
1930-31.....	49	214	263	31.3	15.6	+ 4	51	212	152	60	49	16.6
1931-32.....	60	191	251	31.6	16.3	- 3	45	206	156	50	40	10.8
1932-33.....	50	214	264	33.0	15.7	+10	59	205	150	55	44	18.5
1933-34.....	55	177	232	33.3	13.3	+14	61	171	86	85	74	40.1
1934-35.....	85	133	218	31.7	12.6	+ 8	52	166	109	57	46	16.5
1935-36.....	57	142	199	32.5	13.4	+ 8	54	145	103	42	31	....

D. ARGENTINA (AUGUST-JULY)

Year	Supplies			Domestic utilization				Surplus over domestic use	Net exports ^g	Estimated stocks		
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^e	Residual ^f	Total ^f			Aug. 1 total ^a	Aug. 1 ex- portable ^h	Dec. 31 total ⁱ
1923-24.....	64	248	312	49.0	21.3	+ 3	73	239	173	66	44	10
1924-25.....	66	191	257	53.0	23.0	- 2	74	183	125	58	35	10
1925-26.....	58	191	249	53.9	23.1	+ 8	85	164	97	67	43	35
1926-27.....	67	230	297	56.9	24.8	+ 2	84	213	144	69	44	15
1927-28.....	69	282	351	59.7	24.9	- 7	78	273	178	95	70	15
1928-29.....	95	349	444	60.4	23.4	+ 8	92	352	222	130	105	20
1929-30.....	130	163	293	60.0	25.5	- 9	77	216	151	65	40	20
1930-31.....	65	232	297	62.5	20.8	+ 9	92	205	125	80	54	20
1931-32.....	80	220	300	64.8	23.7	+ 6	95	205	140	65	38	14
1932-33.....	65	241	306	64.5	23.6	+11	99	207	132	75	48	10
1933-34.....	75	286	361	66.1	22.6	+ 7	96	265	147	118	90	15
1934-35.....	118	241	359	68.7	17.1	+ 6	92	267	182	85	56	17
1935-36.....	85	141	226	69.0	20.8	+ 6	96	130	70	60	31	...

* Based on official data so far as possible.

^a Australia: stocks on November 30 (last column), plus August-November net exports, plus $\frac{1}{2}$ of net mill grindings (column 4). Argentina: stocks on December 31 (last column), plus August-December net exports, plus $\frac{5}{12}$ of net mill grindings (column 4).

^b Official data or estimates.

^c Exclusive of imports, which are taken into account in arriving at net exports.

^d Australia: official data for July-June years to 1934-35; our estimates for 1935-36. Argentina: our estimates based on official data on flour milled minus flour exports in calendar years 1922-35.

^e See footnote e, p. 226; here including feed use.

^f Total supplies less net exports and year-end stocks.

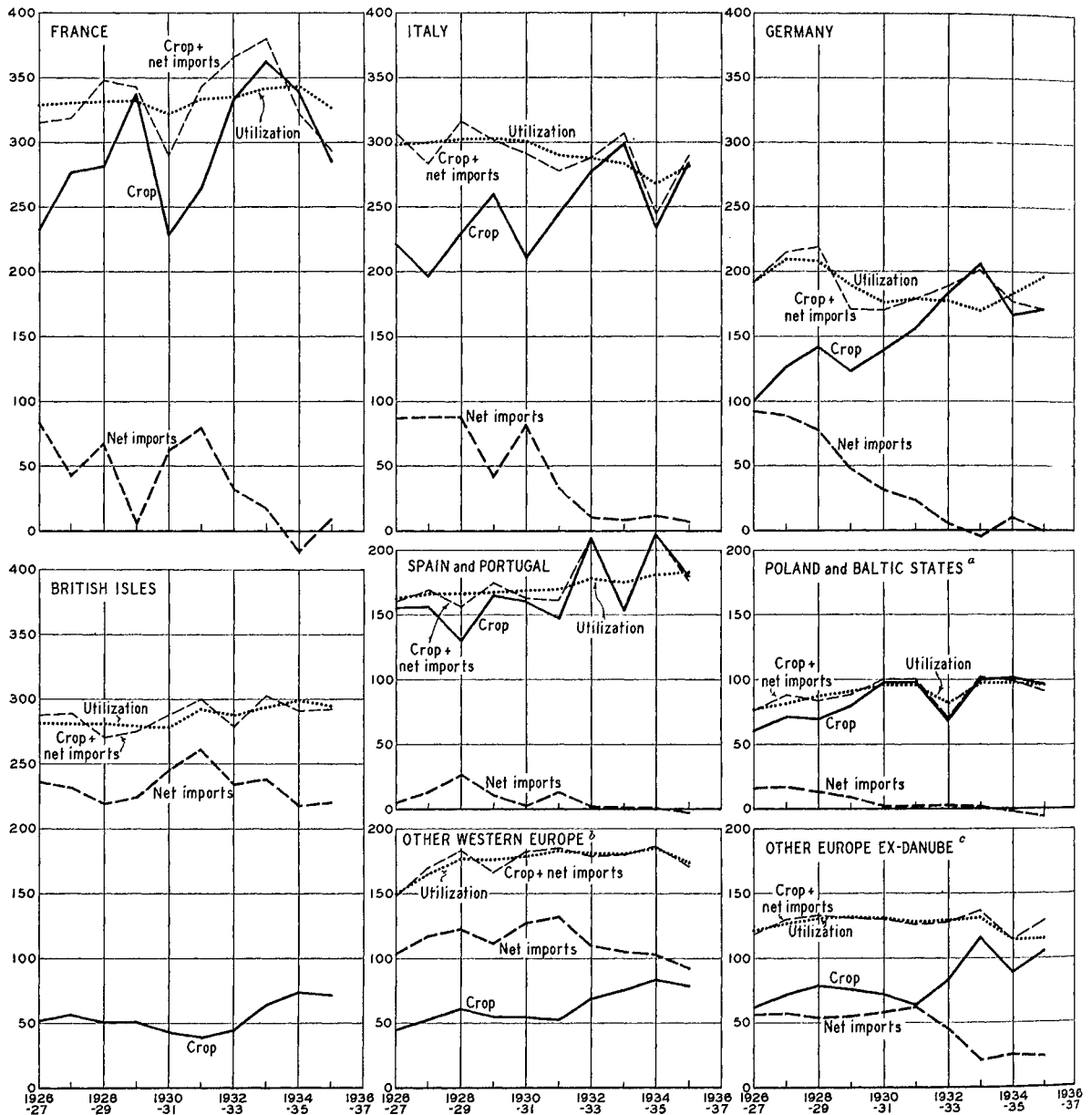
^g Official trade data, as in Table XXII.

^h Preceding column minus $\frac{1}{12}$ of net mill grindings for Australia, $\frac{5}{12}$ of net mill grindings for Argentina.

ⁱ Australia: official estimates 1925-35, our approximations for other years. Argentina: rough approximations to December 31 stocks of old-crop wheat, based largely upon estimates by the *Times of Argentina*.

^j Based on official data on acreage sown and average seed requirements.

CHART 28.—WHEAT SUPPLIES AND UTILIZATION IN EUROPE ex-DANUBE, ANNUALLY FROM 1926-27, BY COUNTRIES AND GROUPS OF COUNTRIES*
(Million bushels)



* Based on data in Tables II, XXII, and XXXI. Utilization data rest partly on our estimates of carryovers, which vary considerably in degree of trustworthiness.

^b Belgium, Netherlands, Scandinavia, Switzerland.

^a Latvia, Lithuania, Estonia, Finland.

^c Austria, Czechoslovakia, Greece.

NOTE. The striking reduction of net wheat imports into Europe ex-Danube since 1931-32 (see Chart 15, p. 173) is here shown to be mainly attributable to heavy declines in the net imports of France, Italy, and Germany. These countries formerly ranked as the largest net importers of wheat in continental Europe. Over the last four years, partly under the influence of governmental measures, they have expanded domestic production and notably contracted imports and (except in France) total utilization of wheat. In these, and also in most other European countries, favorable weather contributed to large crops in two or three of the past four years. In France and Germany, higher utilization in certain years has been due in part to special diversion of wheat to feed use.

In the British Isles, Spain and Portugal, "other western Europe," and Poland and the Baltic States as a group, recent increases in domestic wheat production have been associated with relatively little reduction in net imports and with substantial maintenance or (in some cases) slight expansion of utilization. The curves for "other Europe ex-Danube" suggest developments similar to those in France, Germany, and Italy—sharp decline in net imports, and some decrease in total utilization. This has indeed been latterly true of Czechoslovakia and Austria, but in Greece net imports have been reduced but little and consumption has tended upward.

TABLE XXXI.—TOTAL DOMESTIC UTILIZATION OF WHEAT (ALLOWING FOR CARRYOVERS) IN OTHER COUNTRIES, ANNUALLY FROM 1925-26*
(Million bushels)

Aug.- July	India	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Mo- rocco	Al- geria	Tunis	British Isles	France	Italy	Ger- many	Czecho- slovakia	Aus- tria	Switzer- land
1925-26..	325	50.6	56.0	91.8	32.6	21.8	24.1	7.3	279	334	293	181	58.5	25.8	19.4
1926-27..	326	53.0	59.9	93.7	36.8	22.0	24.2	7.1	282	329	298	192	62.5	26.5	20.3
1927-28..	328	55.8	66.2	98.2	40.3	22.5	25.0	8.5	281	330	300	209	66.8	27.3	20.7
1928-29..	322	55.6	79.5	103.9	41.8	22.9	25.2	8.4	281	331	302	209	69.1	28.3	21.2
1929-30..	320	58.0	77.6	101.1	43.3	23.3	25.5	7.9	279	332	303	189	67.9	29.8	21.6
1930-31..	354	59.4	80.7	107.5	46.1	23.3	24.5	7.5	278	322	301	176	67.6	28.7	22.1
1931-32..	365	60.1	83.6	104.9	48.2	23.0	23.6	7.6	293	334	290	179	67.2	25.9	23.9
1932-33..	360	61.0	59.6	61.5	49.1	22.3	22.8	9.2	288	335	287	178	66.9	25.5	23.4
1933-34..	353	61.7	86.7	107.3	50.4	21.0	19.8	9.8	294	342	284	169	67.3	25.1	23.5
1934-35..	350	59.4	72.9	84.0	45.7	24.4	25.1	9.8	299	344	268	183	50.9	23.1	22.7
1935-36..	362	62.7	72.3	90.5	46.8	21.3	24.5	9.0	294	326	282	196	50.9	22.6	23.2
Average 1925-30..	324	54.6	67.8	97.7	38.9	22.5	24.8	7.8	280	331	299	196	65.0	27.5	20.6

Aug.- July	Bel- gium*	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Portu- gal	Pol- and	Lithu- ania	Latvia	Eston- ia	Fin- land	Greece	Egypt	Japan ^b
1925-26..	53.4	32.8	15.8	6.99	19.5	146	16.5	59.3	4.76	3.72	1.76	6.00	30.0	47.3	44.0
1926-27..	53.7	33.9	16.0	7.01	19.0	147	15.8	60.6	4.71	3.71	1.79	6.22	31.8	47.8	45.3
1927-28..	58.0	36.3	20.4	7.39	22.4	148	18.1	63.0	5.25	4.15	2.20	6.87	32.5	49.5	44.8
1928-29..	58.4	36.8	25.7	8.65	25.9	148	17.6	65.8	6.37	5.11	2.29	7.59	33.1	51.5	45.4
1929-30..	53.7	37.5	22.7	9.01	27.1	150	17.2	68.3	7.53	4.95	2.45	7.11	34.1	53.3	45.0
1930-31..	59.4	39.9	22.2	9.25	26.3	152	17.2	73.3	8.59	5.04	2.46	6.30	34.8	54.0	44.5
1931-32..	60.2	38.8	25.7	9.29	25.0	152	16.9	73.4	9.02	5.13	2.18	5.63	34.9	53.5	44.6
1932-33..	57.8	39.6	25.2	9.44	25.5	159	18.7	59.1	9.25	5.18	2.08	5.95	36.5	48.1	42.9
1933-34..	60.0	37.9	24.1	9.23	25.9	157	17.7	73.4	8.67	6.08	2.45	7.02	38.8	45.2	42.3
1934-35..	57.1	38.6	31.0	9.68	26.0	162	19.2	72.5	9.30	6.37	2.71	7.53	40.0	39.5	45.8
1935-36..	54.8	38.5	24.5	9.80	23.3	164	18.9	70.8	8.17	5.88	1.99	8.57	41.2	43.4	47.0
Average 1925-30..	55.4	35.5	20.1	7.81	22.8	148	17.0	63.4	5.72	4.33	2.10	6.76	32.3	49.9	44.9

* Computed from production and trade data given in Tables II and XXII, and our latest unpublished estimates of stocks about August 1. For more detailed analysis by M. K. Bennett, see WHEAT STUDIES, March 1935, XI, 255-305, and *ibid.*, June 1936, XII, 339-404.

* Including Luxemburg.

^b Taking account of trade with Chosen and Taiwan.

TABLE XXXII.—WORLD WHEAT SUPPLIES AND APPROXIMATE DISAPPEARANCE, ANNUALLY FROM 1923-24*
(Million bushels)

August- July	World ex-Russia					Four chief exporters				Europe ex-Danube ex-Russia				
	Initial stocks	Crops	USSR exports	Total supplies	Disap- pearance	Initial stocks	Crops	Net exports	Utili- zation	Initial stocks	Crops	Net imports	Total supplies	Utili- zation
1923-24...	551	3,548	22	4,121	3,439	263	1,606	735	849	154	997	594	1,745	1,528
1924-25...	682	3,165	...	3,847	3,321	285	1,460	700	818	217	862	630	1,709	1,539
1925-26...	526	3,408	27	3,961	3,349	227	1,370	604	761	170	1,106	522	1,798	1,587
1926-27...	612	3,523	50	4,185	3,540	232	1,630	741	853	211	926	679	1,816	1,610
1927-28...	645	3,705	2	4,352	3,659	268	1,755	768	917	206	1,008	656	1,870	1,660
1928-29...	693	4,038	...	4,731	3,777	338	1,990	891	907	210	1,042	667	1,919	1,682
1929-30...	954	3,607	9	4,570	3,661	530	1,418	544	869	237	1,146	505	1,888	1,669
1930-31...	909	3,881	114	4,904	3,907	535	1,753	651	1,028	219	1,006	609	1,834	1,652
1931-32...	997	3,868	65	4,930	3,939	609	1,669	618	1,017	182	1,064	606	1,852	1,669
1932-33...	991	3,845	17	4,853	3,770	643	1,655	579	989	183	1,266	441	1,890	1,657
1933-34...	1,083	3,811	34	4,928	3,779	730	1,297	456	890	233	1,375	387	1,995	1,672
1934-35...	1,149	3,485	2	4,636	3,731	681	1,176	456	898	323	1,297	350	1,970	1,672
1935-36...	905	3,547	29	4,481	3,757	503	1,187	427	895	298	1,273	340	1,911	1,665

* Summarized from Tables I, XII, and XXI. For the world ex-Russia, "disappearance" represents utilization within the area so defined, plus small and variable net exports to areas outside it.

^a Net imports.

TABLE XXXIII.—ANNUAL AND MONTHLY AVERAGE PRICES OF WHEAT IN FOUR CHIEF EXPORTING COUNTRIES*

Year and month	United States (July-June)*								Winnipeg ^b and others (August-July)				
	Farm price	All classes	Basic cash (Chi.)	No. 2 H. W. (K. C.)	No. 2 R. W. (St. L.)	No. 1 Dk. N. S. (Mnpls.)	No. 2 A. D. (Mnpls.)	Western White (Seattle)	Wtd. average	No. 1 Manitoba	No. 3 Manitoba	Buenos Aires 78-kilo ^c	Melbourne f.a.q. ^d
U.S. PRE-DEVALUATION GOLD CENTS PER BUSHEL													
Average 1909-14	89	...	96	95	103	100	90	...	...	95	...	97	92
1923-24	94	108	105	107	111	125	108	...	100	102	97	101	102
1924-25	140	155	154	151	172	164	169	...	156	168	159	157	146
1925-26	146	156	159	162	171	167	148	...	143	151	142	146	148
1926-27	123	139	138	136	137	151	157	...	131	146	135	133	137
1927-28	122	135	137	138	159	147	134	...	124	146	130	130	133
1928-29	99	111	116	111	136	128	116	117	105	124	115	108	114
1929-30	101	116	117	113	126	127	114	114	121	124	118	108	115
1930-31	62	75	82	73	82	81	75	69	61	64	58	56	53
1931-32	41	58	55	50	49	72	75	60	50	53	46	44	43
1932-33	38	53	52	49	54	57	55	51	44	44	41	40	40
1933-34	46	57	56	55	58	58	67	48	41	42	39	34	33
1934-35	52	65	58	59	58	68	80	50	46	49	45	34	34
1935-36	51	59	59	63	61	75	67	49	44	50	46	50	42
U.S. CURRENT CENTS PER BUSHEL													
1932-33	39	56	54	51	57	59	58	55	47	48	45	43	43
1933-34	72	90	88	86	90	91	104	75	65	68	63	53	51
1934-35	87	109	98	100	98	115	135	84	78	82	76	58	57
1935-36	86	100	99	107	103	126	113	83	74	84	77	84	70
July	76	97	87	99	87	113	105	76	79	81	74	60	57
Aug.	81	98	90	104	92	127	115	75	82	84	76	63	61
Sept.	85	103	97	115	103	133	111	79	81	90	82	74	67
Oct.	95	107	106	119	110	134	117	87	74	90	82	78	72
Nov.	88	98	102	113	105	128	113	83	65	85	77	72	66
Dec.	89	100	104	111	106	128	112	85	70	84	76	84	67
Jan.	92	107	106	113	109	133	120	89	75	85	78	92	73
Feb.	91	107	104	110	109	131	121	86	73	82	76	90	70
Mar.	90	98	103	106	108	124	114	87	71	82	76	91	72
Apr.	85	95	100	102	107	123	106	85	71	80	74	90	73
May	82	90	95	95	102	114	106	80	68	77	70	90	73
June	80	96	93	96	95	124	112	81	72	79	73	91	71
July	94	110	106	111	106	136	143	89	85	93	87	99	78

* Basic data partly from official sources and partly from trade journals. Annual averages are arithmetic averages of monthly data. Conversions of foreign prices at par when exchanges were near par; otherwise at current exchange rates except that, after February 1933, gold prices are based on the price of gold in London.

^a Data of the U.S. Department of Agriculture on farm prices (as of the fifteenth of the month), all classes and grades in six markets, No. 2 Hard Winter at Kansas City, No. 2 Red Winter at St. Louis, No. 1 Dark Northern Spring and No. 2 Amber Durum (No. 2 Hard A.D. 1934-35 ff.) at Minneapolis, and Western White at Seattle. See especially *Agriculture Yearbook*, 1935, pp. 364-65, and *Crops and Markets and Foreign Crops and Markets*. Monthly prices of the foregoing series (except farm prices and Western White at Seattle) are weighted by carlot sales. Prices of basic cash wheat (Chicago) are simple averages of weekly average prices of the cheapest wheat deliverable on Chicago contracts; see *WHEAT STUDIES*, November 1934, XI, 103-24.

^b Based on data from *Canadian Grain Statistics*, *Grain Trade of Canada*, *Monthly Review of the Wheat Situation* (Dominion Bureau of Statistics), and for pre-war years, *Agriculture Yearbook* (U.S.), 1923, p. 628. Monthly average

prices of No. 1 Manitoba are as reported by the Dominion Bureau of Statistics; Winnipeg weighted averages are simple averages of weekly weighted average prices; prices of No. 3 Manitoba are simple averages of unweighted weekly average prices.

^c Recent monthly prices are simple averages of daily quotations from *Revista Semanal* and *Revista Oficial*; pre-war data from *Estadística Agro-Pecuaria*. For 1922-23 and 1923-24, prices computed by deducting 6 cents per bushel from Friday prices of Barletta wheat reported in the *Times of Argentina*. From Mar. 16 to Dec. 11, 1932, and from Dec. 5, 1933, prices are for 80-kilo wheat.

^d Recent monthly prices are simple averages of daily quotations from *Wheat and Grain Review*, Melbourne, of "Wheat, Trucks, Williamstown." Pre-war data furnished by John Darling and Son, Melbourne.

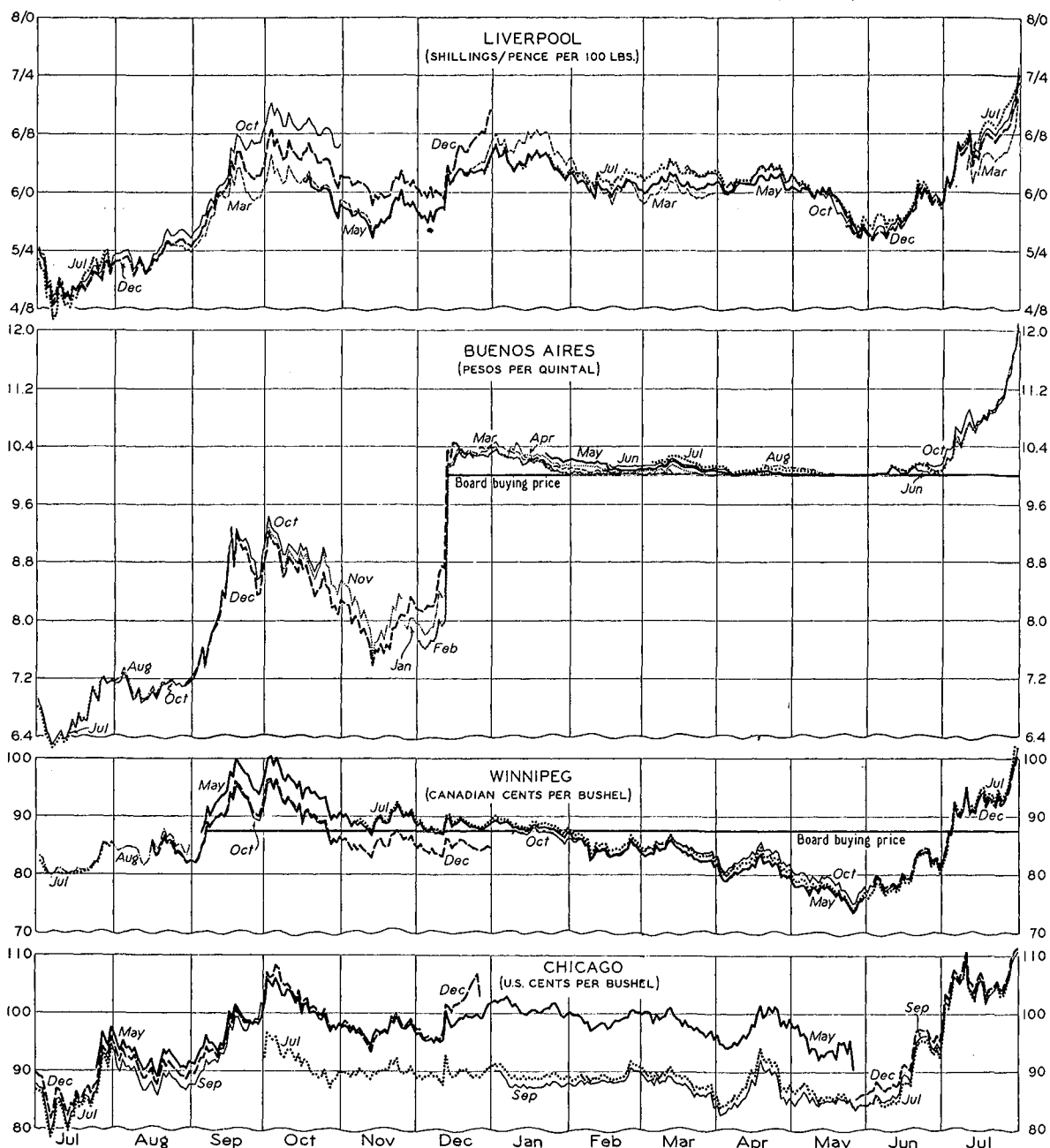
TABLE XXXIV.—ANNUAL AND MONTHLY AVERAGE PRICES OF IMPORT AND DOMESTIC WHEAT IN EUROPE*

Year (August–July) and month	United Kingdom import wheats					Domestic wheats							
	All im- ports ^a	British parcels ^b	No. 3 Mani- toba ^c	Argen- tine Rosafé ^c	Aus- tralian f. a. q. ^c	Great Brit- ain ^d	France (Paris) ^e	Ger- many (Berlin) ^f	Italy (Milan) ^g	Hun- gary (Buda- pest) ^h	Yugo- slavia (Novi- Sad) ⁱ	Ru- mania (Bra- ila) ^j	Bul- garia (Bour- gas) ^k
U.S. PRE-DEVALUATION GOLD CENTS PER BUSHEL													
Average 1909–14	108	...	...	...	...	99	142	135	150 ^l	...	...	...	...
1923–24	121	123	119 ^k	122	128	121	135	104	120	135	...	...	...
1924–25	180	182	181	181	181	160	173	156	185	182	...	...	...
1925–26	170	170	168	163 ^k	176	158	145	161 ^k	208	149	...	...	...
1926–27	164	163	164	160	167	149	186	177 ^k	208	152	...	...	...
1927–28	155	152	154	151	160	129	173	162	191	152	...	...	...
1928–29	132	129	138	128	140	127	167	142	187	118	...	...	...
1929–30	130	127	137	122	133	112	147	165	187	109	...	...	...
1930–31	79	76	77	72	78	81	184	168	156	72	79 ^k	55	63
1931–32	57	59	62	56	61	61	172	152	149	59	77	49	51
1932–33	52	52	54	52	54	52	116	126	143	65	71	91 ^k	52 ^k
1933–34	43	43	48	42	45	40	133	119	118	48	40	63 ^k	49 ^k
1934–35	46	47	51	45	47	39	97	132	130	80	46	70 ^k	53
1935–36	52	54	56	56 ^k	55	48	94	134	148	81	56	57 ^k	58
U.S. CURRENT CENTS PER BUSHEL													
1932–33	56	56	58	56	58	56	124	135	151	70	77	97 ^k	56 ^k
1933–34	68	69	77	67	71	64	212	191	189	77	64	100 ^k	...
1934–35	77	80	88	75	79	66	165	222	220	136	77	118 ^k	...
1935–36	88	91	95	95 ^k	93	81	159	225	249	136	95	97 ^k	...
July	77	75	83	78	79	73	131	228	206	125	76	91	...
Aug.	77	82	90	83	83	63	130	221	231	127	78	99	...
Sept.	82	91	97	95	90	64	152	215	241	128	86	86	...
Oct.	88	93	98	99	96	79	146	217	244	144	105	89	...
Nov.	87	88	94	95	89	77	142	219	245	149	103	94	...
Dec.	86	94	98	102	91	76	140	221	244	149	107	106	...
Jan.	91	96	100	...	97	84	149	224	248	150	110	118	...
Feb.	94	93	96	...	93	85	166	228	255	148	108	116 ^k	...
Mar.	92	92	95	...	92	84	180	229	256	140	104	97 ^k	...
Apr.	90	91	91	...	94	86	173	230	255	135	92	93 ^k	...
May	91	85	87	...	94	90	168	232	256	127	86	88	...
June	90	87	88	...	93	90	175	235	256	118	78	...	...
July	93	100	104	...	105	94	186	235	257	122	78	78	...

* See corresponding footnote to Table XXXIII.

^a Data from *Accounts and Papers Relating to Trade and Navigation of the United Kingdom*: declared values of all imported wheat divided by quantities imported.^b Data from *London Grain, Seed and Oil Reporter*: averages of all sales of wheat parcels (exclusive of French denatured wheat in March–May 1935) on British markets.^c Data from *Corn Trade News*: averages of Tuesday quotations of parcels afloat or for early shipment, mainly to Liverpool. Australian prices from 1931–32 are averages of low quotations. Argentine prices from Nov. 17, 1932, include duty of 2 shillings per quarter (4–6 cents per bu.).^d Averages of weekly *Gazette* prices from the *Economist* (London) and the *Agricultural Market Report*.^e Averages of daily prices (*marché libre*) from *Bulletin des Halles*. Annual prices to 1925–26 are prices at Chartres and are probably about 5 cents lower than Paris prices. Pre-war prices from *Annuaire international de statistique agricole*, 1915–16, p. 705.^f Data from *Wirtschaft und Statistik* (post-war), *Viertel-**jahrshefte zur Statistik des Deutschen Reichs* (pre-war). Minimum or fixed prices to producers after October 1933.^g Data from International Institute of Agriculture, *Yearbook of Agricultural Statistics and Monthly Crop Report and Agricultural Statistics*. Prices are for "soft" wheat.^h See WHEAT STUDIES, VI, 283, for prices to 1926–27; prices 1927–28 to 1929–30 are prices of Tisza (78 kilo from *Bulletin statistique mensuel hongrois*; prices from 1930–31 are for same quality wheat from U.S. Department of Agriculture.ⁱ Data from U.S. Department of Agriculture. Prices for Bulgaria are fixed prices paid to producers since January 1934; for 1933–34 and following, prices are converted to gold at pre-devaluation par of exchange, because of the unsatisfactory character of Bulgarian exchange quotations.^j Average for calendar years 1910–14.^k Prices missing for some wheats—for Argentine Rosafé none after December 1935.

CHART 29.—WHEAT FUTURES PRICES IN LEADING FUTURES MARKETS, DAILY, 1935-36*



* Daily closing prices from *London Grain, Seed and Oil Reporter*, *Buenos Aires Revista Oficial*, *Winnipeg Grain Trade News*, and *Chicago Daily Trade Bulletin*.

In Winnipeg the "board buying price" for No. 1 Manitoba Northern (the grade deliverable on futures contracts without premium or discount) was fixed at 87.5 cents effective Sept. 7, 1935. In Buenos Aires the "board buying price" for new-crop wheat of specified type and quality, f.o.r. at that port, was raised as of Dec. 13, 1935, from 5.75 pesos per quintal (an ineffective rate in 1935) to 10 pesos. See above, pp. 165, 166, 192.

NOTE. These four futures markets are the most representative for the countries concerned. Outside these countries none is of comparable importance or of much use for hedging purposes. There is no futures market in Australia, but Australian and Argentine shippers hedge on the Liverpool exchange. The largest futures market in continental Europe is in Rotterdam, where the average daily turnover is only around 200,000 bushels. On the Antwerp, Rotterdam, Hamburg, and Genoa markets, only imported wheats are deliverable. On the Berlin and Budapest markets, only domestic wheat is deliverable. The Paris market is concerned chiefly with French wheats. See brief article by Simon Mayer in *Southwestern Miller*, Feb. 11, 1936, pp. 21, 42.

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