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**THE INSTITUTE OF ECONOMICS, 4**  
**INVESTIGATIONS IN AGRICULTURAL ECONOMICS**

**AMERICAN AGRICULTURE**  
**AND THE**  
**EUROPEAN MARKET**

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**AMERICAN AGRICULTURE  
AND THE  
EUROPEAN MARKET**

**BY**

**EDWIN G. NOURSE**

**WITH THE AID OF THE COUNCIL AND  
STAFF OF THE INSTITUTE OF ECONOMICS**

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## DIRECTOR'S PREFACE

ALTHOUGH the World War was a temporary boon to the American farmer, the ensuing years of readjustment have proved disastrous—particularly to the growers of grain and live stock. The continuing depression of agriculture has been ascribed to many causes, and no end of relief measures have been proposed. Simple restoratives have been tried in the balance and found wanting; political medicine men have fostered vain hopes of legislative magic; farm organizations have advertised the farmer's distress and have proclaimed that in union there is strength; and sundry market and financial reforms have been launched as part of a "program of action." Thus far, however, neither faith nor organization has succeeded in removing the mountains that block the farmers' road to prosperity.

The failure of those most concerned to find a solution of the agricultural problem is due to no paucity of statistical or other data. The United States Department of Agriculture has been diligent in gathering information and has maintained official observers in those areas where conditions and activities have the most important bearing on the fortunes of our agriculture. The United States Department of Commerce has contributed further information, particularly on the distributive side,

supplementing it with much valuable data on general business conditions. But the very wealth and volume of this material and its minute and detailed character tend to bewilder the observer and to confuse his vision with the million tiny cross-currents of the moment, whereas he needs to have revealed the underlying economic forces that control not only the American but the world agricultural situation. This, the Institute of Economics undertakes to do in the present volume.

The investigation attempts to reveal the development and present position of American agriculture as affected by the growth and present status of European markets and the expansion and present position of competing producing areas. The book does not present a working program for the American farmer in the readjustment period in which we are already involved. It attacks merely the one question: What is the real condition confronting American agriculture so far as the European market is concerned? Until this question is definitely answered, we shall make little progress in effecting a solution of present farm problems. Other studies of the Institute now in progress will be directly concerned with these problems of agricultural readjustment.

H. G. MOULTON,  
*Director.*

WASHINGTON, D. C.,  
April 22, 1924.

## AUTHOR'S ACKNOWLEDGMENTS

IN addition to his indebtedness for general assistance given by members of the Council and staff of the Institute, the writer desires to express the greatest obligation to Elmer J. Working for assistance throughout the book and to Harold G. Moulton and Cleona Lewis in the preparation of Chapters IV and V. A large amount of the data for Chapters VII and VIII has been obtained from the Bureau of Agricultural Economics of the U. S. Department of Agriculture and the Bureau of Foreign and Domestic Commerce of the U. S. Department of Commerce. In addition, Mr. L. G. Michael, Dr. Ralph H. Hess, and Dr. G. B. L. Arner of the Bureau of Agricultural Economics kindly read Chapter VII in manuscript and offered numerous helpful suggestions. They are, however, in no way to be held responsible for the conclusions expressed.

E. G. NOURSE.

WASHINGTON, D. C.,  
*April, 1924.*

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## **APPENDICES**

## APPENDIX A

### AGRICULTURAL EXPORTS DURING THE PERIOD OF GROWTH, 1870-1900

In Chapter I (pp. 24-27) there were presented a series of graphs showing the amounts of our agricultural exports during the years from 1870 to 1900. For the sake of those persons who are interested in analyzing this export trade further there are presented in this appendix some data of a more detailed character which show comparisons of the relative importance of the different commodities entering into the agricultural export trade and of the various outlets in Europe through which this trade moved.

#### I. RELATIVE VALUE OF THE VARIOUS COMMODITIES EXPORTED

Throughout the greater part of the period under discussion, cotton ranked highest in value among our exports, grain and packing-house products being second and third respectively. Tobacco was a relatively modest fourth. All other products taken together bulked smaller than any one of the four classes mentioned, with the exception of tobacco. The relative importance of the "other products"

group, however, has grown steadily throughout the period, rising from 5.3 per cent in 1870 to 15.3 per cent in 1900. The percentage which each of these four principal commodities or groups of commodities made of the total value of agricultural exports from 1870 to 1900 is shown in figure 24.

Although the *absolute value* of cotton exports mounted steadily throughout the period, this trade did not grow so rapidly as did that in grain and livestock products and hence showed a considerable decline in *relative position* from the beginning to the close of the period.<sup>1</sup> The extraordinary volume of grain exports in 1879, 1880, and 1881 caused these products to be the largest single item in our export trade during those years, which, however, represented the climax of the movement, although the single years 1892 and 1898 nearly restored the relative position of this class.

The comparative importance of some smaller groups of products and individual commodities is shown in figure 25 (p. 242). Although corn was of large importance, the great bulk of exports in the grain and grain products class consisted of wheat and wheat flour. These, at times, ran as high as

<sup>1</sup> Since the different classes of commodities are here dealt with as percentages of the total *value* of exports, it is evident that the result will be affected not alone by the physical volume of exports but also by the level of prices for the different commodities maintaining in the several years. For example, we may note in connection with cotton that the export price, which averaged 15.7 cents in the three years 1870-72 inclusive, averaged only 9.8 cents in 1885-1887. For data showing changes in physical volume of exports the reader is referred to figures 26-30.

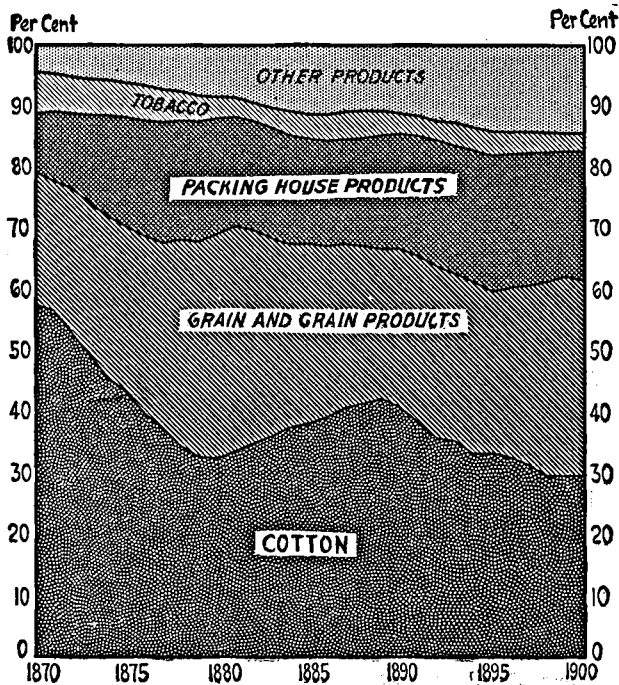


FIGURE 24.—RELATIVE IMPORTANCE OF PRINCIPAL CLASSES OF DOMESTIC AGRICULTURAL EXPORTS FROM THE UNITED STATES 1870-1900.

32.5 per cent of the total value of agricultural exports and were at no time less than 15 per cent.

Of packing-house exports, pork products were of far greater importance than were beef products, mutton being negligible. Beef showed a fairly steady growth in relative importance during the

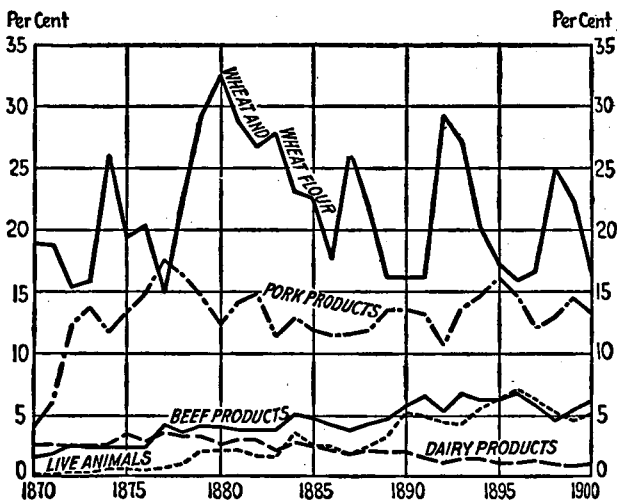


FIGURE 25.—PERCENTAGE RELATION OF SPECIFIED CLASSES TO TOTAL DOMESTIC AGRICULTURAL EXPORTS, 1870-1900.

period; while, except for the first eight years, the percentage which pork products formed of total export values remained almost stationary. Dairy products, on the other hand, were not only less important than beef products after 1876, but after 1877 and throughout the remainder of the period they declined

in relative importance as compared to the total value of agricultural exports.

Of the individual items included in pork and beef products, bacon was the largest. It was seldom below 5 per cent of the total value of exports and at times was more than 10 per cent. However, it declined in relative importance during the period, whereas lard held its own and, at the end of the period, was almost as important as bacon. Hams and shoulders were of negligible importance before 1880, but from that time forward increased steadily until by 1900 they had reached 2.5 per cent of the total value of the agricultural exports, a figure which, at that time, was about half the value of the bacon exports. By 1884 exports of fresh beef comprised somewhat over 2 per cent of the total, reaching 3.5 per cent in 1900.

## II. DEPENDENCE OF VARIOUS COMMODITIES ON THE FOREIGN MARKET

Mere volume of exports, however, does not indicate the measure of dependence of a given industry on the foreign market. We must consider also the ratios that the exports bore to the total amounts of the several articles being produced in the country. For example, the value of wheat and wheat flour exports during the period averaged about five times that of tobacco, yet tobacco exports comprised a greater proportion of the total tobacco crop than the percentage which wheat and flour exports were of total wheat production.

Of the major agricultural products, cotton has



depended to the largest extent on the foreign market, tobacco, wheat, hogs, and cattle being next in order of dependence. Throughout the whole period from 1870 to 1900 the annual exports of cotton comprised approximately two-thirds of the entire crop, ranging from a maximum of 72.6 per cent of the crop of 1870 to 65.2 per cent of the crop of 1899.<sup>1</sup>

Exports of wheat, including flour, on the other hand, made up a much smaller proportion of the total production and one which varied much more widely from year to year. The smallest proportion exported in any one year during the period was 16.9 per cent (crop of 1871), whereas the largest proportion was 38.6 per cent in 1891. The year 1893 showed an export percentage of 38.4 and 1878, 1879, 1880, 1892, 1897 and 1900 all registered above 35 per cent. The reason for the great variability is not alone that our production of wheat rose and fell somewhat more sharply from year to year than did the cotton crop, but also that our export trade varied with production conditions in several other wheat-producing areas. The source of European wheat imports shifted from one to another surplus region, whereas for cotton Europe's dependence upon the United States was much more absolute.

Corn exports rose from less than 1 per cent in 1870 to about 6.5 per cent of the total crop in the late seventies while Europe was suffering from short crops of bread grains. Thereafter it dropped to an average of only about 3 per cent until 1895,

<sup>1</sup> These figures refer to the cotton-export year, which is the twelve months beginning September 1 of the year in which the crop is harvested.

when it took a distinctly upward course, nearly reaching 10 per cent in 1897 and averaging over 8 per cent for the five-year period, 1896-1900.<sup>1</sup> The real dependence of the corn industry on the export market, however, is a difficult thing to judge correctly because, while only a small proportion of the corn crop was exported as grain, the corn-growing industry depended upon the beef and hog industry, which in turn depended to a considerable extent upon the foreign market.

As for the live-stock and meat situation, it is impossible to obtain accurate figures on the production of beef or pork for the entire period, but an estimate of the beef production and pork production in 1900 as given by the U. S. Department of Agriculture indicates that 11 per cent of the dressed beef produced in that year was exported. Pork exports, on the other hand, comprised 20 per cent of the production of dressed pork in 1900.<sup>2</sup>

Adequate tobacco production figures likewise are not available before 1900, so it is impossible to determine accurately the ratio of exports to production. From such data as is available, however, it appears that during the last decade of the century roughly 45 per cent of the tobacco crop was exported. Prior to that time the proportion was apparently somewhat larger. The percentages which exports formed of the total production of the four principal export crops is shown in the accompanying table.

<sup>1</sup>The export year used in these figures is the twelve months following July 1 of the year in which the crop is harvested.

<sup>2</sup>Holmes, G. K., *The Meat Situation in the United States*: U. S. Dept. of Agr., Office of the Secretary, Rep. 109, pt. 1, p. 269, 1916,

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## PERCENTAGE OF FOUR PRINCIPAL CROPS EXPORTED, 1870-1900

Year	Cotton, <sup>a</sup> Per cent	Wheat, <sup>b</sup> Per cent	Corn, <sup>b</sup> Per cent	Tobacco, <sup>b</sup> Per cent
1870	72.6	22.3	1.0	
1871	66.2	16.9	3.6	
1872	67.7	20.8	3.7	
1873	69.3	32.5	3.9	
1874	71.0	23.7	3.5	
1875	70.6	25.6	3.9	
1876	68.9	19.7	5.7	
1877	71.1	25.3	6.5	
1878	69.3	35.8	6.3	
1879	68.5	36.3	5.5	45.7
1880	70.1	37.4	5.5	50.9
1881	65.7	31.8	3.7	49.7
1882	67.2	29.3	2.6	45.9
1883	67.6	26.5	3.0	45.9
1884	69.1	25.9	2.9	42.6
1885	66.0	26.5	3.4	52.0
1886	68.1	33.6	2.5	57.3
1887	65.6	26.2	1.7	68.0
1888	68.3	21.3	3.6	39.6
1889	66.0	25.2	5.2	52.4
1890	68.3	28.1	2.2	47.7
1891	66.0	38.6	3.7	45.9
1892	67.4	36.4	2.8	45.3
1893	71.4	38.4	3.9	46.8
1894	69.4	28.0	2.1	49.3
1895	66.6	22.2	4.4	48.3
1896	71.9	26.7	7.1	49.8
1897	71.1	35.6	9.9	43.1
1898	66.7	28.8	7.8	39.1
1899	65.8	29.3	8.7	39.7
1900	66.3	35.8	7.2	38.8

<sup>a</sup> Export year beginning September 1.<sup>b</sup> Export year beginning July 1.

### III. DESTINATION OF OUR AGRICULTURAL EXPORTS

In order to understand fully how European conditions affected American agriculture it is necessary to know not only what commodities and how much of these commodities we exported to Europe, but also which European countries were the chief buyers of our products and what were the amounts of their purchases. The amounts of these purchases vary greatly between countries, both as to total and as to distribution of this total among the various products.

The United Kingdom has been by far the most important market for our agricultural products. Of some products, notably fresh beef, bacon, ham, and cheese, practically the entire amount of our exports were to the United Kingdom. For all agricultural products exported during the period from 1895 to 1899 the percentage of the value of those which went to the United Kingdom was 53.4 as compared with 13.6 to Germany, 6.2 to France, 4.7 to Netherlands, 3.8 to Belgium, and a total of 88.2 per cent to all European countries.<sup>1</sup>

As with all of the other main agricultural exports, the United Kingdom took more cotton than any other country. As shown in figure 26 (p. 248), the total quantity of cotton exported increased quite steadily from 1870 to 1900, amounting in 1870, 1880, 1890, and 1900 respectively, to 959, 1,822, 2,472, and

<sup>1</sup> Hitchcock, F. H., *Agricultural Exports of the United States, 1895-1899*, U. S. Dept. Agr., Sec. Foreign Markets Bull. 20, p. 10, 1900.

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3,126 millions of pounds. Exports to the United Kingdom also steadily increased from 649 million

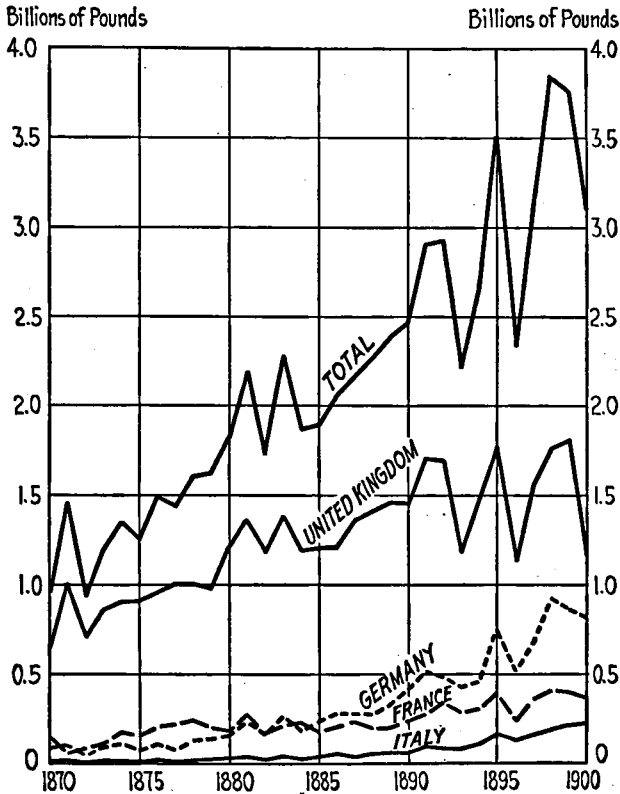


FIGURE 26.—EXPORTS OF DOMESTIC COTTON FROM THE UNITED STATES, 1870-1900.

pounds in 1870 to 1,470 million pounds in 1889, after which, excepting for year to year fluctuation

they remained fairly constant. Exports to Germany, France, and Italy, however, except for year to year fluctuations, continued to increase during the entire period. During the last five years of the century the exports to the United Kingdom were 45.8; to Germany, 23.7; to France, 11.4; and to Italy, 5.7 per cent of the total quantity of cotton exported.<sup>1</sup>

Prior to 1890, exports of the cottonseed products were of little importance, the value of cottonseed oil exported having only once been over 3 million dollars. Cottonseed oil cake and cottonseed meal are not consistently separated from other kinds of oil cake and oil cake meal prior to 1894 in the statistics of commerce and navigation, but the indications are that their export growth closely paralleled that of cottonseed oil. The greatest growth of cottonseed product exports occurred in the late nineties, cottonseed oil exports reaching 50 million gallons and cottonseed oil cake and oil cake meal one billion pounds in 1899.

In contrast to raw cotton, the United Kingdom was relatively a less important customer in these cottonseed products, France and the Netherlands taking a much larger amount of cottonseed oil and Germany a larger amount of the oil cake and oil cake meal. These exports, however, were of very much less importance to the cotton-growing industry than were the exports of raw cotton.

In dealing with exports of wheat and wheat flour

<sup>1</sup> Hitchcock, F. H., *op. cit.*, 1896-1900, Bull. 25, p. 147.

over a long period of years it is advisable to reduce the two to a common denominator and add them in order to have a single figure which will represent the importance of the export trade to the wheat-growing industry. This has been done in preparing figure 27, which shows the destination of wheat and wheat flour exported from the United States.

In the case of wheat flour a substantial proportion of our exports went to non-European countries, as much as one-third of the total at times. The proportion of grain going to non-European countries was much smaller, resulting in the proportion of wheat and wheat flour taken by non-European countries being, for the most of the years, from 15 to 20 per cent of the total. In spite of these large amounts taken by non-European countries our exports to the United Kingdom composed more than half of our total exports and were more than twice as much as those to all continental Europe. Our official export figures indicate that France usually received the next largest amount, with Belgium and the Netherlands occasionally exceeding it. As a matter of fact, however, not a little of the wheat nominally exported to Belgium and the Netherlands was actually destined for consumption in Germany, whither it moved through Dutch or Belgian ports. For this reason exports to Germany, Belgium, and the Netherlands have been presented as a unit in figure 27. It may be added that our trade with these Continental countries was primarily wheat, flour being of decidedly minor importance.

One of the striking features of this trade is the

irregularity of the amount exported to continental Europe, particularly to France. The wide fluctuations are due primarily to the fact that these coun-

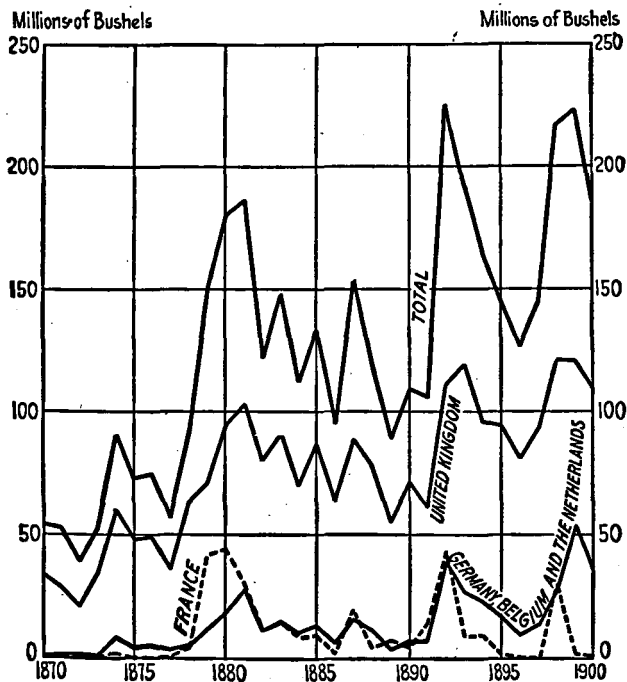


FIGURE 27.—EXPORTS OF DOMESTIC WHEAT AND FLOUR FROM THE UNITED STATES, 1870-1900.

tries raise most of their own wheat and import only what they need in addition. In poor crop years a large amount is imported and in good years very



little. Then too, the amount imported from the United States depends on the size of the particular year's crop here and in other surplus wheat producing regions. For example, the proportion exported from the crops of 1878, 1879, and 1880 averaged very high owing to the poor yields in Europe during that period and the high production in this country. From 1881 to 1890, however, our yields averaged considerably below the peak of 1879 and 1880, whereas Russian exports were very heavy in 1883 and 1885, phenomenal in 1888, and well maintained in the three years following. In addition, the competition of British India and Australia was quite vigorous throughout the eighties, particularly in 1883 and 1885. American wheat exports again had a banner year following the crop of 1891, which broke all previous records. The crop of 1892 was nearly as good, whereas England and France had a bad crop in 1891 and Russia in 1892. As this was followed, however, by heavy Russian crops until 1897 and large Australian and Indian imports until 1895, the percentage of our crop which was exported declined sharply to a point in 1895 which was the lowest reached except once since 1876.

As in the case of wheat flour, corn meal has been reduced to a grain equivalent in the figures and charts presented in this appendix, one barrel of corn meal being considered as the product of four bushels of corn. Exports of corn and meal fluctuated widely throughout the period and showed very marked growth, particularly in the seventies and in the late nineties. The United Kingdom took a larger part

of the total than any other country. In 1875 the United Kingdom took 78 per cent of our total exports and 94 per cent of that taken by Europe. Of the other countries Germany and France were next in importance. In later years the Continental countries increased in importance, but the United Kingdom continued dominant. It was not until 1897 that the total of our exports to all continental Europe was greater than our exports to the United Kingdom. At the close of the century the order of importance was: United Kingdom, Germany, Netherlands, Denmark, Canada, Belgium, and France.

The various meat and dairy products differed widely as to principal countries of destination. In some cases almost the entire amount of our exports went to one country and in other cases they were quite generally distributed to all European countries. Meat products showed a rapid and fairly steady growth throughout almost the entire period. Dairy exports, on the other hand, increased rapidly during the first decade of the period and then declined less rapidly to the end of the century.

Our beef products went primarily to the United Kingdom. In the case of fresh beef, as shown in figure 28 (p. 254), practically the entire amount was taken by the United Kingdom. For example, for the years 1896 to 1900, the United Kingdom received 99.5 per cent (by weight) of our fresh beef exports. Fresh beef did not bulk large in our export trade until after 1875, due to the lack of facilities for refrigeration. In 1879 we exported slightly over

50 million pounds. From that point on, particularly in the late eighties and late nineties the growth of exports was very rapid, reaching a figure of 329 million pounds in 1900. The United Kingdom was also our most important customer in the cured beef trade but took a much smaller proportion of our exports.

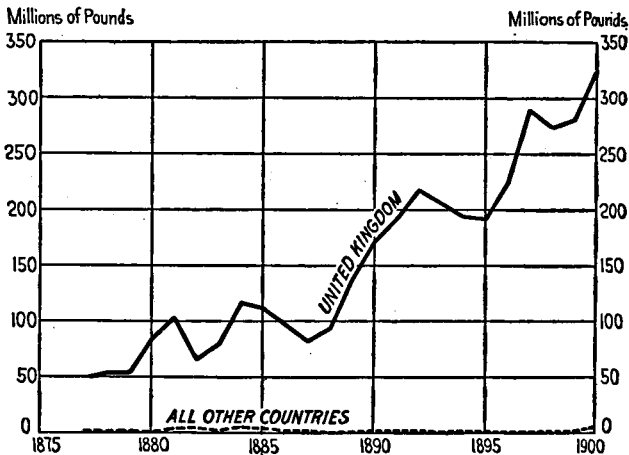


FIGURE 28.—EXPORTS OF DOMESTIC FRESH BEEF FROM THE UNITED STATES, 1870-1900.

The cured beef trade did not grow nearly as rapidly as that in fresh beef, exports in 1870 ranging around 30 million pounds and in 1900 being slightly less than 50 million pounds. The peak for cured beef was in 1890, when 98 million pounds were exported. Exports of cured beef to the United Kingdom did not show a very marked increase or decrease for the period as a whole. During the greater part of the

period they ranged from 20 to 35 million pounds, and in 1900 were less than 20 million. For the last decade of the century the United Kingdom received about 50 per cent of our cured beef exports. Germany received about 10 per cent of the total, and our exports to all the other countries of Europe were about the same as those to Germany.

Among pork products, bacon was the most important and here also the United Kingdom was our chief customer. The greatest growth of bacon exports occurred in the seventies, a peak of 760 million pounds being reached in 1880. As shown in figure 29 (p. 256), the United Kingdom continued to take a very large part of the total exports. Belgium was next in importance, receiving nearly 80 million pounds in certain years but seldom more than 40 million pounds. Germany was the only other European country of any particular importance, and during only about half the period were our exports to her more than 10 million pounds.

As in the case of bacon, the United Kingdom was our greatest buyer of ham, but the exports of the latter were not very large until a later period. The great growth of ham exports occurred in the nineties, and principally in the late nineties.

In contrast to bacon and ham, our exports of lard were very widely distributed among the European countries. Although here also the United Kingdom was more important than any other country for nearly the entire period, Germany was of almost as much importance and at times received more of our lard exports than did the United Kingdom. The

total to all other European countries was about the same amount as that exported to Germany or the United Kingdom. This, as well as the fairly steady growth in the total exports, is shown in figure 30. In 1870 our total exports of lard were only 36 million

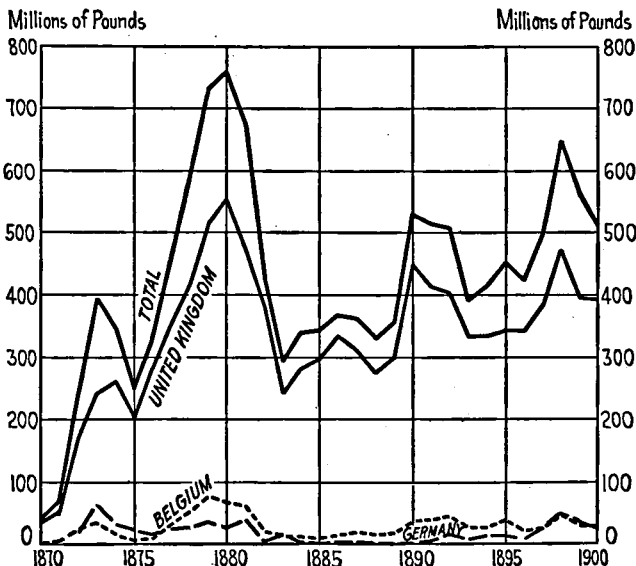


FIGURE 29.—EXPORTS OF DOMESTIC BACON FROM THE UNITED STATES, 1870-1900.

pounds, while in 1900 there were 662 million pounds, the peak of 711 million pounds having been reached in 1899.

Dairy products were not a very large item in our export trade, averaging less than 2.5 per cent of our total agricultural exports during the period from

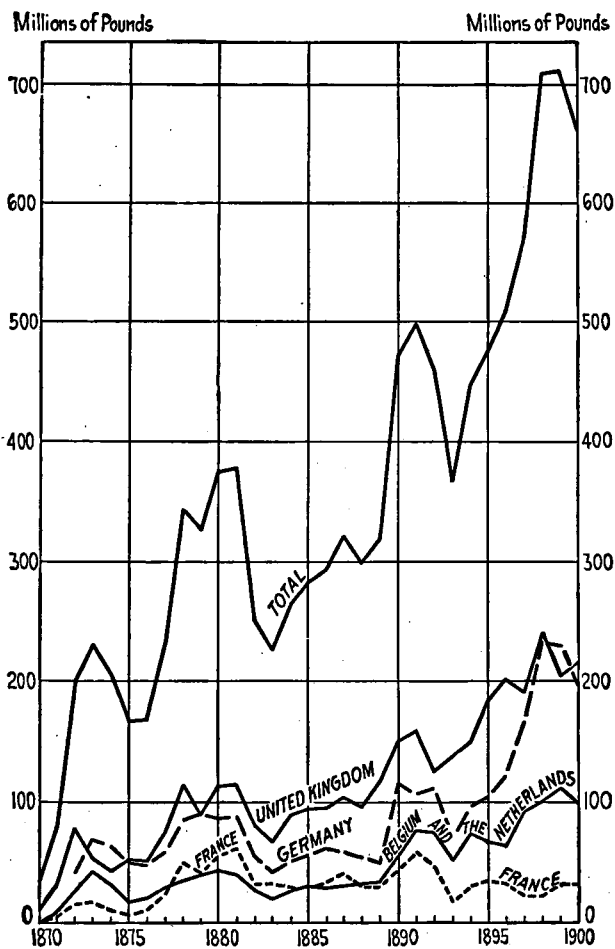


FIGURE 30.—EXPORTS OF DOMESTIC LARD FROM THE UNITED STATES, 1870-1900.

1870 to 1900. Of the dairy products exported, cheese was the most important, butter exports being a comparatively minor item during most of the years. Cheese exports grew rapidly from 57 million pounds in 1870 to a peak of 148 million pounds in 1881. From this they declined almost as rapidly until, by 1900 they amounted to only 48 million. Throughout the entire period the United Kingdom was the only customer of any great importance, taking about 80 per cent or more of the total. Butter exports followed a course nearly parallel to cheese, starting with 2 million pounds in 1870, reaching their peak of 39 million pounds in 1880, and dropping to 18 million pounds in 1900.

Tobacco exports, unlike the majority of the other agricultural products, were somewhat evenly divided among many European countries, there being no single country predominant throughout the entire period. Up to 1884 Germany received more tobacco than any other country, the United Kingdom being second and France third during the most of the time. After 1884, with the exception of the one year, 1889, the United Kingdom received more than any other country, growing steadily in importance. Germany held second place after 1884. Throughout the entire time France and Italy took about the same amount, the higher of the two in any particular year usually being the third country in importance. There was no very marked increase in the total amount of tobacco exported from 1870 to 1900. In 1870 the total exports of all unmanufactured tobacco, which includes leaf, stems and trimmings, were

186 million pounds. In 1874 they rose to 318 million, but dropped to 218 million in 1876. Exports continued to fluctuate in a similar manner throughout the period, being 263 million in 1898, 284 million in 1899, and 345 million in 1900. While there was definitely a growth during the period it was not rapid and the year-to-year fluctuations were very great.

#### IV. CAUSES OF OUR GROWTH IN EXPORTS

With these facts in mind concerning the extent and character of our growth in agricultural exports to Europe during the latter half of the nineteenth century we may now turn to a consideration of the reasons for this growing volume of export trade. Why were our goods in so great demand abroad? Upon what circumstances, European or other, was this demand dependent?

In Chapter I we have already alluded to the growing industrialization of northwestern Europe as being the chief force which explains the expanding market for American farm products. First in time and most extreme in the degree of her industrialization throughout the nineteenth century, Great Britain became by reason of this fact, and also by the meagerness of her agricultural resources, the outstanding customer for American farm products and hence the greatest single factor in our export growth. Even as early as the end of the eighteenth century England had become definitely an importer of wheat, and by 1815 an organized campaign against protective tariffs on breadstuffs was begun. This was



fathered by the leading manufacturers and actively supported by the laboring classes, the Anti-Corn Law League, organized in 1839, having cotton manufacturers as its principal supporters. The growing feeling that industrial development in England was unduly hampered by anything which tended to make them dependent on home supply was greatly strengthened by the bad harvests of 1844 and 1845. This was capped by the Irish famine of 1845 and 1846 and resulted in the repeal of the Corn Laws and the practically free entry of grain after 1849.

At this time, to be sure, the export markets to which England was looking for supplies of breadstuffs were to be found on the Continent. However, the more her growth and industrialization under this policy of free entrance of foodstuffs, the greater the ultimate demand which she was building up to be supplied later from non-European sources. In the nature of the case British dependence upon Continental sources of supply was bound to be short lived in view of the fact that during the latter decades of the nineteenth century the growth of population on the Continent was hardly less striking than that in the United Kingdom and her turn toward industrial development and the growth of cities hardly less marked. The growth of population in the chief European countries between 1860-1865 and 1910-1915 amounted to 58.6 per cent in Great Britain, 44.2 per cent in Germany, 63.9 per cent in Belgium, 84.3 per cent in Holland, 40.0 per cent in the Balkan States, and 91.5 per cent in Russia. France was the outstanding exception to this gen-

eral rule of rapid expansion in numbers, having risen barely 6 per cent in the half century. The marked extent to which this was a growth in city population is shown by the following table:

POPULATION OF 155 CITIES OF EUROPE, 1860-1865 to 1910-1915<sup>1</sup>

Country	Number of cities	1860-1865	1910-1915
Austria.....	1	587,000	1,800,000
Belgium.....	6	737,695	2,428,012
Denmark.....	2	166,152	572,248
France.....	38	4,275,543	7,428,989
Germany.....	39	2,748,558	10,941,141
Great Britain.....	23	6,200,644	11,407,084
Hungary.....	1	186,945	880,371
Italy.....	12	1,958,321	3,858,448
Netherlands.....	9	663,011	1,894,931
Rumania.....	1	124,734	345,628
Russia.....	13	1,672,024	7,294,293
Poland.....	1	162,805	909,491
Finland.....	1	61,530	170,500
Serbia.....	1	14,600	90,870
Sweden.....	4	185,566	767,773
Switzerland.....	3	146,055	446,522
Total.....	155	19,891,183	51,236,301

<sup>1</sup> These percentage figures and the table are both from Rossiter, W. L., *The Adventure of Population Growth*, Jour. Am. Statistical Assn., March, 1923.

The fact, furthermore, that population growth and city concentration were outrunning the development of European agriculture is also shown by a few figures covering the production of important food-stuffs during the same period:

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### EUROPEAN PRODUCTION AND NET IMPORTS OF CEREALS, 1886-1900 (000 omitted)

Yearly Average	Production					Net imports five cereals
	Wheat	Corn	Rye	Oats	Barley	
	<i>Bushels</i>	<i>Bushels</i>	<i>Bushels</i>	<i>Bushels</i>	<i>Bushels</i>	<i>Bushels</i>
1886-1890	1,422,906	440,312	1,349,283	1,903,140	727,246	211,549
1891-1895	1,512,913	478,366	1,374,699	2,032,836	823,369	319,136
1896-1900	1,563,391	513,913	1,470,532	2,195,422	817,673	523,102

### NUMBERS OF CATTLE IN EUROPEAN COUNTRIES, 1870-1900\* (000 omitted)

Year <sup>a</sup>	Russia	Den- mark	Ger- many	Italy	Hol- land	Bel- gium	France	Aus- tria	Hun- gary	Rou- mania	United King- dom
1870	21,409	1,239	15,777	3,489	1,411	1,242	12,733	7,425	5,279	.....	9,235
1880	23,845	1,470	15,787	4,783	1,470	1,383	11,446	8,584	5,311	2,376	9,871
1890	24,609	1,460	17,556	5,000	1,533	1,421	13,563	8,644	.....	2,520	10,790
1900	.....	1,745	18,940	5,672	1,656	1,646	14,521	9,511	6,511	2,589	11,455

\* Provision Trade of the United States, U. S. Treasury Dept., pp. 2340-41, 1900; also Statistical Abstract for the Principal and Other Foreign Countries vol. 38, pp. 330-52, 1913.

<sup>a</sup> Figures are not always for the year specified, but for the nearest available year.

### NUMBERS OF SWINE IN EUROPEAN COUNTRIES, 1870-1900\* (000 omitted)

Year <sup>a</sup>	Russia	Den- mark	Ger- many	Italy	Hol- land	Bel- gium	France	Aus- tria	Hun- gary	Rou- mania	United King- dom
1870	9,051	442	7,124	1,554	329	632	5,890	2,551	4,443	.....	3,651
1880	9,208	527	9,206	2,064	335	646	5,566	2,722	4,160	886	2,863
1890	9,243	771	12,174	1,800	579	1,163	6,017	3,550	4,804	926	4,362
1900	.....	1,168	16,807	2,224	747	1,015	6,740	4,683	7,330	1,709	3,664

\* Provision Trade of the United States, U. S. Treasury Dept., pp. 2343, 1900; also Statistical Abstract for the Principal and Other Foreign Countries vol. 38, pp. 330-52, 1913.

<sup>a</sup> Figures are not always for the year specified, but for the nearest available year.

Not alone, however, was there a growth in population quite disproportionate to the expansion of agricultural production in Europe, but there was likewise a marked advance in the standard of living, particularly in countries which had only recently become industrialized. The taste for white bread, meat, and what formerly seemed table luxuries was a striking accompaniment of city living and the development of a larger purchasing power as a result of factory growth and the development of machine methods. The fact of more and better food, heavier consumption of drink, and better standards of dress and house furnishing are frequently mentioned by European writers of the period, but definite quantitative measures of such changes are difficult to secure. Some light, however, is thrown upon the matter by figures prepared by the U. S. Department of Agriculture<sup>1</sup> indicating that the per capita supply of wheat in Austria-Hungary (that is, home production plus imports) rose from an average of 3.84 bushels in 1886-90 to 4.42 bushels in 1901-05; from 6.04 to 8.40 in Belgium; from 2.59 to 3.40 in Germany; from 5.02 to 6.03 in Italy; from 1.91 to 3.29 in Denmark; and from 5.93 to 6.10 in the United Kingdom. At the same time rye consumption declined in Austria-Hungary, Bulgaria, France, and even in Russia to a slight extent. There were also substantial increases in barley consumption, due, it may be assumed, to more liberal consumption of beer.

While our discussion thus far has related entirely

<sup>1</sup> Cereal Production of Europe, Bureau of Statistics, Bull. 68, pp. 42-44.

to exports of foodstuffs, it should not be forgotten that the significance of the European market was by no means limited to these items of domestic consumption. The expanding need for raw material, which came from the growing cotton industry, early advanced cotton exports to a position of first importance in our export trade and they continued to make up as much as 29.7 per cent and 26.5 per cent of the total value of our agricultural exports, even in the years 1879 and 1899, respectively, in which cereal exports rose to the maximum of their importance.

The situation of this southern staple is somewhat different from that of the primarily western products which we have already discussed. Europe was not, in this case, changing from dependence on domestic production to dependence on foreign supply. Except for some regions of very limited producing capacity bordering the Mediterranean in Greece and Italy and a somewhat larger area in southern Russia, Europe had no land suitable for cotton raising. The growth of cotton imports, therefore, depended upon the growth of a new textile demand in proportion as cotton growth was cheapened, and as the aggressive cotton-mill interests of Europe exploited their domestic market or developed new markets in other countries. In this development, the enlarging purchasing power of European industrial populations was an important factor. A second factor was to be found in the development of commercial relations with India, China, South America, and the like,

where great quantities of low-priced cotton fabrics could be absorbed in proportion as Europe developed a market for the products which these countries were able to offer. Thus, the cotton producer in America profited from the commercial aggressiveness of European manufacturers and also from technical improvements in the process of manufacture, by which cost was reduced or quality improved.

While England was the great pioneer in the cotton-textile industry during the first half of the nineteenth century, development on the Continent was rapid during the later years. Few Germans wore cotton before 1850, the German cotton consumption being only about 15 thousand tons per year at that date. By 1870, the use of cotton had increased so that in the five-year period, 1866-1870, an average of 68 thousand tons annually were used, and from 1871 to 1875 this rose to 116 thousand tons per year.<sup>1</sup> Once under way, the development was rapid, so that by 1899 our direct exports of cotton to Germany amounted to 1.7 million bales as compared with 3.6 million bales to the United Kingdom. It is probably true also that of the cotton reported as sent to the United Kingdom some was reexported and that, on the other hand, Germany secured some additional cotton through Amsterdam or other ports of original entry. It is rather interesting to note, in conclusion, that the tremendous growth of the cotton industry in Europe, which was

<sup>1</sup> Clapham, J. H., *Economic Development of France and Germany, 1815-1914*, p. 295.

facilitated by the ample exports of cotton from this country, was a not inconsiderable factor in the growth there of great industrial centers which, in turn, constituted a market for our wheat and bacon and other food exports.

It is obvious, of course, that the growing consumption of our farm products in Europe depended not alone on the rising level of earnings among European consumers nor on the skill and the aggressiveness of European manufacturers and traders. It was aided also by the extremely moderate prices at which agricultural products were being offered in the export market of the United States and other surplus countries. This lower trend of food and textile prices may be traced in the table presented below.

It is a fact well known to any student of American agriculture that this scale of prices represented in many cases a highly unsatisfactory return to the American producer, and that production continued to come forward largely because of the stimulating effect of our free-land policy. Not alone, however, was the initial cost of agricultural produce being kept at a low level in the United States by this free-land influence and the rapid rate at which immigrants were crowding into the country. The cost of agricultural produce laid down in Europe was being kept to the lowest possible minimum also by virtue of the low and declining freight rates which were being offered by American railroads and by ocean-going vessels. We need not discuss here the relation which government subsidies to the railroads

## FARM PRICES OF PRINCIPAL PRODUCTS, 1870-1900 \*

Year	Wheat	Corn	Cotton	Cattle	Swine
	<i>Per bu.</i>	<i>Per bu.</i>	<i>Per lb.</i>	<i>Per head</i>	<i>Per head</i>
1870	\$0.944	\$0.494	\$0.121	\$20.78	\$5.61
1871	1.145	0.434	0.179	18.12	4.01
1872	1.114	0.353	0.165	18.06	3.67
1873	1.069	0.442	0.141	17.55	3.98
1874	0.863	0.584	0.130	16.91	4.80
1875	0.895	0.367	0.111	17.00	6.00
1876	0.970	0.340	0.090	15.99	5.66
1877	1.057	0.348	0.105	16.72	4.85
1878	0.776	0.317	0.082	15.38	3.18
1879	1.108	0.375	0.103	16.10	4.28
1880	0.951	0.396	0.098	17.33	4.70
1881	1.192	0.636	0.100	19.89	5.97
1882	0.884	0.485	0.091	21.81	6.75
1883	0.911	0.424	0.091	23.52	5.57
1884	0.645	0.357	0.092	23.25	5.02
1885	0.771	0.328	0.084	21.17	4.26
1886	0.687	0.366	0.081	19.79	4.48
1887	0.681	0.444	0.085	17.79	4.98
1888	0.926	0.341	0.085	17.05	5.79
1889	0.698	0.283	0.083	15.21	4.72
1890	0.838	0.506	0.086	14.76	4.15
1891	0.839	0.406	0.072	15.16	4.60
1892	0.624	0.394	0.083	15.24	6.41
1893	0.538	0.365	0.070	14.66	5.98
1894	0.491	0.457	0.046	14.06	4.97
1895	0.509	0.253	0.076	15.86	4.35
1896	0.726	0.215	0.067	16.65	4.10
1897	0.808	0.263	0.067	20.92	4.39
1898	0.582	0.287	0.057	22.79	4.40
1899	0.584	0.303	0.070	24.97	5.00
1900	0.619	0.357	0.092	19.93	6.20

\* As given in Yearbooks of U. S. Department of Agriculture for December 1, on crops and for January 1, following on cattle and swine.



had on this rate situation nor the propriety of the freight-rate structure which tended to cause the total burden to be relatively light on these classes of goods and perhaps disproportionately low on hauls of great distance. The fact is, however, that these low transportation charges did much to facilitate the growth of agricultural exports, particularly during the later seventies and the eighties.

Railroad freight rates at this time fluctuated more frequently and more sharply than they do now, much after the fashion of ocean freight rates. However, an idea of the general course of rail freights on farm produce can be gained from reports of the Commissioner of Agriculture published during these years. Thus, starting with a rate of 45 cents per hundred pounds on grain from Chicago to New York on January 1, 1876, the railroad freight tariff dropped to 20 cents on May 5th of that year, thence rising to 40 cents in October, 1877, whence it fell to 10 cents on May 1, 1879, averaged 35 cents in 1880, ranged from 12½ to 40 cents in 1881, 12½ to 30 cents in 1882, 15 to 25 cents in 1885.<sup>1</sup> A better bird's-eye view of the situation can be obtained from a monograph on the grain trade of the United States published by the Treasury Department in 1900. This report shows the following schedule of rates on wheat and wheat flour from 1881 to 1899, inclusive:

<sup>1</sup> Rept. U. S. Commissioner of Agriculture, 1885, p. 394.

**AVERAGE FREIGHT RATES ON WHEAT AND WHEAT FLOUR, CHICAGO  
TO NEW YORK, 1881-1899**

Year	Wheat, per bushel			Flour, per barrel by all rail
	By lake and canal	By lake and rail	By all rail	
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
1881	8.19	10.4	14.4	51.12
1882	7.89	10.9	14.6	50.25
1883	8.37	11.5	16.5	53.95
1884	6.31	9.95	13.125	45.53
1885	5.87	9.02	14.0	42.93
1886	8.71	12.0	16.5	50.33
1887	8.51	12.0	15.74	52.47
1888	5.93	11.0	14.5	48.10
1889	6.89	8.7	15.0	50.00
1890	5.85	8.5	14.31	47.70
1891	5.96	8.53	15.0	50.00
1892	5.61	7.55	14.23	47.42
1893	6.33	8.44	14.7	48.85
1894	4.44	7.0	12.88	42.93
1895	4.11	6.95	12.17	39.70
1896	5.38	7.32	12.0	40.00
1897	4.35	7.37	12.32	41.07
1898	4.42	9.50	11.55	38.51
1899	5.05	6.29	11.13	37.43

The downward course of ocean freight rates likewise is shown by the following rates quoted by the U. S. Commissioner of Agriculture:

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AVERAGE FREIGHT RATE ON WHEAT, NEW YORK TO LIVERPOOL,  
1870-1888 \*

(Cents per bushel)

1870.....	11.56	1880.....	11.76
1871.....	16.32	1881.....	8.16
1872.....	15.28	1882.....	7.74
1873.....	21.12	1883.....	9.08
1874.....	18.16	1884.....	6.80
1875.....	16.14	1885.....	7.20
1876.....	16.04	1886.....	6.92
1877.....	13.86	1887.....	5.42
1878.....	15.22	1888.....	5.34
1879.....	12.40		

\* Ann. Rept. Comr. Agriculture, 1888, p. 451.

Concerning the situation of the American producer relative to the European market in view of our great natural resources and this favorable situation as to transportation costs, Mr. Edward Atkinson observed in 1884:<sup>1</sup>

Is it not apparent that wheat may go even below 34 shillings per quarter in Mark Lane before the supply of wheat from Dakota would cease to meet the demand, except the demand of our own country should stop the export tide? With our present railway and steamship service, even at paying or profitable rates of traffic, our farmers can unquestionably contest the markets of Europe with India and Russia, down to less than 34 shillings a quarter in Mark Lane, if they can not do better at home. . . . Thirty-four shillings per quarter will yield a little over \$1.00 per bushel in London, et

<sup>1</sup> Atkinson, Edward, *The Distribution of Products*, p. 300.

which we can readily continue the traffic, but of course at a greatly reduced profit to the farmer.<sup>1</sup>

It was inevitable under such circumstances that the exact nature of the American competition in the world's food markets should early become a matter of concern to foreign governments as well as our own. British, Austrian, German, and other foreign students of the matter visited the United States in person or studied the available data as a means of gauging the probable capacity of the United States to supply farm produce to Europe over a longer or shorter future period. A number of these analyses were reviewed by the U. S. Commissioner of Agriculture in his annual report for 1883, which begins with the following interesting passage:

The diminished production of European agriculture during the past ten years and an increase of population in the same period have caused enlarged demands upon the surplus bread and meat products of other continents. The reduction of the home supply has resulted from unfavorable seasons rather than any extensive loss of area in cultivation. In Great Britain the discouragement of continued failure has somewhat circumscribed the wheat area. These losses have fallen mainly on the agriculture of Western Europe. While bad seasons were followed by worse in Europe, a series of exceptionally productive years was enjoyed in this country. A surplus of food products, always large, therefore became still larger, and a prominent share in the required supply was furnished by the United States. At the same time our railway

<sup>1</sup> As a matter of fact 1891 was the only year after 1885 and before 1898 in which the English price of wheat was maintained as high as \$1.00 a bushel. In 1894 and 1895 it was little more than two-thirds of that figure.

transportation rates were wisely reduced to render possible this increased movement. The result was an unusual foreign export of wheat, corn, and meats, sold at lower rates than European farmers could afford to accept; when their operations became unprofitable, profits were absorbed, capital wasted, and in many cases bankruptcy followed. Rents declined and leases were given up.

German and French farmers, as well as British, have been for some years feeling the pressure of this competition. The city and country press of those countries has teemed with discussions of the situation, and writers on national and political economy have treated the subject at length in pamphlets and serials.

The commissioner quotes first from British official representatives who had made studies here in 1879 and 1881 but gives chief attention to views emanating from Central European sources. Among these, Max Wirth<sup>1</sup> estimated that America was able to produce grain at one-third less than the average cost in Europe, and believed that the wheat area would continue to expand because of transportation rates lower than those maintaining in Europe. These freights he thought might be expected to fall still farther. Mr. Karl Kautsky<sup>2</sup> also, writing on the competitive advantages of the American farmer—

canvasses the comparative costs of producing wheat in America and Europe, and concludes that in this country the cost is 5.65 francs per hectoliter, and in France 18.42 francs. He makes the cost per day for feed in fattening an ox 1.03 francs in France, and in Texas only seven-hundredths of a franc; for sheep, twelve-hundredths of a franc in France, and two-hundredths in Texas. With

<sup>1</sup> Krisis in der Landwirtschaft und Mittel zur Hülfe.

<sup>2</sup> Die überseeische Lebensmittel-Kunkurrenz.

this advantage the Texan farmer must grow wealthy while the French farmer is consuming his capital. Another advantage in America is political. While in Europe three million able-bodied men are taken from the plow and workshops into the military service, the land forces of the United States amount to only 27,500 men. While in Germany 1 per cent of the population do military duty, only one-hundredth of 1 per cent serve as soldiers in the United States. In the grain region the American farmer pays at the most 1 mark taxes per hectare, in many states (as in Texas) only 28 pfennigs per hectare; the Austrian farmer, on the other hand, at least 5 marks, and the French farmer 20 marks.<sup>1</sup>

How deeply our competition had penetrated into the heart of European agriculture is shown by an Austrian, Dr. Alexander Peez, who writes as follows:<sup>2</sup>

As early as 1873 small quantities of American wheat appeared in the markets and mills of northern Bohemia. At the same time considerable quantities of lard and bacon came to us, and so great was the effect of even their first appearance that, while in 1870 Austria-Hungary exported 165,000 meter zentners of these articles, in 1874 150,000 meter zentners were imported, the American products having gone so far as Pesth. Since then Austrian commercial history further records the fact that in 1879 American wheat was sold in the markets of Trieste and Fiume, the export ports of the Hungarian grain trade; and that in 1880 the pressed-yeast factories about Pilsen consumed about 30,000 meter zentners of American corn, while in Reichenberg American apples have become a staple market article.

It should be borne in mind, however, that the authors to whom we have just referred were writing

<sup>1</sup> Rept. U. S. Commissioner of Agriculture, 1883, p. 349.

<sup>2</sup> Die Amerikanische Concurrent.

at about 1880 or 1881, just when the competition of American cereals was at its height. The keenness of our competition was considerably lessened by better crop yields in Europe in the following years, coupled with a marked shortage in the United States in 1885 and a comparatively light crop in 1883. Writers of the late eighties<sup>1</sup> were inclined to look with some complacency on the progress made by Continental agriculture, due in part to the movement toward government assistance and to more scientific methods which developed out of the earlier agitation. These checks to American exports, however, proved to be rather temporary in character. The United States had very large cereal crops in 1889, 1891, and from 1895 to the end of the decade. Russia, on the other hand, had poor crops in 1891 and again in 1897, and furthermore was hampered by certain tariff wars in the early nineties. In the United States the heavy cereal production of the nineties was matched by several record-breaking cotton crops and a very high level of live-stock production, culminating in extraordinary exports in the closing years of the century, particularly 1898 and 1899.

It is perhaps not strange in view of historic developments during the latter half of the nineteenth century that there was a tendency in many quarters to regard the decline in exports during the eighties as having been a mere temporary recession and the increase which took place in the nineties as some-

<sup>1</sup> Cf. Sering, Max, *Die landwirthschaftliche Konkurrenz Nordamerikas in Gegenwart und Zukunft*, p. 534, ff. 1887.

thing which could be counted on to be permanent. For example, the monographs on the grain and provision trade of the United States published in the Summary of Commerce and Finance, January and February, 1900 (pp. 1995, 2309), speak as follows:

The influence of the foreign market upon the internal grain trade of the United States is becoming constantly greater. While domestic consumption is rapidly increasing it is not growing at as rapid a rate as the foreign demand. From 1867 to 1872 the United States exported annually 35,500,000 bushels of wheat; from 1873 to 1878, 73,400,000 bushels annually; from 1879 to 1883, 157,600,000 bushels annually. After this period there was a decrease in the quantity exported, the exports amounting to only 122,400,000 bushels from 1884 to 1888, and 144,400,000 bushels from 1889 to 1893; but during the last half decade (1894 to 1898) the export reached the annual total of 159,600,000 bushels of wheat. During these six periods the export of wheat was 15.53, 24.59, 34.91, 27.74, 28.86, and 34.96 per cent respectively, of the total production, the proportion for these half-decennial periods varying between less than a sixth to over a third of the total crop.

While the corn crop has always been considerably larger than the wheat crop the export of that article, has, until recently, assumed no such proportions as that of wheat. There are recent indications of a continued large increase in the export of corn. In 1898, for the first time, there were more bushels of corn exported than of wheat and flour combined (one barrel of flour being considered equivalent to  $4\frac{1}{2}$  bushels of wheat). This relation between wheat and flour was not maintained during the fiscal year 1899, but the exportation, though lessened, was still considerable, falling but little below that of 1897, and amounting to 174,089,094 bushels of corn and 791,488 barrels of corn meal. The exportation was to the same



countries and in about the same proportion as in the case of wheat, with the exception that Germany receives a far larger percentage of our exported corn (19.9 per cent) than of our exported wheat (7.4 per cent) or of our wheat flour (0.3 per cent).

. . . In 1870 the exportation of provisions amounted to less than \$31,000,000, from which it increased with remarkable rapidity to \$156,800,000 in 1881. From 1881 on, however, the period of French and German exclusion of meat products set in, and the value of our exports declined rapidly until it reached \$90,680,000 in 1886, from which figures it has gradually risen. It was not until 1898, however, that the high figures of 1881 were again attained. In 1898 our exportation of provisions amounted to \$167,300,000, in 1899 to \$175,500,000.

As a matter of fact it was the conditions of the late nineties which were temporary, and the period of our heavy agricultural exports was about to give way to one of rather marked and steady decline. Before passing on to discuss the details of that movement in Appendix B, it is well to note that from both the American and the European points of view the competition of other countries with the United States was far from being insignificant even during the later decades of the nineteenth century. Constant references are to be found to the relation of older exporting countries, Russia and India, and to certain newer entrants in the field, such as Argentina, Australia, and Canada. The discussion of the extent and nature of this competition, however, will be left to our survey of the period following 1900, in which it became a much more decisive factor in our trade relations.

## APPENDIX B

### AGRICULTURAL EXPORTS DURING THE PERIOD OF DECLINE, 1900-1914

In the latter part of Chapter I the general features of the decline of agricultural exports during the period from 1900 to 1914 were noted. It is the purpose of this appendix to present more detailed data of exports during this period, tracing the course of this decline and examining the reasons for it. As far as practicable, exports given in this appendix are for calendar years instead of being for fiscal years as were the data given in Appendix A. An exception is made in computing the per cent of crops exported. In these figures the year from July 1 to June 30 is taken for all products except cotton in order that the figures may represent as nearly as possible the exports of the crops grown in the given year. The figures showing relative importance of several agricultural exports (pp. 278-292) are also given for years ending June 30.

#### I. GENERAL CHARACTERISTICS OF THE EXPORT TRADE

In this period, as compared with the period 1870-1900, there were a number of important changes, not only in the relative value of the various products

exported but also in the general trend of increase or decrease of these values. In the case of cotton exports, which in the period from 1870 to 1900 had been decreasing in importance as compared with other classes of products, there was a decisive and a rapid growth. As shown in figure 31, cotton exports had comprised less than 30 per cent of the value of all agricultural exports in the year ending June 30, 1900, while in the year just preceding the outbreak of the war (year ending June 30, 1914) they comprised practically 55 per cent of the total value of our agricultural exports.

Grain products, which had maintained their relative importance throughout the period ending 1900, now showed a clearly marked tendency to decline. They decreased from more than 31 per cent of the total value of agricultural exports in 1900 to less than 15 per cent in 1914, having been even lower than this in 1911 and 1912. Packing-house products likewise declined in relative importance during this period, though not as rapidly as did grain products. In 1900 packing-house products ranked third among agricultural exports, comprising slightly over 21 per cent of the total. By 1914 their value was less than 14 per cent of the total, which put them again in third place, where they had been in the previous year also. This, however, was due chiefly to the marked increase in grain exports in these two years. In the nine years preceding 1913 the relative importance of packing-house products had exceeded that of grain exports in every year except one.

The relative standing of these groups is shown in

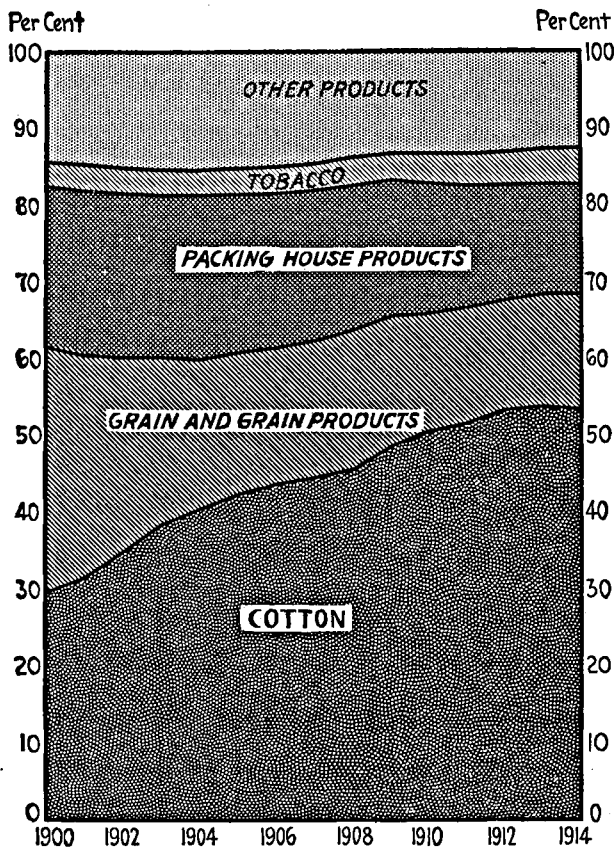


FIGURE 31.—RELATIVE IMPORTANCE OF PRINCIPAL CLASSES OF DOMESTIC AGRICULTURAL EXPORTS FROM THE UNITED STATES, 1900-1914.

figure 32, in which, for the sake of comparison, the whole period from 1870 down to 1914 is presented. The relative decline and subsequent recovery of cotton contrasts sharply in this chart with the pronounced rise of grain exports in the early years and their even greater falling off toward the close of the period. The course of packing-house products is similar though less extreme in its movement.

As shown in figures 31 and 32, tobacco, in contrast to the other classes of products, showed a slight but very steady increase in relative value, rising from 3.4 per cent to 4.8 per cent. The "other products" group, after a slight increase up to 1904, declined somewhat in importance throughout the remainder of the period.

Turning now to the individual products within these general groups, we note that the value of wheat and wheat flour exports, which were the main items in the grain and grain products class, showed a decrease similar to that of the entire cereal group. While beef and pork products both decreased, the decrease in beef products was the more rapid, falling from 6.3 per cent in 1900 to 1.3 per cent in 1914. Pork products on the other hand were 13.3 per cent of the total in 1900 and 10.2 per cent in 1914. Live animal exports, never a leading item, now almost disappeared, following a course quite similar to that of beef products. Dairy products continued the decline in significance on which they had started as early as 1877.

Of the individual pork products lard was the only one of importance which maintained its position,

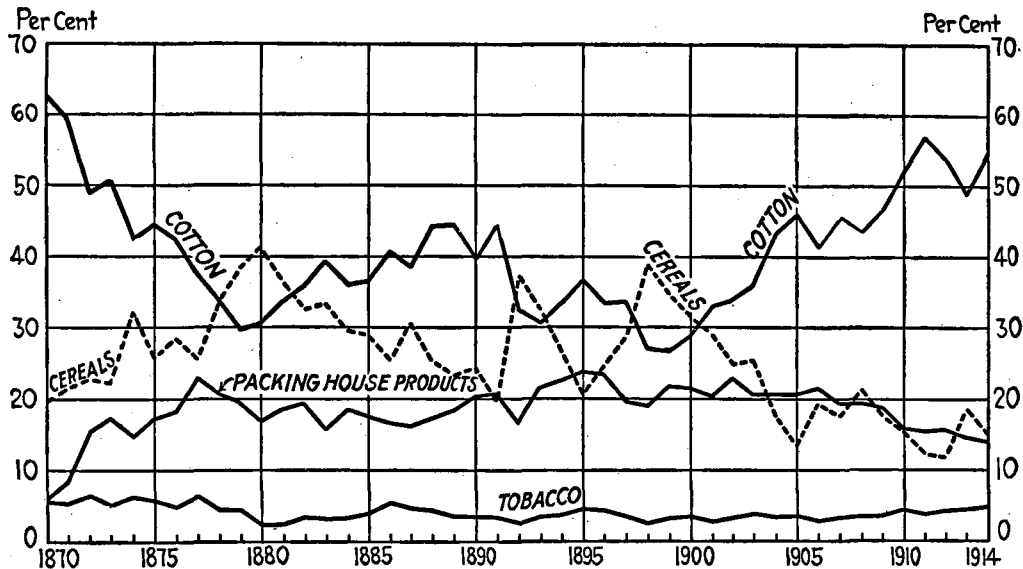


FIGURE 32.—PERCENTAGE RELATION OF SPECIFIED CLASSES TO TOTAL DOMESTIC AGRICULTURAL EXPORTS, 1870-1914.

whereas bacon and ham exports both declined in relative position, bacon from nearly 5 per cent to less than  $2\frac{1}{2}$  per cent and hams only slightly. Fresh beef, which at the beginning of the period had been the largest item in the beef-products class, fell from  $3\frac{1}{2}$  per cent to less than one-tenth of 1 per cent of the total value of agricultural exports.

These figures, it is to be noted, are relative; and since the total value of agricultural exports fell during the period, the exports of a product which merely maintained its relative importance from 1900 to 1914 would have decreased in absolute-value figures and one which decreased in relative position would show an even greater decrease in absolute value.

Passing to the question of the relative dependence of the various classes of farm products on the foreign market during this period, we find that cotton remained in the position of the greatest dependence, with tobacco, wheat, hogs, and cattle next in line. This was the same order as that maintained in the period from 1870 to 1900. There were, as is shown in the table on page 283, changes in the extent to which some of these products depended on the foreign market.

Cotton showed practically no change, the highest per cent exported being 71 per cent of the crop of 1901 and the lowest being 62 per cent in 1903. In the case of wheat, on the other hand, there was a marked decline. In the five-year period from 1896 to 1900, 31 per cent of the wheat crop was exported, while in the period from 1909 to 1913, only 15 per cent was exported. As in the previous period, the

per cent of the wheat crop exported varied widely from year to year, depending on the crop conditions in the various wheat-producing countries as well as the crops in this country. For example, only 7.4 per cent of the crop of 1904 was exported, as against 25.6 per cent of the crop of 1907.

PERCENTAGE OF FOUR PRINCIPAL CROPS EXPORTED, 1900-1913

Year	Cotton <sup>a</sup>	Wheat <sup>b</sup>	Corn <sup>b</sup>	Tobacco <sup>b</sup>
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
1900	66.30	35.84	7.24	38.78
1901	71.01	29.74	1.74	36.76
1902	63.85	28.01	2.92	44.80
1903	62.05	18.17	2.49	38.23
1904	66.21	7.40	3.58	50.62
1905	64.56	13.44	4.37	49.32
1906	64.91	19.37	2.98	49.93
1907	68.39	25.56	2.19	47.39
1908	65.43	17.73	1.48	40.09
1909	62.93	12.47	1.48	33.85
1910	66.85	10.91	2.27	32.20
1911	68.19	12.83	1.65	41.97
1912	64.27	19.57	1.63	43.50
1913	62.56	19.07	0.44	47.16

<sup>a</sup> Export year beginning September 1.

<sup>b</sup> Export year beginning July 1.

The proportion of the corn crop exported decreased during the period from 7.2 per cent in 1900 to 0.4 per cent in 1913. The dependence of both beef and pork products decreased during the period, only 6 per cent of the total beef production of 1909 being exported as compared with 11 per cent of the pro-



duction of 1900. Pork exports in 1909 were 12 per cent of the production, while in 1900 they had been 20 per cent.<sup>1</sup> Thus the decreased corn exports, together with the decreased proportion of beef and hog products exported, resulted in the corn-growing industry being far less dependent than formerly on the foreign market.

Tobacco shows an increased dependence on the export market if we look merely at the beginning and end of the period, being 39 per cent of the crop of 1900 and 47 per cent of the crop of 1913. However, these particular years can not be regarded as typical. During the decade of the nineties an annual average of 45.5 per cent of the crop was exported as compared with an average of 43.6 per cent of the ten crops 1904-1913, inclusive.

## II. DESTINATION OF THE PRINCIPAL AGRICULTURAL EXPORTS

After 1900, although Europe was still by far the principal destination for our agricultural exports, she took a smaller percentage of the total than formerly. A comparison of the proportion which went to Europe and to the principal European countries in the period 1910-1914 with the percentages which these countries took in the period 1895-1899 is shown in the accompanying table.<sup>2</sup>

<sup>1</sup>Holmes, G. K., *The Meat Situation in the United States*, U. S. Dept. of Agr., Office of the Secretary Rept. 109, pt. 1, p. 269.

<sup>2</sup>The percentages used for the period 1895-1899 are based on the Department of Agriculture classification of total agricultural exports, while those for the period 1910-1914 are of the Depart-

PERCENTAGES OF TOTAL AGRICULTURAL EXPORTS TAKEN BY  
EUROPEAN COUNTRIES

	1895-1899 <sup>a</sup>	1910-1914 <sup>b</sup>
	<i>Per cent</i>	<i>Per cent</i>
United Kingdom.....	53.4	37.47
Germany.....	13.6	20.34
France.....	6.2	8.11
Netherlands.....	4.7	4.68
Belgium.....	3.8	3.01
Other countries.....	6.5	10.29
Total Europe.....	88.2	83.90

<sup>a</sup> Hitchcock, F. H., *Agricultural Exports of the United States, 1895-1899*, U. S. Dept. of Agr., Section of Foreign Markets Bull. 20, p. 10.

<sup>b</sup> Strong, H. M., *Distribution of Agricultural Exports from the United States*, Trade Information Bull. 177, p. 9, 1924.

The United Kingdom continued to be the principal customer for our cotton, taking nearly half of the total export. As shown by figure 33 (p. 286), our exports to her increased during the period, though not as rapidly as did our total exports or as our exports to Germany. In 1900 the United Kingdom took 44 per cent of our total cotton exports as compared with 41 per cent in 1912 and 36 per cent in 1913. The proportion of exports to Germany, on the other hand, increased from less than 25 per cent in 1900 to 27 per cent in 1912 and 30 per cent in 1913. France was third in importance among our customers, our exports to her also increasing both in absolute number of bales and in percentage of the ment of Commerce classification, the principal difference being in the omission of alcoholic liquors and beverages from the latter. Both are for fiscal years ending June 30.

total, although they did not increase as rapidly as did those to Germany. Of the other countries Italy, Spain, and Belgium were of some importance, ranking in the order named.

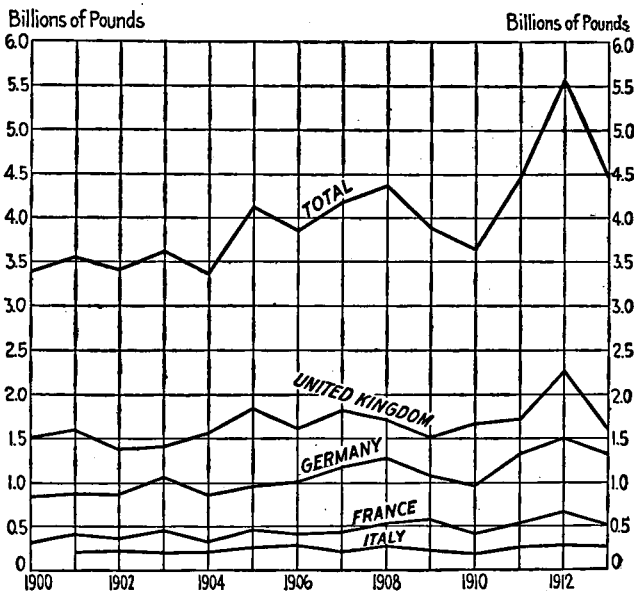


FIGURE 33.—EXPORTS OF DOMESTIC COTTON FROM THE UNITED STATES, 1900-1913.

The other principal commodity in which our total exports continued to increase in quantity after 1900 was tobacco, total exports being 305 million pounds in 1900 as compared with 411 million in 1912 and 444 million in 1913. The tobacco exports continued to go to a great variety of countries in considerable

amounts, but the United Kingdom became by far the most important customer, our exports to her increasing considerably throughout the period, while those to Germany decreased and those to France increased but slightly. From 1900 to 1911 Germany was second in importance and France third, but in 1912-1913 the position of these two countries was reversed. For the period as a whole Germany, Italy, and France all took about equal amounts, Germany usually being first, Italy second, and France third. Our exports to each of them were usually around 35 to 40 million pounds as compared with 100 to 150 million pounds to the United Kingdom. The Netherlands, Spain, and Belgium also were of considerable importance.

In contrast to cotton, our total exports of both cottonseed oil and cottonseed oil cake and meal declined. Our exports of these products to the United Kingdom were of secondary importance, Netherlands and France taking more cottonseed oil and Germany and Denmark taking more of the cake and meal than did the United Kingdom. These products, however, were of far less importance than cotton. Unlike cottonseed oil cake and meal, flaxseed oil cake and meal exports increased from 443 million in 1900 to 705 million in 1912 and 870 million pounds in 1913. Belgium and the Netherlands were the chief takers, our exports to each increasing from roughly 150 million to 380 million pounds. The United Kingdom was third in importance but declined fairly steadily from about 100 million pounds in 1900 to 55 million in 1913. Germany likewise

declined, but our exports to her had never been large, exceeding 25 million pounds only three times during the period.

All of our principal food-product exports substantially declined after 1900. In order to understand fully the reasons for these declines we must first of all know not only to which of the European countries most of our exports went but also how the decline in exports was distributed among these countries. In general, the United Kingdom was the principal destination of our important food products, and it was also primarily our exports to the United Kingdom which suffered declines.

The total wheat and wheat flour exports of the United States dropped from 183 million bushels in 1900 to 155 million bushels in 1913. And as shown by figure 34 the exports of 1900 are low and those of 1913 high as compared to the general trend of exports during the period. The greater part of this decrease in total exports consisted of a decline of our exports to the United Kingdom. For the first five years in the period beginning with 1900, wheat exports to the United Kingdom were 53 per cent of the total, and for the five years 1909-1913 were 39 per cent of the total. In the case of wheat flour, exports to the United Kingdom were 51 per cent of the total from 1900 to 1904 and 27 per cent of the total for the period 1909 to 1913. Exports to other countries, although they fluctuated considerably from year to year, showed no very definite trend of either increase or decrease. Netherlands and Germany were next in rank to the United Kingdom,

both being of about equal importance. To France and Italy we also shipped considerable quantities of wheat, but as in the Netherlands and Germany there was no very definite increase or decrease.

Exports of corn from the United States to the United Kingdom were more than those to any other

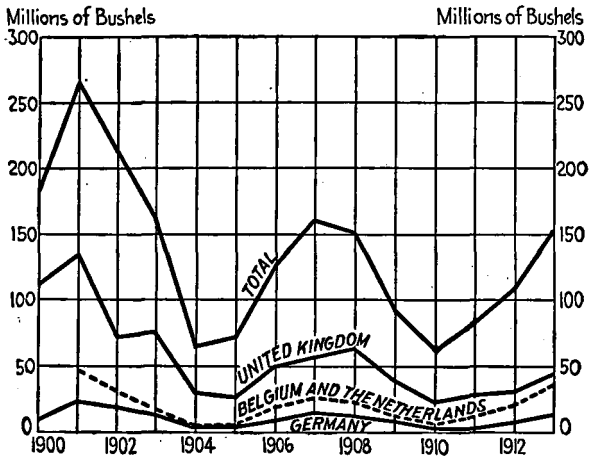


FIGURE 34.—EXPORTS OF DOMESTIC WHEAT AND FLOUR FROM THE UNITED STATES, 1900-1913.

country, being 43 per cent of the total in 1900 as compared with 20 per cent to Germany, which was second in importance. To the Netherlands also we shipped considerable quantities of corn, indeed after 1907 almost as much as to Germany. Exports to France, while being quite large in 1900, had practically ceased by 1908. The decrease in our total corn exports was shared by all the principal coun-

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tries, exports to the United Kingdom falling from 82 million bushels in 1900 to less than 15 million in 1913; those to Germany from nearly 40 million bushels in 1900 to 6 million in 1913. While exports to the Netherlands did not decrease to such a great extent as those to the United Kingdom and Germany, the decline was substantial.

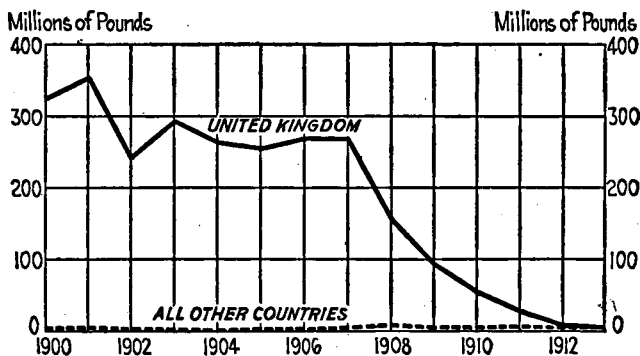


FIGURE 35.—EXPORTS OF DOMESTIC FRESH BEEF FROM THE UNITED STATES, 1900-1913.

Since the United Kingdom was practically our only customer for fresh beef the decrease in total exports of fresh beef was accounted for almost entirely by the decline of this British trade. As shown in figure 35, total fresh beef exports dropped from 326 million pounds in 1900 to 7 million in 1913. Cured beef exports continued the decline started in the early nineties, reflecting the general decline of the cured beef trade of the world rather than a displacement of our exports by the exports from other

beef-surplus countries. In 1900 we exported a total of 56 million pounds, of which 21 million were to the United Kingdom and 7 million to Germany. In 1913 we exported only 25 million pounds, 5 million going to the United Kingdom and nearly 3 million to Germany.

Our other principal beef-product export was oleo oil, of which we exported 160 million pounds in 1900. Of this about half went to the Netherlands, one-fifth to Germany, one-tenth to Norway and Sweden, and one-twentieth to the United Kingdom. Although the amount exported varied considerably from year to year, the general trend of the total exports was sharply upward during the early years of the period, the largest amount exported in any one year being 204 million pounds in 1907. From then on there was an even more rapid decline, exports in 1913 being only 101 million pounds. The exports to the Netherlands participated in the general increase until 1906, after which they declined rapidly, being the principal factor in the decline of the total. Exports to Germany on the other hand continued fairly constant with a slight upward tendency until 1908, after which they decreased rapidly from 40 million to 16 million pounds. Exports to the United Kingdom also increased until 1908, and after that declined even more rapidly than did the exports to Germany.

In the case of bacon exports, which were 470 million pounds in 1900, the United Kingdom was the only country to which we exported a large amount, Germany, France, Belgium, and the Netherlands



being of distinctly minor importance. As shown by figure 36 total exports and exports to the United Kingdom declined together, whereas exports to all other countries declined only slightly. As compared with bacon there was little decrease in our exports of cured ham and shoulders, but, as in the case of bacon, the United Kingdom was our principal

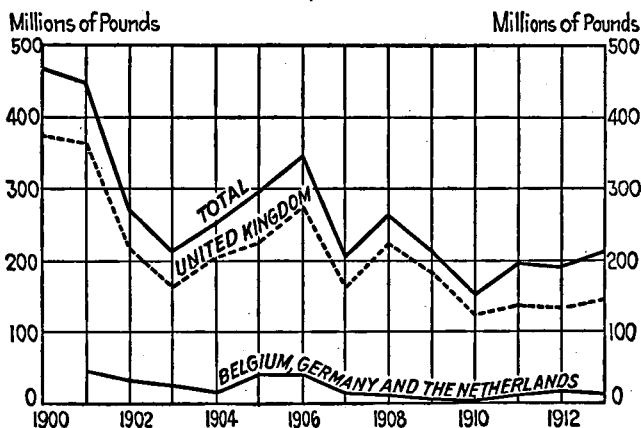


FIGURE 36.—EXPORTS OF DOMESTIC BACON FROM THE UNITED STATES, 1900-1913.

customer and our declining exports to the United Kingdom accounted for practically all of the decline in total exports.

Exports to the United Kingdom and Germany composed by far the greater part of our lard exports, those to the United Kingdom being but little greater than those to Germany. Indeed in one year (1905) exports to Germany were very slightly in excess of

those to the United Kingdom, as shown by figure 37. The Netherlands and Belgium also took considerable quantities of lard, and we shipped smaller amounts to nearly all the western European coun-

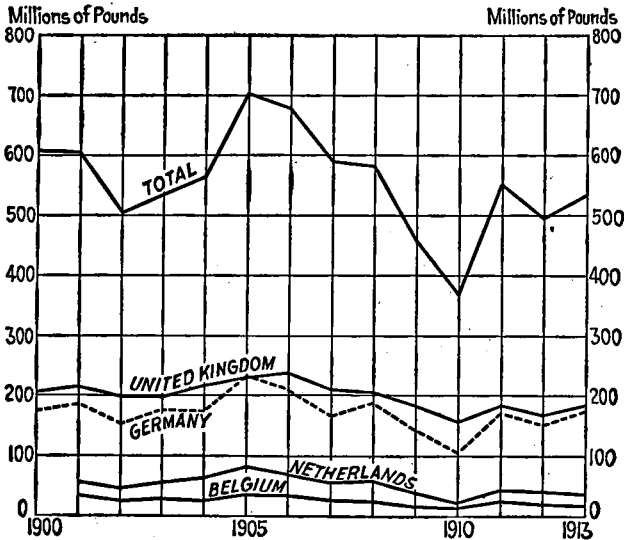


FIGURE 37.—EXPORTS OF DOMESTIC LARD FROM THE UNITED STATES, 1900-1913.

tries. The decline in our total lard exports was rather slow and irregular. Exports to no one country were primarily responsible for this decline, our exports to nearly all the countries declining almost proportionately.

**III. DWINDLING SURPLUS AND RISING PRICES IN THE UNITED STATES**

If we would find the reasons for the decrease of our food exports to Europe we must examine the conditions which made, or failed to make, the United States a satisfactory place for Europe to buy her agricultural products. In this there are two primary things to consider: (1) The quantity of goods which America could spare as an export surplus, and (2) the price at which these goods could be obtained here as compared with other sources of supply.

Europe would buy from us only in so far as she could obtain here the products which she desired on terms at least as satisfactory as could be secured elsewhere.

As to the first of these considerations, our domestic consumption had been increasing rapidly and continued to do so throughout the period under discussion. This growth of domestic consumption was in fact more rapid than the growth in our production in most of the various classes of agricultural products, owing to the country's growth in population and its increasing industrial development. The population of continental United States was 63 million in 1890, 76 million in 1900, and 92 million in 1910. The estimated population in 1914 was 98 million, an increase of 56 per cent over that of 1890 and 29 per cent over that of 1900. The census reports for the five principal cereals show an increase in production of barely 1 per cent from 1900 to 1910, against a 21 per cent gain in population. The year 1914 was a rather better crop year, but the report of the Bureau

of Crop Estimates for that year shows only a 10.7 per cent increase over the census figures for 1910, as against a 29 per cent increase of population. Along with these declines in per capita production of cereals, there were also the following declines in live stock:

NUMBERS OF LIVE STOCK PER CAPITA IN THE UNITED STATES,  
1900-1914 \*

	Cattle	Swine	Sheep
1900 (Census, June 1).....	0.89	0.83	0.81
1905 (Est., Dept. Agr., Jan. 1).....	0.73	0.56	0.54
1910 (Census, April 15).....	0.67	0.63	0.57
1914 (Est., Dept. Agr., Jan. 1).....	0.57	0.60	0.50

\* Meat Situation in the United States, U. S. Dept. of Agr. Rept. 109, p. 215, 1916.

These per capita declines in agricultural production were of course not due to an absolute falling off in our agriculture but to a greater relative increase of city and industrial populations. Between 1900 and 1910 the number of persons gainfully employed in agriculture rose from 10,248,935 to 12,417,276 but those gainfully employed outside of agriculture rose from 29,073,233 to 38,167,336. As a result, the percentage which those in agriculture bore to the total of those gainfully employed dropped from 35.3 per cent in 1900 to 32.5 per cent in 1910. With this relative increase in manufacturing and other non-farming occupations and with the growing urbanization of many parts of the country, there was a more intensive domestic demand for our agricultural products, particularly meats, cereals, and other foodstuffs.

This situation resulted in a clearly marked rise of most agricultural prices as compared with the general price level. An examination of the all-commodity index and the farm-products index as reported by the Bureau of Labor Statistics brings this clearly to light. The figures are presented in the table below.

INDEX OF GENERAL PRICES AND OF AGRICULTURAL PRICES IN THE UNITED STATES, 1896-1914 \*

(1900=100)

	All commodities	Farm products
1896	82.5	78.3
1897	83.8	84.0
1898	86.3	88.4
1899	92.5	89.8
1900	100.0	100.0
1901	98.8	105.8
1902	106.3	117.4
1903	106.3	108.7
1904	107.5	115.9
1905	106.3	111.6
1906	110.0	113.0
1907	117.5	123.2
1908	113.8	123.2
1909	121.3	140.6
1910	123.8	149.3
1911	118.8	134.8
1912	126.3	146.4
1913	125.0	144.9
1914	125.0	149.3

\* Bureau of Labor Statistics, compiled from figures of the Department of Labor.

However, the European importer is interested primarily not in the ratio at which products that he buys exchange for other products in the exporting country, but rather in the ratio of these prices to prices of other commodities in his own country and of the same commodities in other lands from which these imports might be drawn. Since general prices

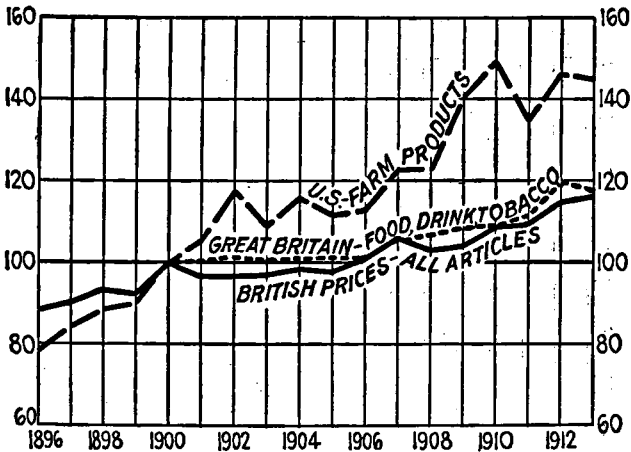


FIGURE 38.—PRICE INDEXES IN THE UNITED STATES AND GREAT BRITAIN, 1896-1913.

were rising faster in the United States than in Great Britain and since agricultural prices here were rising yet faster than the general price level, we were becoming a distinctly less attractive market for European importers to buy in. These trends are shown in figure 38. It is not altogether easy to obtain statistics which will reflect this situation clearly and

fairly. Nevertheless, some light will be thrown on conditions in England, our chief customer, by a comparison of the trend of general prices and of the index of prices of food and drink in the United Kingdom and of farm-product prices in the United States.

Since 1900 marks roughly the turning point at which our agricultural exports began to decline,

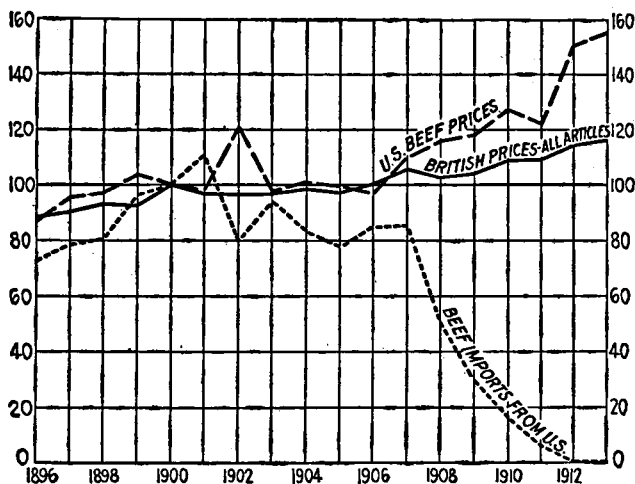


FIGURE 39.—INDEX NUMBERS OF FRESH BEEF PRICES IN THE UNITED STATES AND IMPORTS OF AMERICAN FRESH BEEF INTO THE UNITED KINGDOM (1900=100).

that year is used as a base. It is to be observed that prior to 1900, when our total agricultural exports were at their height, the index of farm-product prices in the United States was even lower than the index of the general price level in the United Kingdom.

The prices of the principal products which were exported to the United Kingdom rose more rapidly than did the general price level in Great Britain. With this more rapid rise there was nearly always a decline in the amount which the United Kingdom imported from us. Fresh beef prices, for example, did

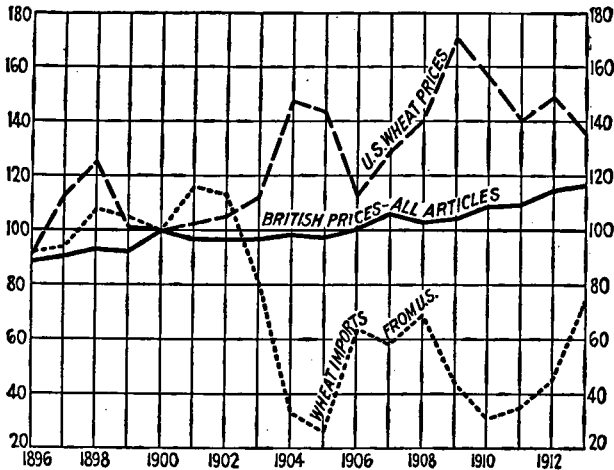


FIGURE 40.—INDEX NUMBERS OF WHEAT PRICES IN THE UNITED STATES AND IMPORTS OF AMERICAN WHEAT AND FLOUR INTO THE UNITED KINGDOM (1900=100).

not rise much faster than the general price level in the United Kingdom until 1907, and (fig. 39, p. 298), it was from 1907 on that the precipitous decline in the United Kingdom's imports of fresh beef from us took place. Likewise, wheat, bacon, and ham imports of the United Kingdom from the United States declined as prices in the United States rose.



This is graphically presented in figures 40 (p. 299) and 41.

While, under these conditions of rising prices, it is natural to expect smaller purchases by European countries from us, these reduced purchases would necessitate either a reduction of their consumption,

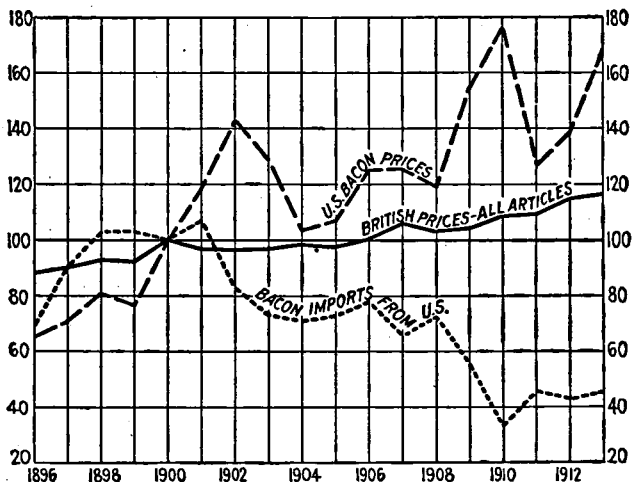


FIGURE 41.—INDEX NUMBERS OF BACON PRICES IN THE UNITED STATES AND IMPORTS OF AMERICAN BACON INTO THE UNITED KINGDOM (1900 = 100).

an increase in their production, or increased purchases by them from some other source. As already shown in Chapter I, Europe, particularly continental Europe, did increase her own production, but with the growing population it was impossible to decrease the consumption of food products as a whole. Instead, there must needs be provision for

increased consumption. In other words, it was necessary, on the whole, for Europe to maintain her food imports and in some instances even to increase them. This was particularly true of the United Kingdom, as she had little opportunity to increase her domestic production of food.

With a sustained and even growing need of food imports, Europe would have had to continue her dependence on the United States had not some relatively cheaper source of supply developed. Under such conditions her industrial growth and prosperity would quite conceivably have been checked by the rising cost of living. As it was, however, Europe was able to turn to cheaper sources rather than to bid up prices still further in the United States, with whatever effect such a process might have involved for American agriculture and industry on the one hand and European industrialism on the other.

What incentive there was to cause Europe to turn to new markets will appear from an examination of the prices in the various competing countries of surplus agricultural production. This shows that, on the whole, prices of the principal farm products did not rise as rapidly as they did in the United States. Satisfactory price indices for most of these countries producing agricultural surpluses are not available, but in the case of Australia we can readily make a comparison. In figure 42 (p. 302) the price trends of all agricultural products in Australia and the United States are compared. While, owing to various unsettled conditions, the Australian price

indices fluctuated very widely, it is evident that they did not rise nearly as rapidly as did the prices of farm products in the United States.

Not all commodities, however, could be obtained in large quantities from countries other than the United States. This was particularly true in regard to cotton and lard. Although Egypt was a con-

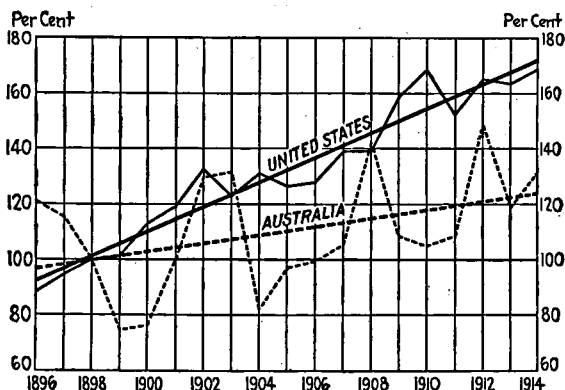


FIGURE 42.—PRICE TRENDS OF FARM PRODUCTS IN THE UNITED STATES AND AUSTRALIA, 1896-1913. (Computed from wholesale Price Indexes, 1898 = 100.)

siderable and growing source of cotton supply for the United Kingdom, she supplied only a small part of the demand and this for the finer grades of long-staple cotton. British India also was a source of some cotton of the medium and low grades, but it was necessary for the United Kingdom and other European countries to rely on the United States for much the larger part of their cotton in spite of advancing prices. Cotton prices in the United

States, however, did not advance as rapidly as did farm products on a whole.

Lard prices, on the other hand, advanced rapidly. However, in the absence of other important sources of supply, the United Kingdom continued to buy nearly as large quantities from the United States, and the decline in German imports, though more marked, was not extreme.

#### IV. EUROPE'S OTHER SOURCES OF SUPPLY

Mention has been made in Appendix A of the fact that in the period from 1870 to 1900, although most of Europe's imports of agricultural products had come from the United States, she also imported large amounts of some products from other countries. While many of these countries had agricultural export surpluses which could not be expected to increase or which were declining, there were some whose export surpluses were capable of marked expansion. A development of these would mean that the United States would lose her dominance as a source of agricultural imports of Europe.

In the case of cotton, British imports were about 80 per cent drawn from American sources throughout the period. While imports from Egypt showed a steady but very slow increase, the course of imports from India was distinctly downward from 1872 to 1893 and thereafter was quite steady at a low level. The situation in the other European importing countries was substantially the same.

In the case of wheat, on the other hand, Europe

produced a large proportion of her needed supplies. Eastern European countries indeed exported wheat to the middle and western parts of Europe, the demand for wheat imports being largely confined to the United Kingdom, Germany, Belgium, France, the Netherlands, Denmark, Italy, and Spain. In

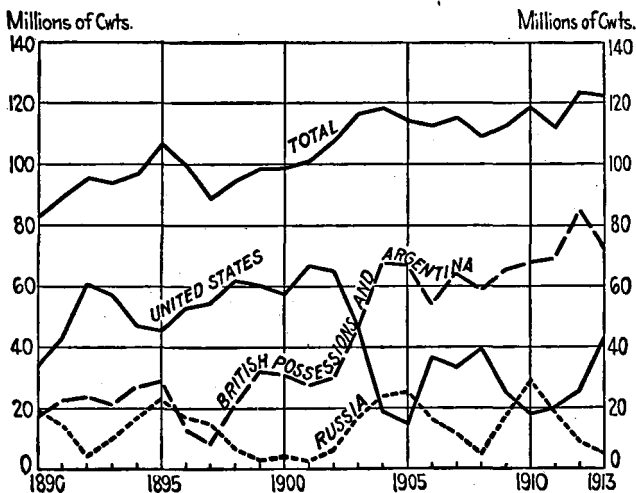


FIGURE 43.—IMPORTS OF WHEAT AND FLOUR INTO THE UNITED KINGDOM, 1890-1913.

the nineties and continuing through 1903 the United States was by all odds the largest source of wheat and wheat flour imports into the United Kingdom. As shown by figure 43, in 1904 Russia became a larger source and in 1905 more wheat and flour were imported from both Russia and Argentina than from

the United States.<sup>1</sup> In the years from 1906 to 1909 the United States was again the largest source but had lost her predominance in the British market, being superseded again by Russia in 1910 and by Canada in 1910 and 1912.

France was not a large importer of wheat and imported almost no wheat flour. During most of the period from 1900 to 1913 her greatest source was Algeria, although in the period from 1911 to 1913 she imported considerable amounts from Australia and Argentina. Throughout the entire period the United States was relatively a minor source.

By far the largest proportion of our corn exports had been to the United Kingdom, and in 1900, indeed the United Kingdom's principal source of corn imports was the United States. After 1900, however, England's imports from the United States decreased precipitously and those from Argentina rose nearly as fast, imports from Argentina becoming greater than those from the United States in 1902 and continuing so throughout the remainder of the period with the exception of the year 1911. In 1912 the United Kingdom obtained 65 per cent of her total imports from Argentina, as compared with .10 per cent from the United States. In 1913 imports from these two sources were 79 and 14 per cent respectively.

Germany was able to reduce her imports of both wheat and corn from the United States, in part by augmenting the domestic production and in part

<sup>1</sup> The figures used here are the total of grain and flour in equivalent weight of grain.

by expanding her imports from other sources. This is shown in figure 44, which shows also that in the period 1910-1913 her total supply of these two grains increased over that of the period 1891-1901, keeping pace with the increase in population.

Of all the European countries the United Kingdom has been by far the leading importer of beef, taking nearly all of our fresh beef exports. British imports of beef were largely of fresh beef and of comparatively small amounts of preserved beef.<sup>1</sup> In the beef trade Australasia had appeared as a

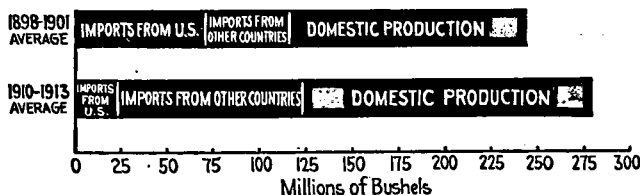


FIGURE 44.—SOURCES OF GERMANY'S WHEAT AND CORN SUPPLY, 1898-1901 AND 1910-1913.

source of British imports as early as 1890 and increased rapidly during the following decade, reaching 708 thousand hundredweight out of a total of 4,128 thousand hundredweight in 1900. Imports from Argentina had also begun in 1883, but these had amounted to less than 500 thousand hundredweight in 1900. After 1900, however, as shown by figure 45 the United Kingdom's imports from Argentina increased very rapidly and those from Australia

<sup>1</sup> This is using the term fresh beef in the American sense, including chilled and frozen beef.

fell off, though less rapidly until 1905. In 1901 the imports from the United States had reached their peak of somewhat over 3 million hundred-weight and from that point declined until in 1907 they were slightly below 2.5 million hundredweight.

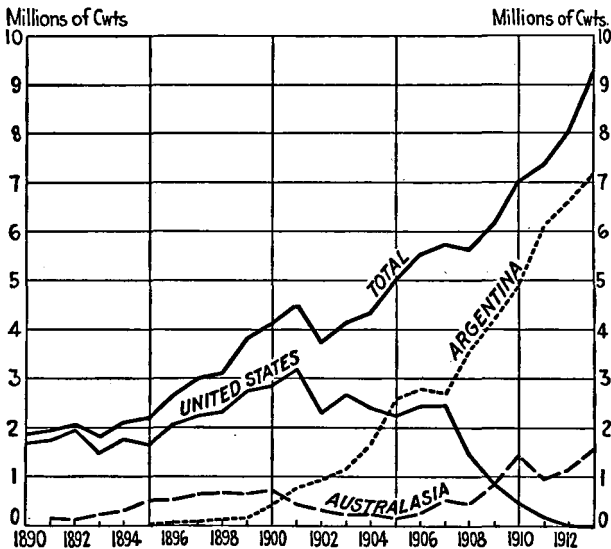


FIGURE 45.—IMPORTS OF FRESH BEEF INTO THE UNITED KINGDOM, 1890-1913.

After this they declined very sharply and by 1912 had almost entirely disappeared from the market, imports from Argentina and Australia meanwhile having increased rapidly.

As has been previously shown, very nearly the entire amount of our bacon exports went to the



United Kingdom but constituted by no means all of the United Kingdom's bacon imports from the United States, Denmark and Canada both being important rivals. These had become of considerable importance in the late eighties, and in 1900, out of a total import of 5.6 million hundredweight, 70 per cent was from the United States, 19 per cent from Denmark, and 9 per cent from Canada. The peak of the imports from the United States was reached in 1901, when slightly over 4 million hundredweight were imported from this source. After this, imports from the United States declined rapidly as shown in figure 46, while those from Denmark continued to rise throughout the remainder of the period and those from Canada until 1906. In the year 1913 the United Kingdom's total imports were 4.8 million hundredweight, of which only 37 per cent was from the United States while 48 per cent was from Denmark and 5 per cent from Canada. One of the important factors contributing to this displacement of American bacon by the Danish product was a difference in quality, the Danish product being from the lean bacon type of hog in contrast to our bacon, which was from the lard type.

There was practically no displacement of our ham exports by other countries, since nearly all of our exports were to the United Kingdom, which continued to obtain practically her entire ham supply from the United States. Her total imports fell from 1,803 thousand hundredweight in 1900 to 855 thousand in 1913, imports from the United States falling in the same period from 1,602 thousand

to 761 thousand hundredweight. Likewise in the case of lard European countries did not turn to other sources to any considerable extent, there being no country other than the United States which produced an export surplus of any importance.

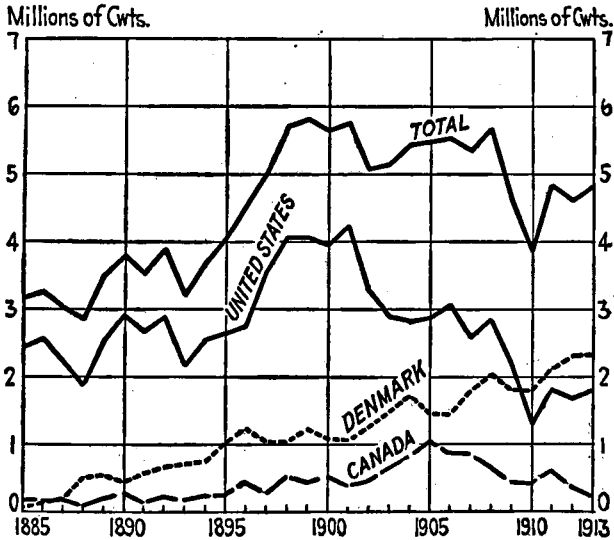


FIGURE 46.—IMPORTS OF BACON INTO THE UNITED KINGDOM, 1885-1913.

There were many sources of tobacco imports other than the United States, but none of these were nearly as important as was the United States. Among the most important were the Dutch East Indies, Turkey, Algeria, and Argentina. In addition some European countries produced considerable amounts, for example, Russia and Austria Hungary.

During the period from 1900 to 1913, however, none of these countries increased their production significantly nor were new sources developed, as was the case in many food products. Consequently, the United States was not displaced in the European tobacco market. During the period from 1900-1904 the United Kingdom obtained 89.9 per cent of her tobacco from the United States as compared with 88.5 per cent in 1909-1913. Imports from other sources had increased, it is true, with the increase of total imports. This was particularly true of imports from Turkey, the Netherlands, and the Nyasaland Protectorate. The imports from the Netherlands were largely of tobacco grown in the Dutch East Indies.

In France there was no great growth of tobacco imports from 1900-1913, nor was there a marked growth in the imports from any other country, the United States maintaining her position as the largest exporter, though in the years when total imports were lower than usual the reduction in imports was usually from the United States.

To sum up the export trade of the United States from 1900 to 1913, we may say that of the principal commodities, cotton and tobacco maintained their position and indeed grew slightly; food products, on the other hand, declined.

In instances where the United States remained the only important source of a given product, such as was true of lard and ham, our decline in exports was comparatively slight, whereas when other supplies were developed to which Europe could turn, our

exports fell off rapidly as these other countries came into the European market. This was particularly true of wheat, fresh beef, oleo oil, and bacon. America's exports were declining because we were consuming more foodstuffs, and Europe's demand was being supplied by other countries at prices which were so low that we could not afford to increase our production in order to maintain our position in the European market.

## APPENDIX C \*

### AGRICULTURAL IMPORTS INTO THE UNITED STATES, 1870-1914

It is but natural that most people should think of the United States as a great exporter of agricultural products and should dismiss agricultural imports as of negligible importance. On the other hand, we have recently had some rather sensational statements to the effect that to-day our agricultural imports exceed in value our agricultural exports. Both these views of the matter, however, will bear further examination.

As a matter of fact imports of certain agricultural commodities have come to us in significant amount for a long time, and some such imports have tended to increase markedly in recent years. The increasing agitation for agricultural tariffs reflects the growing competition in certain of these lines. Imports of farm products are of considerable significance in a study of American exports, there being important interrelations between our agricultural imports and the extent to which agriculture in this country has depended upon Europe as a foreign market. Without the possibility of importing certain commodities such as sugar, hides, and wool

\* All data presented in this Appendix are for fiscal years.

it is very likely that we should have produced much more of these commodities in this country and that we should not then have had so large a surplus of other products to export. On the other hand, had our foreign market been less favorable it might have been more profitable for us to have produced less of those products which we exported and more of those which we imported. During the period from the Civil War to the Great War some striking changes took place in our adjustment to these problems of farm production and international trade.

#### I. EXPANSION OF THE IMPORT TRADE

The course of our agricultural imports from 1870 to 1914 is shown in figure 47 (p. 314,) which presents also a graph of agricultural exports so that comparison both of amount and trend may be made. It will be observed that, with comparatively minor reactions, the course of agricultural imports has been steadily and rather rapidly upward. The practically stationary situation during the eighties and the decline noticeable during the early nineties are to be explained in part by the downward course of the price level as well as by the economic depression of the later period. The sharp dip in 1898 was due largely to pronounced weakness of coffee prices and decline in wool and sugar imports after the tariff of 1897 became operative.

A striking feature of the two graphs is the steady and even accelerated rate of growth in imports from about 1900 on, as contrasted with the stagnation of

the export trade. As we have seen elsewhere, such growth of value as did take place in exports was due to the rising level of prices, physical quantities actually having declined in the period between 1900 and 1914. Physical quantities of our important agricultural imports, on the other hand, increased strikingly in this period. During most of the time

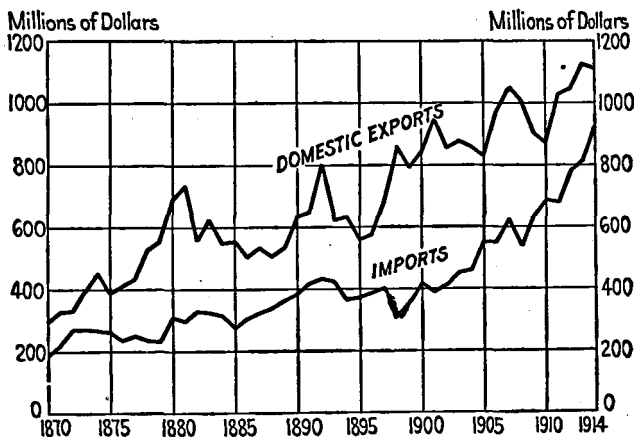


FIGURE 47.—VALUE OF THE AGRICULTURAL EXPORTS AND IMPORTS OF THE UNITED STATES, 1870-1914.

between 1870 and 1900 agricultural imports had amounted to about one-half the value of agricultural exports. In the five-year period, 1897-1901, the value of agricultural imports averaged 45.5 per cent of that of agricultural exports, but in the year ending June 30, 1914, they amounted to 83 per cent of the value of agricultural exports.

## II. COMPETITIVE AND NONCOMPETITIVE GROUPS

In considering these figures for agricultural imports one should constantly bear in mind the fact that they fall under several different classifications. First, there are imports of commodities identical with those produced in the United States, which simply cross the boundary line from Canada or to a less extent Mexico, or which move to our ports from European, South American, or other producing regions. These would include cereals, live stock, hides, butter, eggs, and some fruits and vegetables. A second class consists of products originally not produced in the United States, but for whose production we have suitable resources, in whose production we have in some instances made a beginning, and in which we might find it advantageous to expand our operations. These would also shade off into products which were relatively easy of substitution for commodities raised in large quantities in the United States. In this general group we might include nuts, foreign-type cheeses, olives, olive oil, other vegetable oils, certain types of tobacco, and numerous others. A third class consists of products obtained from the soil but which, either because of their tropical character or for other reasons, are noncompetitive or only slightly competitive with the agricultural products of the United States. Here we have coffee, silk, tea, spices, and opium, this class shading off gradually into our second class through cane sugar, long-staple cotton, certain types of wool, tobacco, vegetable fibers, and the like.



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For the sake of bringing out the relative importance of certain of these classes of imports, the following table presents figures for the total value of agricultural imports and the value of several of the most important noncompetitive groups. The vegetable-fiber group included in this table is made up in part of sisal grass, manila, jute, and Tampico fiber, which are distinctly not competitive; but it includes also hemp, flax, and cotton, which are to a certain extent competitors of similar products raised in this country. The cotton item has ranged from about one-third to one-fourth of the total

COMPARATIVE VALUE OF TOTAL AGRICULTURAL IMPORTS AND CERTAIN COMPONENT GROUPS, BY FIVE-YEAR INTERVALS, 1870-1914

(000 omitted)

Year	Total	Coffee, tea, etc. <sup>a</sup>	Silk	Indigo, opium, and spices	Vegetable fiber
1870	\$191,559	\$38,516	\$ 3,018	\$4,494	\$6,393
1875	261,619	74,060	4,918	4,973	6,781
1880	314,617	81,655	13,273	7,968	10,123
1885	277,340	62,398	12,886	5,528	13,689
1890	384,100	93,662	24,326	6,235	21,934
1895	373,116	113,435	22,626	5,387	17,996
1900	420,139	69,317	45,330	5,972	34,335
1905	553,851	110,466	61,040	6,620	47,533
1910	687,509	94,924	67,130	6,302	48,235
1914	924,247	149,034	100,930	8,499	73,807

<sup>a</sup> Including chocolate, cocoa, and coffee substitutes.

value of this group and, while it represents types of cotton which do not compete directly with the bulk of our crop, they are long-staple varieties such as are raised in the most favored sections of our South and whose production is being promoted in the irrigated regions of the Southwest.

Among the items of agricultural import which competed more directly with home producers, animal products were from 1905 forward clearly the most important group, sugar and molasses having led throughout the earlier years. Tobacco, which is included in the table below for reasons of convenience, should properly go in an intermediate group made up of commodities whose competition is mostly indirect in character. The import types of tobacco are in the main desired because of peculiar qualities not found in the home product. Even so, however, Sumatra wrapper, Havana filler, and Turkish cigaret leaf go to satisfy a demand which otherwise would absorb more of the product of Connecticut, Carolina, and Wisconsin. These competing groups are shown in the table on page 318.

Looking now at certain individual commodities we see that sugar has generally held first place in our imports, with hides and skins generally third, up to the end of the nineteenth century. From 1900 on, sugar, coffee, and hides and skins contended vigorously for first place. From 1902 to 1914, inclusive, sugar averaged 14.7 per cent of total agricultural imports, coffee 13.5 per cent, and the hides group 12.9 per cent. However, hides and skins occupied first place in 1910 and 1914.

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COMPARATIVE VALUE OF TOTAL AGRICULTURAL IMPORTS AND  
CERTAIN COMPONENT GROUPS, BY FIVE-YEAR INTERVALS,  
1870-1914

(000 omitted)

Year	Total	Cereals <sup>a</sup>	Animal products <sup>b</sup>	Sugar and molasses	Tobacco
1870	\$191,559	\$8,776	\$28,984	\$69,812	\$2,534
1875	261,619	9,802	35,332	85,016	3,725
1880	314,617	8,601	60,673	88,764	4,911
1885	277,340	10,554	37,904	76,722	6,302
1890	384,100	9,848	47,682	101,267	17,605
1895	373,116	5,998	59,427	77,758	14,746
1900	420,139	3,676	70,542	101,141	13,297
1905	553,851	7,810	125,590	98,783	18,039
1910	687,509	11,871	187,299	107,716	27,754
1914	924,247	34,916	224,652	103,394	35,039

<sup>a</sup> Grains and grain products, including rice.<sup>b</sup> Includes meats and other packing-house products, hides and skins, wool, eggs, and dairy products. The dairy-products figure used in 1870 is for imports in 1868, and the dairy-products figure for 1875 and 1880 is estimated.

The per cent which the value of sugar and molasses imports comprised of the total value declined rapidly though unsteadily throughout the period from 36.4 in 1870 to 11.2 in 1914. This decline was due, not to smaller sugar imports, but to the great increase in other imports and partly also to a decline in the price of sugar. From 1870 to 1897 hide and skin imports were about 7 per cent of the total value of imports, although they fluctuated rather widely, ranging from 4.6 per cent in 1894 to 9.5 in 1880. In 1898 they increased greatly and thereafter until the end of the period averaged about 13 per cent

of the total value of imports, ranging from 10.1 per cent in 1908 to 16.3 in 1910.

Vegetable fiber imports, which included cotton, manila, sisal grass, jute, and flax, declined during the first seven years from 3.3 per cent to 2.4 per cent. Thereafter their relative importance increased rather consistently, being greatest in 1902, when they comprised 10.4 per cent of the total. During the remainder of the period their relative value declined somewhat, being 8 per cent in 1914.

Fruits comprised between 4 and 5 per cent of the total value of imports throughout the entire period. Wool also was about 4 per cent during most of the period, but its fluctuations were very wide and sudden, the peak of 13.3 per cent being reached in 1897, and a low of 1.7 per cent in 1894. Tobacco imports increased in relative value quite steadily, being 1.3 per cent of the total value in 1870 and 3.8 per cent in 1914.

### III. DEVELOPMENT OF OUR PRINCIPAL IMPORTS

Since the growth of total imports was so rapid we can not judge to advantage the trend of imports of any given product merely by its relative value as compared with total imports. The physical quantities of the more important imports will therefore be taken up in order to show the extent of growth or decline of each. In this we shall omit the noncompetitive items like silk and coffee and those which, even though competitive, were of too small volume to be important.

Of individual commodities which we imported, sugar was, as already mentioned, the most important, and the volume of imports increased markedly during the period. Imports of sugar (not including molasses) in 1870 were 1.2 billion pounds. From this point they mounted rapidly, reaching 4.9 billion pounds in 1897, an exceptionally large amount, which was not exceeded until 1914, when 5.1 billion pounds were imported.

Olive oil imports increased very rapidly, particularly after 1900. In 1870 they amounted to only a quarter of a million gallons and by 1900 had not quite reached 1 million gallons. In 1910 there were 3.7 million gallons imported and in 1914 6.2 million. These olive oil imports were competitive, not only with the American olive industry but also with the cotton industry, because cottonseed oil may be used for much the same purposes as olive oil. This is true also of corn oil.

Wool imports fluctuated greatly, the largest imports for any one year being those of 1897, when over 350 million pounds were imported. However, the trend of wool imports continued upward throughout the entire period from the low point of around 50 million pounds in the seventies to nearly 250 million pounds in 1914.

The quantities of cheese imports from 1870 to 1883 are not available, but in 1884 they amounted to 6.2 million pounds. They were practically stationary until 1887, after which they began to rise rapidly, reaching 13.5 million pounds in 1900 and 63.8 million pounds in 1914. The butter situation affords

an interesting contrast to cheese. The United States imported over 6 million pounds of butter in 1868. With the subsequent development of our domestic dairy industry, butter imports dwindled to a low point of 23 thousand pounds in 1899. The increase after that period, however, was fairly rapid and in 1914 we brought in 7.8 million pounds. It may be added that we imported nearly 24 million pounds of butter in 1923.

Imports of eggs also show some rather interesting features. The United States brought in 5 or 6 million dozen eggs each year during the seventies and raised this figure to 16.5 million in 1884. After 1890 egg imports fell off rapidly to a low point of 126 thousand dozen in 1901. Thereafter they increased slowly until 1910 and then rapidly to over 6 million dozen in 1914.

Wheat imports, while being for the most part directly competitive with American agriculture, were never of any very great importance as compared with either our wheat crop or wheat exports. The imports fluctuated very widely from almost nothing up to the high point of 3.4 million bushels in 1912.<sup>1</sup> Corn imports were negligible in all but two years until near the close of the period. In 1914, however we imported 12.4 million bushels of corn and 22.3 million bushels of oats, as against 2.4 million of wheat.

Our tobacco imports grew rapidly and were in some respects competitive with the American tobacco industry. In 1870 tobacco imports were

<sup>1</sup> This includes wheat flour in terms of bushels of wheat.

only slightly in excess of 6 million pounds but reached nearly 33 million pounds in 1896. After dropping to 10 million pounds in 1898 they again began to increase, this time rather steadily, rising to 68 million pounds in 1913.

The situation from 1870 to 1900, then, was that our import trade in agricultural products grew along with, though not as rapidly as, our export trade, exports being about twice as large as imports. Our balance of agricultural exports was becoming increasingly large, reaching its peak in 1901, when the value of agricultural exports exceeded that of imports by 571 million dollars.

After the beginning of the century, however, the situation changed. Agricultural exports began to decline, while imports continued their rise. The excess of agricultural exports over imports declined rapidly to 207 million dollars in 1914, having reached a low of 198 million in 1910. Our surplus of agricultural production over our consumption of agricultural products was rapidly becoming smaller. We were definitely approaching a more nearly balanced adjustment between agricultural and non-agricultural production.

## APPENDIX D

### GERMANY'S FOREIGN ASSETS<sup>1</sup>

The Committee of Experts appointed by the Reparation Commission to investigate Germany's foreign assets, in its report of April 5, 1924, discusses both the question of the amount of these assets and the German income from them.

1. *Amount and Character of the Assets.*—The committee states that "German capital abroad, of every kind, including capital in varying degrees of liquidity and capital invested in the participation of foreign companies and firms, after taking account of all credit and debit items, was at the end of 1923 not less than 5.7 billion gold marks and not more than 7.8 billions, and we think that the middle figure of 6.75 billion gold marks is the approximate total." The report does not show how much of this was represented by bank balances and how much by less liquid assets, but does give detailed figures from which such a classification may be made.

The committee estimates that the deficit of 15.2 billion gold marks in the German trade balance for

<sup>1</sup> For comparison with earlier estimates, see discussion in Moulton, H. G., and McGuire, C. E., *Germany's Capacity to Pay*, pp. 49 and 80-95.



war years was in part met by the following receipts (estimated in gold marks): Gold exports, 1 billion; sale of foreign securities, 1 billion; sale of domestic securities, 1 billion; sale of paper marks and levies on people of the occupied territories, 5.7 to 6 billions. The resources used in meeting the rest of this deficit are not itemized. The conclusion seems to be that it was met with difficulty, and that there was no remaining surplus to be converted into foreign assets.

The committee estimates that for the post-war period the German deficit resulting from trading operations and treaty payments was 9 to 10 billion gold marks. As an offset to this, it estimates that Germany received income (in billions of gold marks) as follows:

Sale of paper marks and mark credits.....	7.6 to 8.7
Sale of gold .....	1.5
Sale of domestic securities and real estate <sup>1</sup>	1.5
Total.....	<u>10.6 to 11.7</u>

The report gives no definite estimate concerning the other invisible items. If we estimate these at 2 billion gold marks, the total becomes 12.6 to 13.7 billion gold marks. Germany's net international income for the five years 1919-1923 would thus come to about 3.5 billion gold marks. Not all of this has been kept in the form of foreign bank balances, however, for according to the report 1.2 billion gold

<sup>1</sup> Assuming that none of these were bought with paper marks or mark balances belonging to foreigners.

marks of it are in the form of foreign currency now held in Germany. This would leave only 2.3 (or, say, 2.5) billions for deposit abroad. The other 4.25 billions of the estimated total of 6.75 billions represent remnants of pre-war foreign investments and German-owned property in ceded areas.

2. *Germany's Income from These Assets.*—As an offset against Germany's foreign assets of 6.75 billions, the report estimates foreign holdings of German securities and real estate at 1.5 billions. The conclusion is, therefore, arrived at that Germany has had since the war a small net income from her foreign assets.

The statements made in the several paragraphs that deal with foreign investments in Germany seem to be in disagreement and lead one to question whether the total of these should not be somewhat more than 1.5 billions. The report estimates that Germany realized about 1 billion gold marks during the war from the sale of domestic securities, and that since the war 1.5 billions of the deficit in her trade accounts was met by the sale of domestic securities and real estate. In addition to this, allowance should be made for the fact that some purchases of such property were, undoubtedly, made with paper marks and mark credits held by foreigners. Remnants of pre-war foreign investments in Germany, if any remain, should also be included in a valuation of foreign holdings in Germany.

With regard to the sale of domestic securities during the war the report states that:

Sale of gold and securities was the principal means whereby Germany paid for her imports during the war. As regards the German securities, widely divergent estimates have been made of the amounts sold. In our opinion the total figure is not far from 1 billion gold marks.

With regard to the post-war period the statement is as follows:

During the period characterized by the rapid depreciation of the mark, sales of real property to foreigners reached an unwonted development in Germany. In estimating the proceeds of such sales the committee had before it various statistics indicating in detail the number and amounts of sales of real property to foreigners since the war in some of the principal towns of Germany and also in districts of varying economic character.

As regards securities, Germany was able during the first of the post-war period to market some of her securities abroad, but as soon as her financial position became more uncertain most of these transactions were suspended. In the aggregate, the committee considers that the result of sales of German real property and securities to foreigners amounted to about 1.5 billions of gold marks.

In coming to conclusions with regard to the interest item in the German balance of payments the report includes, among Germany's present foreign assets, German property in the ceded areas and the remnants of Germany's pre-war foreign investments. With regard to these pre-war investments the committee states that "the figure of 28 billion gold marks may be accepted as representing the value of German assets abroad at the time of the declaration of war." It should be noted that this is the *total* of Germany's

pre-war investments abroad. In the pre-war balance of payments, interest on this 28 billions was offset by interest payments on German securities held by foreigners. According to the generally accepted estimates, these pre-war foreign investments amounted to about 5 billion gold marks.<sup>1</sup>

The statement concerning German property in the ceded territories is as follows:

German private property in the ceded territories of Silesia, Posen, Danzig, etc., are included in our estimate in so far as, according to the definition adopted by the committee, they are owned by Germans residing in Germany. Although it is very difficult to determine with any precision the extent of these properties the committee considered it would not exclude from its valuation certain industrial assets, particularly those in Upper Silesia.

When full allowance is made for all the factors bearing on the question of Germany's foreign assets, the conclusion necessarily follows that the net income—if, indeed, there is any net income—received by Germany from this source is very small. The committee's summarization of the question for the five post-war years is as follows:

The assets held abroad by Germany since the war represent, indeed, only a small, and for some part unproductive, fraction of the pre-war holdings. It is true, on the other hand, that the payments which Germany has made since 1919 in respect to German securities held by foreigners

<sup>1</sup> The net amount of Germany's foreign assets, on this basis, is therefore 23 billion gold marks. In Germany's Capacity to Pay, an estimate of 20 billions was used.

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have been inconsiderable. After a careful study of the question the committee came to the conclusion that a set-off of the two items, income from German investments abroad and income from foreign investments in Germany, resulted in a small balance in Germany's favor for the whole post-war period.

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