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## PREFACE.

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The present volume is a continuation of the series of annual studies on production, prices and quantum changes in international trade, five editions of which have been published under the title *Memorandum on Production and Trade* (Geneva, 1926, 1927, 1929, 1930, 1931) and one under the title *Review of World Production* (Geneva, 1932). In order to indicate its chief contents more clearly, the title of the publication will henceforth be that of the present edition—viz., *World Production and Prices*.

The general scope of the present edition is essentially the same as that of the preceding edition, although, for reasons of economy, its size has been somewhat reduced, and the commentary has been condensed as much as possible. On the other hand, new sections have been added dealing with stocks, the analysis of price movements has been extended, and further additions have been made to the statistical material.

The base period adopted for the production indices in the last edition—*i.e.*, the quinquennium 1925-1929, a period of universal economic growth—has been maintained in the present edition, and the analysis has, in the main, been confined to the subsequent three years of economic depression.

The detailed statistics on which the indices relating to primary products are based, as well as the detailed national indices of industrial production, have been published in the *Statistical Year-Book of the League of Nations*, 1932-33, those relating to trade in the *Review of World Trade*, 1932. Further analysis of the world economic depression will be given in the *World Economic Survey*, 1932-33, to be published in September 1933. The Price Chapter contained in the present volume has already been published as a separate print, forming part of the preparatory documentation for the Monetary and Economic Conference in London.

A summary of the main conclusions that may be drawn from the present study will be found in the introductory chapter.

*League of Nations,*  
*Geneva, June 1933.*

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<sup>1</sup> In order that the same composition may be used for the tables in the French and English editions, the French alphabetical order of countries has been adopted in the English text.

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## INTRODUCTORY.

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The object of the present study is to give a general survey of the development of the production, international exchange and prices of goods in the world during recent years. In the first chapter, an attempt is made to measure the changes in the production of primary goods — *i.e.*, crude foodstuffs and industrial raw materials — in the world as a whole and in the various continents; for purposes of comparison, this survey is supplemented by a short review of the changes in the quantum of world trade. In the second chapter, the industrial activity of the world is studied on the basis of the composite indices of industrial production and such other information as is available in various countries regarding the activity of the most important industries. The third chapter contains an analysis of the general movements of commodity prices in various countries and on world markets, and of the relationships between the prices of various groups of commodities.

The period covered by the present study is from 1925 to 1932 (in the case of agricultural production in the southern hemisphere, the crop years 1925-26 to 1932-33), and, as far as possible, to the first quarter of 1933. An attempt has been made to deal, in particular, with the salient features of the world industrial depression since 1929. In the chapter on prices, attention is particularly directed to the course of prices since the widespread abandonment of the gold standard in the second half of 1931.

As in the preceding edition, the indices of production, international trade and industrial activity have all been based on the average for the quinquennium 1925-1929. The continental grouping used is the same as that adopted for some years past. Thus, North America excludes Mexico, which together with the whole of South and Central America and all the islands in the Caribbean Sea is included under the heading Latin America. Asia excludes Asiatic Russia, which is included along with all other parts of the Union of Soviet Socialist Republics (U.S.S.R.) under Europe. Separate figures are, however, also given for Europe without Russia.

### SUMMARY OF RECENT CHANGES IN PRIMARY PRODUCTION, INTERNATIONAL TRADE, INDUSTRIAL ACTIVITY AND PRICE MOVEMENTS.

Table I below gives the most important world indices relating to the production of primary goods, the quantum of international trade and the changes in industrial activity during the period 1925-1932. The last mentioned index was originally computed by the German "Institut für Konjunkturforschung", but has here

been converted so as to apply to the same base period as that employed for the other indices which are compiled by the Economic Intelligence Service of the League. The methods of calculation of the various indices are described later.

WORLD INDICES SHOWING CHANGES IN PRIMARY PRODUCTION, QUANTUM OF INTERNATIONAL TRADE AND INDUSTRIAL ACTIVITY.

(Base : Average 1925-1929 = 100.)

Nature of Indices	1925	1926	1927	1928	1929	1930	1931	<sup>1</sup> 1932
A. Primary production (total) . . . . .	96	96	99	103	106	102	98	94
<i>Thereof :</i>								
Crude foodstuffs . . . . .	98	97	99	103	103	103	102	103
Industrial raw materials . . . . .	92	94	99	104	111	102	91	79
Agricultural production . . . . .	98	97	99	103	104	103	103	102
Non-agricultural production . . . . .	90	92	100	105	114	101	86	73
B. Quantum of International trade . . . . .	92	94	101	105	111	102	93	80
C. Industrial activity :								
World excluding U.S.S.R. . . . .	93	94	100	103	110	96	84	69
World including U.S.S.R. . . . .	92	94	100	104	111	100	90	77

<sup>1</sup> Provisional indices, subject to revision.

The main features of the development of primary production, international trade and industrial activity during the quinquennium immediately preceding the world economic depression are summarised in the introduction to the preceding edition of this publication, to which reference should be made. The following summary is chiefly confined to the developments which have taken place in these fields during the depression. The evidence afforded by the statistical material, which is analysed in further detail below, points to the following conclusions, certain of which will require subsequent qualification :

(1) The world's productive activity and the quantum of world trade increased with remarkable rapidity throughout the quinquennium 1925-1929. The world output of crude foodstuffs and, indeed, of agricultural primary products as a whole increased at a relatively moderate rate compared with the very rapid increase in the aggregate production of industrial raw materials proper, and particularly of those of non-agricultural origin. Further, there were marked inequalities in the rate of expansion of different branches of industry, a fact which is in part reflected in the differences of primary production just referred to. Industries chiefly engaged in the production of producers' goods and other commodities of an investment character expanded much more rapidly than those supplying goods for more immediate consumption. The general level of wholesale prices was comparatively stable ; but this relative stability concealed a condition of economic disequilibrium which — in part under the influence of the above factors — gradually developed in the course of this period, though some of its root causes lay further back in time. This disequilibrium became apparent in the latter part of 1929, when wholesale prices began to fall rapidly and the previous upward trend both in the production



of producers' goods and their raw materials and in world trade, particularly in manufactured articles, soon turned sharply downwards.

(2) In 1930, the economic depression, though somewhat deferred in certain countries, became universal in range, and in 1931 and 1932 it was greatly intensified in practically every part of the world — in the older industrial regions, indeed, to an unprecedented extent.

(3) The severity of the present world economic depression is largely due to the fact that the slump in industry was superimposed on a severe agricultural crisis. The latter crisis has been characterised by the maintenance of supply at a relatively high level in spite of a considerable falling-off in demand. The world production of crude foodstuffs has remained practically unchanged since 1928; that of industrial raw materials of agricultural origin diminished but slightly from 1929 to 1931, but dropped by about 10 per cent in 1932. Total agricultural production decreased by only 2 per cent in the three years of depression.

(4) In striking contrast to agricultural production, the output of industrial raw materials of non-agricultural origin has contracted at an accelerating rate. The total drop from 1929 to 1932 was about 36 per cent. Production of raw materials for producers' goods fell by over 38 per cent, or, excluding that of the U. S. S. R., by not less than 41 per cent. Industrial production in the world, apart from the U. S. S. R., seems to have shrunk by some 37 per cent. As the national production indices and other statistics on which this estimate is based include certain food industries and also the production of certain raw materials and semi-manufactured goods, the stocks of which have increased, the decline in manufacturing production proper was no doubt considerably greater.

(5) The increase in world stocks of primary commodities, which had begun before the onset of the economic depression, was greatly accelerated in the course of the earlier stages of the depression, as the supply of agricultural products was generally maintained at a high level and the decline in that of other primary products at first lagged behind the drastic reduction in demand. Later, the increase in stocks slackened down considerably and, by 1932, the shrinkage in world output of commodities other than cereals generally exceeded the compression of the demand for these commodities. As a result, since the middle of that year — or even earlier in the case of certain products — there have been signs of the beginning of a decline in stocks, and those of manufactured commodities in particular appear to have shrunk considerably during the more recent stages of the depression.

(6) There are also other signs suggesting that the low point of the depression was passed at about the middle of 1932. Judging from the monthly indices available, industrial production in general showed an upward tendency during

the latter part of the year. Towards the end of 1932 and in the course of the first quarter of 1933, however, a partial set-back was noticeable.

(7) The changes in productive activity have been very unequal in the different parts of the world and from country to country.

The decrease in the production of primary goods between 1929 and 1931 was considerably greater in North America and Europe, excluding the U. S. S. R., than in other parts of the world. In 1932, however, while the production of North America continued its rapid downward course and that of Latin America likewise dropped heavily, production was well maintained in Europe, as also in Africa and Asia, and even increased in Oceania.

The economic depression first made itself felt in the non-European States exporting agricultural products. In the field of industrial production, the downward turn began in Central European countries earlier than elsewhere. In most other countries, the contraction of production started late in 1929 or in 1930, and became aggravated in 1931 and the first part of 1932. After the middle of 1932, the industries of most countries experienced a revival, but there was a setback in the first quarter of 1933 in the United States of America, Austria, Poland and Czechoslovakia. The situation in the United Kingdom appears to have remained stable since the middle of 1932.

The aggregate decline in industrial production from 1929 to 1932 was heaviest in the United States of America, Canada, Poland, Czechoslovakia, Germany, Austria, Hungary, Belgium and France. The slump in the United Kingdom, Scandinavian countries, Japan and Chile was considerably less. Japan and Chile registered an increase in production from 1931 to 1932. The U. S. S. R., which constitutes a self-contained economic system practically divorced from the rest of the world, has greatly expanded its industrial output, but the increase appears to have been checked in the latter part of 1932.

(8) The output of producers' goods has fallen much more than that of consumers' goods since 1929. The demand for certain classes of consumers' goods — principally "durable" goods and those requiring expenditure of savings for their purchase — has also fallen very steeply during the depression; but the output of the majority of consumers' goods has dropped remarkably little.

Of the individual industries, iron and steel, mechanical engineering, shipbuilding, motor-car production and the timber industry have been the most seriously affected. Building activity has suffered greatly, except in a number of countries where interest rates have remained low or public construction has been expanded. The output of leather, boots and shoes, rubber goods and paper has fallen less. The world production of textile goods dropped markedly in 1930, but has since escaped serious loss, and increased considerably in the second half of 1932. Cotton has suffered most of the major textiles, wool and natural silk have undergone a moderate decline in the industrial countries, while the output of artificial silk reached a record in 1932. In the non-industrial countries, the newly developed consumers' industries, especially textiles, have contracted but little.

(9) The quantum of world trade as a whole (primary products and manufactured articles) fell between 1929 and 1932 by about 27 per cent. The decline in trade was greatly accelerated in 1932, when the growth of trade barriers in the form of increased tariffs, import quotas, exchange restrictions, etc., caused a partial suspension of normal trade activities. The shrinkage of trade was particularly heavy in the case of manufactured goods, the quantum of which would appear to have fallen by more than 40 per cent between 1929 and 1932. The corresponding figure for the decline in total trade in primary goods was smaller, perhaps only about 15 per cent. Trade in industrial raw materials fell during the whole period, but trade in foodstuffs expanded until late in 1931, when a decline set in as a result of smaller consumption and increased self-sufficiency in many importing countries.

(10) The rapid fall in gold prices, which began in the autumn of 1929, continued practically without interruption throughout the first half of 1932; following the successful termination of the Lausanne Conference there was a sharp upward movement of sensitive prices, but this came to an end in October and most price indices continued to fall during the rest of 1932 and the greater part of the first quarter of 1933. After the abandonment of the gold standard by the United States of America, prices, in particular those of raw materials, turned sharply upwards in that country and also rose, though less markedly, in other parts of the world.

(11) In March 1933, the general level of wholesale prices in countries then remaining on the gold standard stood at the lowest point reached during the depression; in most cases, the indices referred to were about 40 per cent lower than in 1929. Though the decline was less in countries which had abandoned gold, prices in March 1933 were considerably lower than a year earlier, and for the majority of these countries they also stood at their lowest point during the depression in the month mentioned. Prices did not move uniformly during 1932 in the countries maintaining their currencies at gold parity through official control of foreign exchange transactions. Where this policy was accompanied by domestic deflation, as in Germany, the course of prices followed that in the gold standard countries; in other States, the movement was closer to that experienced in countries with currencies officially divorced from gold.

(12) The gold prices of most important crude foodstuffs and raw materials reached their lowest levels during the depression some time in the course of 1932; such recovery as took place until the beginning of 1933 was, however, quite slight in most cases. Early in 1933, the gold prices of the majority of textiles stood at levels 70 to 80 per cent below those prevailing at the beginning of 1929; cereals and other foodstuffs were 50 to 70 per cent lower; animal foodstuffs were 40 to 60 per cent lower; most of the non-ferrous metals were 50 to 55 per cent lower, with the exception of copper, which was more than 70 per cent lower; some commodities subject to effective monopolistic control fell considerably less.

(13) The price discrepancies between various groups of products continued, in general, to grow during the course of 1932. Though raw materials as a whole fell less rapidly than in the preceding years, the decline in most countries exceeded that in finished products. Agriculturists have been affected with special severity by the fall in prices, as the goods they sell have fallen much more in price than the goods they buy. The terms of trade have turned sharply against States exporting crude foodstuffs and raw materials and importing finished products. Tariffs, import quotas and other special protective measures have been used by some industrialised countries to maintain the domestic prices of certain commodities, notably wheat, above the world market price; this policy has intensified the fall in prices on world markets. "Cartellised" prices have shown practically no fluctuation during 1932, while "free" prices have, in many cases, continued to fall. The discrepancies between wholesale and retail prices have persisted and, contrary to most previous experience, investment goods have fallen very much less in price than consumption goods.

\* \* \*

Such are the broad general results to which the analysis of available data on production, trade and prices has led. They are based on statistics that are in some cases of doubtful comparability and seldom so comprehensive or so exact as to render it possible to draw conclusions of mathematical accuracy or incontrovertible finality from any single series of figures. For this reason, importance should be attached not so much to the absolute magnitude of this or that figure as to the direction towards which the whole mass of accumulated data tends to point.

## I. PRIMARY PRODUCTION.

### SCOPE AND METHOD OF COMPUTATION OF THE WORLD PRODUCTION INDEX.

For the purpose of measuring changes in world production, resort must be had, in the first instance, to the output of crude foodstuffs and industrial raw materials, for which comprehensive annual data are available; the information concerning the volume of manufacturing output is still incomplete in most countries, if indeed it is not entirely lacking.

A world production index which ignores the creation of wealth that takes place beyond the stages of primary production and semi-manufacture is necessarily incomplete. It is true that the sub-index of the output of industrial raw materials, as calculated below, affords an indirect measure of the changes in industrial production as a whole; but this measure is far from accurate for two main reasons. (1) The progress of industrial technique is largely concerned with the discovery of means by which equal services may be rendered with a smaller quantity of raw materials. Thus, in a progressive society, the volume of industrial output increases more rapidly than that of raw materials, a fact which must be particularly borne in mind in considering movements over longer periods. (2) As the supply of crude products in a single year, and especially the supply of vegetable products, which largely depends on atmospheric conditions, does not always adjust itself readily to changes in the immediate industrial demand, the statistics of the output of such products taken alone and without reference to variations in stocks may fail to reflect accurately changes in industrial activity over short periods. The statistics of stocks are as yet scarce and undeveloped and, even where they exist, they are frequently incomplete. The changes in "visible" stocks of certain primary products, for which, however, the information available appears to be fairly comprehensive, are briefly analysed in a separate section of the present chapter. The changes in the industrial activity of individual countries and in the world as a whole, according to the national production indices available, are discussed in Chapter II below.

In order to measure the changes in primary production, the output of a large number of different commodities must be taken into account. Owing to the multiplicity and variety of goods that require to be considered, indices based on weight or volume statistics must be rendered comparable by expressing them in terms of some common denominator. For this purpose, the relative values of the various commodities calculated on the basis of representative price quotations in a defined period have been utilised as constant weights. The index is calculated by the aggregative method. A further explanation of the procedure adopted will be found in Appendix I.

The average annual production in the period 1925-1929 is taken as base. In view of the changes that have taken place in relative values in recent years,

the index has been calculated thrice on the basis of prices ruling in 1925, in 1930 and in 1932. These three calculations yield, on the whole, roughly similar results.<sup>1</sup> For reasons of space, therefore, only the results obtained by employing 1930 values have been considered in the following analysis and published in Appendix I.

Sixty-six commodities, falling into two main divisions — “ Crude Foodstuffs ” and “ Industrial Raw Materials ” — and into fourteen groups, have been taken into consideration, and sub-indices have been calculated for each division and group. The list of these commodities, given in Appendix I, Table 2, is identical with that used in the preceding edition of the present volume. Owing to the fact that more accurate data on the production of certain commodities have become available since the publication of the last edition, several of the basic series have been modified. This applies in particular to agricultural production most of the data on which are supplied by the International Institute of Agriculture in Rome. These modifications explain such changes in the indices for individual commodities and in the general indices for some of the continental groups, even for the period 1925-1929, as may be observed from a comparison with the last edition. The general movement of these various indices, however, is similar to that previously shown and the net changes involved in the principal world indices are insignificant up to and including 1930.

Any rough division between “ crude foodstuffs ” and “ industrial raw materials ” must necessarily be somewhat arbitrary; thus, some of the vegetable oils and salt, classified as industrial raw materials, are used chiefly for food. On the other hand, some overlapping is inevitable; for example, some of the cereals (viz., barley, oats and maize) are used mainly for fodder — *i.e.*, as raw materials of meat. In the case of pig-iron and ferro-alloys, however, an attempt has been made to distinguish those qualities which are generally used in the manufacture of steel and to exclude them in the calculation of the indices.

Owing to the absence of complete or sufficiently representative data, certain classes of products have had to be omitted, the most important being dairy produce, fruit and timber.<sup>2</sup> Gold has been omitted from the metal group, as so large a

<sup>1</sup> In spite of the great changes in relative prices which have taken place during the period considered, and particularly in 1932 as compared with 1925, the discrepancy between the index figures obtained for total production in 1932, if weighted by 1925 and 1932 values respectively, was only about two per cent, as shown below :

*Total Production in 1932 (Average for 1925 to 1929=100).*

(a) Index weighted by 1925 values . . . . .	95
(b) Index weighted by 1930 values . . . . .	94
(c) Index weighted by 1932 values . . . . .	93

Indices (a) and (c) evidently represent extremes. The weighting by 1930 values gives intermediary (and presumably more accurate) results throughout the eight-year period considered.

<sup>2</sup> An indirect measure of the changes in timber production over the period considered may be obtained, however, from the world figures for exports of sawn softwood and the indices of activity in the timber industry which are given in Appendix II, Tables 5 (a) and 5 (b), of the present publication.

proportion of the production is used for monetary purposes. No comprehensive figures of the production of foodstuffs exist for China; but the production of certain cereals and meat in Manchuria for which data are available has been taken into account.

Some of the indices for 1931 (1931-32) and all indices for 1932 (1932-33) must be regarded as provisional. The main flaw in the statistics relating to both these years is the absence of reliable statistics of agricultural production in the U. S. S. R. Information for 1932, moreover, is lacking with regard to the production of meat, tea, tobacco, vegetable oil materials, flax, hemp and wool, wood-pulp and most chemicals in a number of important producing countries.

TOTAL PRODUCTION.

It is convenient to show first the combined index of crude foodstuffs and industrial raw materials for the world as a whole and its main continental groups.

Table I.

GENERAL INDICES OF PRODUCTION, WEIGHTED BY 1930 VALUES.

(Base: Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932 <sup>2</sup>
Europe, excluding U.S.S.R. . . . .	95	89	100	104	112	103	99	99
Europe, including U.S.S.R. . . . .	94	92	100	103	111	105	102 <sup>2</sup>	101
North America . . . . .	97	100	98	103	102	94	90	82
Latin America . . . . .	95	96	101	104	104	104	99	90
Africa . . . . .	95	95	98	103	109	107	103	102
Asia, excluding Asiatic Russia <sup>1</sup> . . . . .	97	97	99	103	104	109	103	101
Oceania . . . . .	93	101	98	105	102	111	109	112
World { Total Primary Production . . . . .	96	96	99	103	106	102	98	94
{ Thereof: Agricultural Production . . . . .	98	97	99	103	104	103	103	102
{ Non-agricultural Production . . . . .	90	92	100	105	114	101	86	73

<sup>1</sup> Excluding also production of foodstuffs in China (except that of certain cereals and meat in Manchuria).

<sup>2</sup> Provisional indices, subject to revision.

The quinquennium 1925-1929 represented, on the whole, a period of economic progress, during which the world's productive activity was rapidly increasing. The total increase in the primary production was about 11 per cent, equivalent to an average rate of increase of 2.6 per cent per annum.

The three subsequent years witnessed a decline in the total primary production, which was much more rapid than was the increase in the preceding period. The decline was regular and amounted in the aggregate to about 12 per cent, so that the volume of output in the world, as a whole, was less in 1932 than it had been in 1925.

The contraction of production was, on the whole, much more severe in North America than elsewhere. The relative fall in output in Europe, excluding the U. S. S. R., was as great as in North America between 1929 and 1931; but there was no further drop in 1932. On the other hand, the production of Latin America was maintained in 1930, but decreased severely in the two subsequent years. The shrinkage of output between 1929 and 1932 in Asia, where production reached its peak in 1930, in Africa and in Europe, including the U. S. S. R., was of appreciably smaller proportions; in 1932 in all these continental groups, the volume of primary production still appears to have exceeded the average for 1925-1929. Throughout the three depression years, the volume of output in Oceania has in fact been maintained at a considerably higher level than in any year of the preceding quinquennium, and, after a minor recession in 1931, it appears to have reached its peak in 1932.

These wide divergencies in the course of production in the different continental groups have naturally resulted in changes in their relative share in total world production. These changes may be studied in detail in Appendix I, Table 4. During the world depression,<sup>1</sup> the share of North America has been considerably reduced, while that of Europe, excluding the U. S. S. R., and Latin America has remained practically unchanged, and that of the other continental groups has increased. The fact that the share of Russia in total production of primary goods increased from 8.9 per cent in 1925 to 10.6 per cent in 1932 is noteworthy.

The divergent movements of the various continental indices considered have been largely influenced by differences in the course of production of certain commodities or groups of commodities the relative importance of which varies in the different parts of the world. The relative composition of total production of the goods considered in the world, as a whole, and in its various sub-divisions, is shown in Appendix I, Table 5. The principal points brought out by this table, supplemented by the provisional figures for 1932 which were not available in time for inclusion therein, are the following :

(a) Since primary production is chiefly derived from agriculture, commodities of agricultural origin account for some three-quarters of the sum total of the aggregates from which the general world index is calculated.

(b) The share of these commodities (foodstuffs, tobacco, vegetable-oil materials, textiles and rubber) in the total was gradually reduced from 76.0 per cent in 1925 to 72.6 per cent in 1929, but rose to over 80 per cent in 1932.

(c) In the case of the less industrialised continents, Africa, Asia, Latin America and Oceania, agricultural commodities account normally for some nine-tenths (between 87 and 92 per cent on an average for 1925-1929) of the

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<sup>1</sup> Including 1932, the provisional figures for which became available too late for the inclusion of that year in the Appendix.



primary production, while in the case of North America and Europe (excluding the U.S.S.R.) their relative importance is much less pronounced — 62 and 66 per cent respectively in the same period.

These facts are of primary importance for an intelligent interpretation of the movements of the general production indices, both for the world as a whole and for the individual continental groups, particularly during the depression period. The contrast between the course of production of agricultural commodities on the one hand and that of non-agricultural commodities on the other is, indeed, the principal feature in the evolution of primary production during that period.

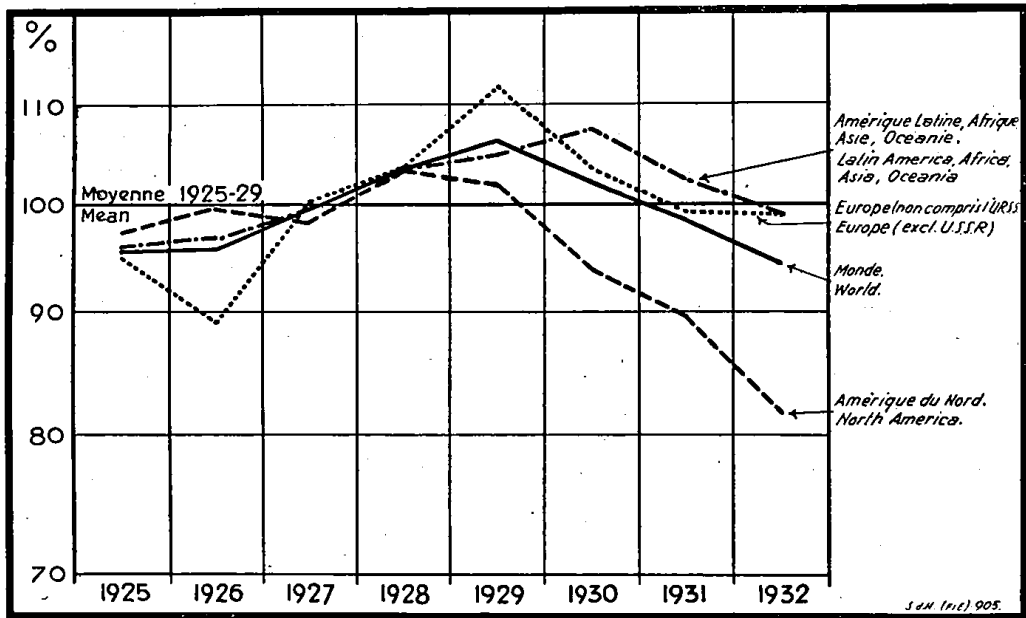
Agricultural production as a whole is difficult to control; it is for the most part carried on by a vast number of small producers, and it is largely dependent upon atmospheric and other factors over which the agriculturist has no influence. A large proportion of the total expenses of production consists of fixed charges, and in a period of depression, when prices are falling, the individual agriculturist is frequently induced to enlarge the acreage under cultivation and thereby the volume of his output in the hope of being able to continue at least to meet his fixed obligations. The policy of increased agricultural protection applied in certain countries, which normally have depended to a considerable extent upon imports of agricultural produce, has had the effect of encouraging such local expansion of production. In conjunction with "favourable" crops, these factors explain in the main why total agricultural production, in spite of isolated attempts at restriction and control in certain branches, has been maintained at a high level throughout the depression. By 1932, the world index of agricultural production still remained nearly two per cent above the average for the pre-depression quinquennium and was only some two per cent below the peak of 1929. It should not be overlooked, however, that foodstuffs, the demand for which is, on the whole, inelastic, form the bulk of agricultural production.

The output of non-agricultural raw materials, on the other hand, which are chiefly used in the production of capital goods, the demand for which contracts sharply in times of depression, is more highly organised and is therefore capable of more rapid adjustment to changes in demand. This explains the drastic curtailment in this branch of primary production which has been effected in the course of the depression. By 1932, the yearly output of non-agricultural raw materials in the world as a whole had shrunk to less than three-quarters of its average volume in the pre-depression quinquennium; the drop from the peak of 1929 appears to have been about 36 per cent. The figures of stocks, which are briefly analysed in a subsequent section of the present chapter, show that the contraction in demand has been even greater than the above statistics indicate. The evolution of prices under the influence of the factors here mentioned is discussed in Chapter III below.

The divergent movements of total primary production in the different parts of the world is illustrated in Diagram I. Diagram II shows the contrast between the movements of total foodstuffs and total raw material production and gives,

Diagram I.

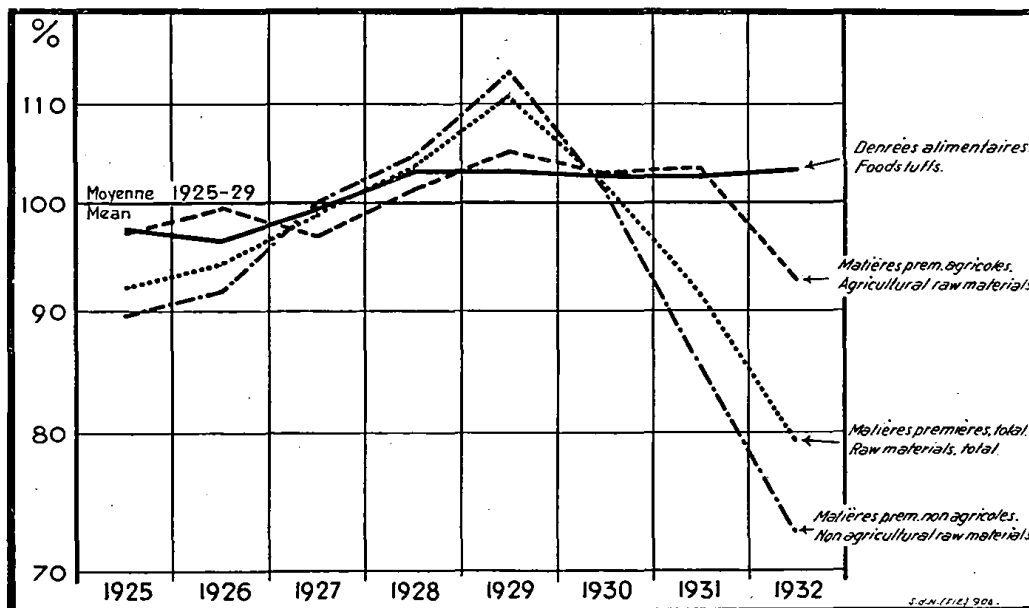
INDICES OF AGGREGATE PRIMARY PRODUCTION.  
(Base: Average 1925-1929 = 100.)



in addition, separate curves for the output of agricultural and non-agricultural raw materials. It will be noticed that, up to and including 1931, the former curve closely followed that of foodstuffs production, while the course of total raw material production is mainly determined by that of non-agricultural raw materials.

Diagram II.

INDICES OF WORLD PRODUCTION OF CRUDE FOODSTUFFS AND INDUSTRIAL RAW MATERIALS.  
(Base : Average 1925-1929 = 100.)



PRODUCTION OF CRUDE FOODSTUFFS.

The following table gives the indices for foodstuffs in a manner similar to that adopted in the preceding table :

Table II.

FOODSTUFFS PRODUCTION INDICES, WEIGHTED BY 1930 VALUES.  
(Base : Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932 <sup>2</sup>
Europe, excluding U.S.S.R. . . . .	98	92	97	103	109	104	105	110
Europe, including U.S.S.R. . . . .	97	95	98	103	108	105	104 <sup>2</sup>	106
North America . . . . .	99	98	101	106	96	94	97	101
Latin America . . . . .	97	97	103	102	102	103	99	94
Africa . . . . .	95	95	101	103	107	105	108	110
Asia, excluding Asiatic Russia and China <sup>1</sup> . . . . .	98	98	99	101	103	108	106	102
Oceania . . . . .	93	102	98	106	102	119	116	118
World . . . . .	98	97	99	103	103	103	102 <sup>2</sup>	103

<sup>1</sup> Including production of certain cereals and meat in Manchuria.  
<sup>2</sup> Provisional indices, subject to revision.

Over the whole period under review, the world production of foodstuffs has varied within comparatively narrow limits and has been maintained in a remarkable way during the years of depression. Indeed, the world index has remained practically unchanged since 1928.

The course of these indices for foodstuffs is mainly determined by the supply of vegetable produce. The fact that natural factors are seldom equally favourable or unfavourable in any given year in all parts of the world and for all crops, and the further fact that the production data concerning the southern hemisphere are in all cases half a year ahead of those relating to the northern hemisphere, tend, as a rule, to eliminate wide fluctuations from the combined world index. The continental indices taken individually show wider and more irregular fluctuations. Thus, in 1930 (1930-31), the crops of cereals and other foodstuffs were considerably reduced in North America and in Europe, excluding the U.S.S.R., but these reductions were more than outweighed by record crops reaped in Russia and Oceania. Nevertheless, the total foodstuffs production showed a slight decline because of a marked falling off in the other crops included (viz., wine, hops, coffee, tea and cocoa), and a decline in meat production. The record of 1931 was the reverse. In most European countries and in North America, the food crops were abundant, but this increase was more than counterbalanced by reductions elsewhere, especially in Russia, and also in Latin America and Oceania. Thus, while the food crops were on the whole reduced, the other crops recovered to a large extent and the output of meat was well maintained ; as a result the world index remained unchanged.

The advance in the world index for 1932 was mainly due to record food crops in Europe, and abundant yields also in most other continental groups, which more than outweighed the lightness of the cereal harvests in Asia and Latin America, a fall in the crops of colonial produce, and what appears to have been a slight decrease in meat production.

The maintenance of the production of foodstuffs has been largely a result of protective tariffs, quota systems, milling regulations, etc., and similar artificial measures in a number of countries where natural conditions have permitted an extension of cultivation. The chief sufferers of the relative oversupply of foodstuffs have been the big exporting countries whose market has become more and more restricted.

PRODUCTION OF INDUSTRIAL RAW MATERIALS.

Indices of the aggregate production of industrial raw materials are given in the following table :

Table III.

RAW-MATERIAL PRODUCTION INDICES, WEIGHTED BY 1930 VALUES.  
(Base : Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932 <sup>1</sup>
Europe, excluding U.S.S.R. . . . .	90	84	105	104	117	102	90	80
Europe, including U.S.S.R. . . . .	89	85	104	105	117	106	97	90
North America . . . . .	94	102	95	101	108	94	82	61
Latin America . . . . .	91	93	95	110	111	107	98	77
Africa . . . . .	95	95	93	104	112	109	95	90
Asia, excluding Asiatic Russia . . . . .	93	94	99	106	107	111	99	98
Oceania . . . . .	93	100	100	105	103	99	100	102
World . . . . .	92	94	99	104	111	102	91	79

<sup>1</sup> Provisional indices, subject to revision.

In striking contrast to the production of crude foodstuffs, the output of industrial raw materials experienced a rapid advance from 1925 to 1929 and an unprecedented slump in 1930-1932. The slump has proceeded at an accelerating rate. As compared with the peak reached in 1929, the world production of raw materials was not quite one-tenth less in 1930 ; about one-fifth less in 1931 ; and almost one-third less in 1932. This slump carried output to the lowest level of any year of the decade ending with 1932.

The relative drop in aggregate raw-material production in 1930 and 1931 was as great in Europe (excluding the U.S.S.R.) as in North America, and was considerably larger in these than in the other continental groups. But while, in 1932, the downward trend continued with unabated force in North America, and was accentuated in Latin America, the rate of decline was somewhat checked in Europe and in the other continental groups. The Oceanian index, which is mainly determined by the wool clip, shows an increase in 1932.

Separate indices for industrial raw materials of agricultural and non-agricultural origin are given below in Table V. In 1931, according to the aggregates on which the indices are based, the share of agricultural products in the total output of the raw materials considered amounted to 36.5 per cent in the world as a whole, to only 10.5 per cent in Europe excluding, and 17.5 per cent including, Russia, to 29.1 per cent in North America, but to 70 per cent in the other continental groups

taken together. Indeed, it should be borne in mind that, in some cases, the indices are determined by a few important commodities alone.<sup>1</sup>

*Table IV.*

INDICES OF PRODUCTION (WEIGHTED BY 1930 VALUES) OF INDUSTRIAL RAW MATERIALS  
OF (a) AGRICULTURAL AND (b) NON-AGRICULTURAL ORIGIN.

(Base : Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932 <sup>1</sup>
Europe, excluding U.S.S.R. . . . . {								
(a)	94	88	109	88	121	84	89	83
(b)	89	84	104	106	116	105	90	80
Europe, including U.S.S.R. . . . . {								
(a)	95	91	104	95	115	95	105 <sup>1</sup>	100
(b)	88	84	104	107	118	109	96	87
North America . . . . . {								
(a)	104	112	88	97	100	98	113	86
(b)	92	99	97	102	110	92	73	55
Latin America . . . . . {								
(a)	96	101	103	105	95	102	106	81
(b)	88	86	88	114	125	111	91	74
Africa . . . . . {								
(a)	97	96	92	104	111	107	94	93
(b)	89	93	98	106	114	118	99	77
Asia, excluding Asiatic Russia . . . . {								
(a)	95	95	99	106	105	109	96	95
(b)	88	92	100	106	114	115	108	110
Oceania . . . . . {								
(a)	91	100	98	106	104	102	110	111
(b)	98	98	103	101	100	93	78	81
World . . . . . {								
(a)	97	99	97	101	105	103	103	93
(b)	90	92	100	105	114	101	86	73

<sup>1</sup> Provisional indices, subject to revision.

The decline in the production of agricultural raw materials after the peak year 1929 was slight and there was no drop in 1931. However, in 1932, while the production of foodstuffs appears to have increased, the output of agricultural raw materials registers a decrease of about 10 per cent — principally on account of a sharp reduction in the yields of textile materials, tobacco and vegetable oils in North and Latin America.

On the other hand, the world index for raw materials of non-agricultural origin reached a considerably higher peak in 1929 and underwent a disastrous

<sup>1</sup> Thus the European index of agricultural raw materials (excluding the U.S.S.R.) reflects largely the variations in the olive-oil crop, but the inclusion of Russia, an important producer of flax and hemp, changes the structure of the index completely. The corresponding North American index is principally influenced by the cotton crop, and that for Latin America by the linseed crop and wool clip. The African index is mainly determined by Egyptian cotton, South African wool, ground-nuts and palm oil, and the Asiatic index by changes in the output of tobacco, cotton and ground-nuts in India, and of silk in Japan.

drop after that year: a drop of over 11 per cent in 1930, of 15 per cent in 1931, and of some 15 per cent again in 1932 — *i.e.*, by 40 per cent in three years. The decline was greatest in North America — *viz.*, more than 50 per cent. It was also very sharp in Latin America and Europe. In Asia and Oceania, where the production of the raw materials concerned is of relatively less importance, the decline in output has also been relatively much smaller than elsewhere.

PRODUCTION BY PRINCIPAL COMMODITY GROUPS.

In Table V below will be found world indices for each commodity group for the years 1925-1931, together with provisional indices for 1932 for most of these groups.

Table V.

GROUP INDICES OF PRODUCTION IN THE WORLD AS A WHOLE, WEIGHTED BY 1930 VALUES.  
(Base: Average 1925-1929 = 100.)

Groups of products	1925	1926	1927	1928	1929	1930	1931	1932 <sup>a</sup>
Cereals <sup>1</sup> . . . . .	100	99	99	103	100	102	100 <sup>2</sup>	104
Cereals and other food crops <sup>1</sup> . . . . .	99	98	99	103	101	104	102 <sup>2</sup>	104
Meat <sup>1</sup> . . . . .	94 <sup>a</sup>	96 <sup>a</sup>	100 <sup>2</sup>	104 <sup>a</sup>	105 <sup>2</sup>	102 <sup>a</sup>	103 <sup>2</sup>	...
Wine and hops . . . . .	109	79	96	109	107	92	99	103
Coffee, tea, cocoa . . . . .	88	90	111	91	120	94	110	97
Tobacco . . . . .	99	97	96	100	107	111	109	...
Vegetable-oil materials . . . . .	95	94	104	101	106	102	104	98
Textiles . . . . .	96	101	94	103	106	103	105 <sup>2</sup>	95
Rubber . . . . .	79	95	93	100	132	125	122	108
Wood-pulp . . . . .	85	94	99	104	117	114	99	...
Fuels . . . . .	93	93	102	102	110	102	92	84
Metals . . . . .	88	91	99	106	116	95	71	51
Non-metallic minerals . . . . .	87	93	101	107	112	107	93	77
Chemicals (fertilisers) . . . . .	88	88	93	109	121	114	87	...
All agricultural products <sup>1</sup> . . . . .	98	97	99	103	104	103	103	102
Crude foodstuffs <sup>1</sup> . . . . .	98	97	99	103	103	103	102	103
Agricultural raw materials . . . . .	97	99	97	101	105	103	103	93
Non-agricultural raw materials . . . . .	90	92	100	105	114	101	86	73
All industrial raw materials . . . . .	92	94	99	104	111	102	91	79
General index . . . . .	96	96	99	103	106	102	98	94

<sup>1</sup> Excluding production in China, with the exception of certain crops and meat in Manchuria.

<sup>2</sup> Figures partly based on estimates or subject to revision.

The first index given above is supplementary to the second, which includes rice, potatoes and raw sugar in addition to cereals. Individual indices for each of the commodities comprised in the above groups, and separate indices for the production by continents of each group of commodities, will be found in Appendix I, Tables 2 and 3.

### *Cereals.*

Cereals constitute the most important of all the commodity groups considered, accounting for about a quarter of the aggregates upon which the general index is based. The combined cereal harvests of the world reached a high level in 1928 (in the southern hemisphere 1928-29). Stocks had been accumulating for some years, and, owing to the inelasticity of the demand for cereals, rapidly became, though not actually very great in relation to total production, sufficiently heavy to depress the market and to constitute a contributory cause of the universal slump in prices. The depression in the cereal market has since continued unabated. The total harvests of the four last years under review have been maintained at a relatively high level, equalling the quinquennial average (1925-1929) in 1929 and 1931, and exceeding it by 2 per cent in 1930, and by about 4 per cent in 1932, when the peak of the whole period under review was reached. There have been, however, considerable variations in the harvests of the different cereals in the different continental groups.

The world's supply of *wheat* in 1930, when bumper crops were reaped in the great exporting countries, and, above all, in the U.S.S.R., nearly equalled the maximum reached in 1928. The breakdown of the Canadian Wheat Pool, the discontinuance of the price-supporting policy by the American Federal Farm Board, and the sudden re-appearance of Russia as a large exporter accelerated the depression in the wheat market. In the two following years the Russian harvests seem to have been considerably smaller, and exports from the U.S.S.R. have gradually dwindled. Apart from Russia, world harvests remained practically unchanged in the three years 1930 to 1932. In 1931, the variations of the harvests were the reverse of those occurring in the preceding year: the harvests of the big exporting countries diminished on the whole, while those reaped in Europe as well as in Africa were much above the average. This tendency was further accentuated in 1932. Among the four chief exporters, increases in the crops of Argentina and Australia were almost offset by light crops in Canada and the United States of America; Danubian countries reaped the poorest harvest since the war, while the crops in the European importing areas were the heaviest ever recorded. While the exportable surplus has thus been reduced, the requirements of the importing market have declined, not only on account of the more abundant internal supplies, but also as a result of the reduced purchasing power.

*Rye* production is mainly confined to European countries, in some of which it is a substitute for wheat. The harvests since 1929 have been very abundant, except in 1931. The harvests of the "feeding grains", *barley*, *oats* and *maize*, were, on the whole, below the average in 1931, but rose considerably in 1932. The marked increase in the cereal index in 1932 is due to the abundant yields of these crops.

### *Rice, Potatoes and Sugar.*

The supply of *rice* has shown a tendency to increase in recent years. The heaviest world crop during the period under review was obtained in 1930-31, but it was followed by a drop in 1931-32. The increasing home production in the importing countries, in conjunction with a decrease in the demand, has created difficulties for the great exporting areas (Burma, Indo-China and Siam) in which purchasing power has contracted. Owing to heavy crops, more particularly in Burma, in 1932-33, the exportable surplus is expected to show another increase in 1933.

The *potato* crop has exceeded, in the last four years, the quinquennial average (1925-1929) by 10 to 14 per cent. There was a record crop in 1932. This has influenced to an appreciable degree the European index for foodcrops.

The *sugar* crops have shown extraordinary variations in recent years. The beet-sugar output exceeded the quinquennial average (1925-1929) by almost one-third in 1930, dwindled



by nearly an equal proportion in the following year, and by a further 10 per cent in 1932. The cane-sugar crop has varied less; it was below the quinquennial average in 1930, recovered slightly in 1931, but decreased almost as much as beet sugar in 1932. The competition between beet and cane sugar led rapidly to a severe depression in sugar-growing. In an increasing number of countries, the home production of sugar was maintained and stimulated by protective tariffs and subsidies, with the result that the principal exporting countries lost a large proportion of their markets and sustained heavy losses. The chief sugar-exporting countries were thus led to conclude an international agreement fixing export quotas and providing for the progressive liquidation of stocks (Brussels Convention, 1931). The hopes founded on that plan have not as yet been realised in the short period which has elapsed since its conclusion. Production has decreased, as pointed out above; but while the area under cultivation in countries adhering to the plan has been reduced by 20 to 30 per cent, the area under beet in other countries has been further extended. On the other hand, a somewhat optimistic view was taken of the probable demand in the free markets. In consequence, prices continued to decline in 1932, though the scheme as a whole was strengthened by holding up 700,000 tons of the Cuban export quota to the United States of America. During the first months of 1933, there have been signs of a better adjustment of production and consumption.

#### *Meat.*

Meat is the second in importance of the commodity groups considered, representing, in 1931, nearly 24 per cent of the total aggregates upon which the general index is based. The statistics of meat production are very defective, and the index is to a large extent conjectural. It is sufficiently representative, however, to show that meat output has been maintained at a relatively high level during the depression.

In the early stages of the depression meat production benefited by a shift in relative prices in favour of animal products. True, the world index fell somewhat in 1930, but this fall was due to a substantial drop in Russia, and a smaller decline in the United States of America, while, in all other continental groups, production was maintained or advanced. But as the general depression grew more severe, the demand for meat, a relatively expensive foodstuff, fell off, prices declined rapidly, and a tendency toward the restoration of the previous balance between prices for vegetable and animal products set in. The world index for meat shows, in 1931, a slight increase, the advance being very marked in the European countries. The breeding of live-stock appears to have continued on an unrestricted scale in 1932 also, in which year it was no doubt stimulated by heavy fodder crops. It should be noted that the general rise in meat production has been principally due to an increased slaughter of pigs, which furnish cheaper products than the other animals. On the other hand, the Latin American production, which is destined largely for export, fell off considerably in 1931 and probably also in 1932.

#### *Wine and Hops.*

While the consumption of both wine and beer has, on the whole, tended to shrink in recent years, the production of both wine and hops has shown wide year-to-year fluctuations.

There was a record *vintage* in 1928 and in the following years but a slight falling off, except for the partial failure in 1930. In all European countries, supplies have exceeded the requirements of internal consumption, while foreign markets have become less and less accessible. The wine market has thus been characterised by falling prices, increasing stocks, and keen competition among the exporting countries.

The depression has been no less acute in the *hop* market, especially in Europe. After the record crops of 1929, prices fell heavily, hop acreage was drastically reduced and the output dropped in three years by about 50 per cent.

### *Coffee, Tea, Cocoa.*

The group index reflects mainly the extremely wide variations in *coffee* production. The crop reaped in 1929-30 was the heaviest on record, being 35 per cent above the quinquennial average. The crop of the following year was nearly 9 million quintals lower; there was an increase of 6 million quintals in 1931-32, but this was followed by an equivalent decline in 1932-33. These fluctuations are due almost entirely to the Brazilian crop, which normally represents half to two-thirds of the total world production; in the period under review, the output of other countries showed a moderate rise roughly proportionate to the increase in demand up to 1929-30. The coffee market was dislocated after the bumper crop of that year and prices have undergone an unprecedented fall. Brazil has made repeated attempts to control the coffee market by means of various valorisation schemes. Since 1931, a policy of gradually destroying low grades of coffee (9,600,000 quintals in two years) has been adopted and an emergency tax has been imposed upon coffee exports in order to finance the purchase and destruction of surplus coffee.

The production of *tea* increased more regularly and more moderately than that of coffee up to 1929-30. The 1930-31 crop was below the average for the preceding quinquennium. This was due mainly to the restrictive measures undertaken by the principal tea planters. The restriction scheme was, however, abandoned in 1931, and the crops of 1931-32 and 1932-33 were somewhat heavier. A new restriction scheme, embracing most tea companies in British India, Ceylon, Java and Sumatra, came into effect in 1933.

The exports of *cocoa*, which were almost as large in 1930 as in 1928, their peak year, have since slowly declined.

### *Tobacco.*

From the rather incomplete statistics available, it would appear that the output of tobacco reached a maximum in 1930, and has declined since that year, particularly in North America.

### *Vegetable-oil Materials.*

The world supplies of vegetable oils have shown a relatively moderate decline since 1929; in 1932 they would appear to have fallen just below the quinquennial average (1925-1929). The olive-oil crop, which determines the European index (excluding the U.S.S.R.) for vegetable oils, and the linseed crop, which governs the Latin American index, have both shown wide variations in recent years. The *olive-oil* output reached a very high record in 1929, shrunk by nearly two-thirds in 1930, nearly doubled again in 1931, but decreased a little in 1932. The yield of *linseed* was very heavy both in 1930-31 and 1931-32, but was reduced by about a quarter in 1932-33. The *hemp-seed* crop since 1928 has remained 18 to 25 per cent below the quinquennial average.

The most important source of tropical vegetable oils is *ground-nuts*, grown mainly in India. The crop was exceptionally heavy in 1930-31, and probably will prove large again in 1932-33.

### *Textiles.*

The production of textile raw materials as a whole developed comparatively slowly until 1929. But the demand for finished textile products has so diminished that the supply of textile materials has been in excess of the requirements of the manufacturing industry for several years,<sup>1</sup> and this has led to a heavy slump in prices. It was only in 1932 that the total output of textile materials showed an appreciable drop.

The crops of the chief textile material, *raw cotton*, have been very variable in recent years. The relatively light crop of 1930 was succeeded by a heavy crop in 1931 (the heaviest since the record crop of 1926), while the crop of 1932 was the lightest during

<sup>1</sup> For a discussion of the activity in the textile manufacturing industries, see Chapter II below.

the whole period considered. These fluctuations are mainly due to the American crop. The 1931 crop in America was the second largest in history, while that of 1932 was one of the lightest in recent years. One of the main reasons for these variations is an insect pest known as the "boll weevil", which has also caused deterioration in the quality of American cotton, while the quality of other cottons has tended to improve. Moreover, the price-stabilising policy of the American Federal Farm Board, although not successful in checking the fall in prices, favoured producers in other lands. American cotton thus tended to be replaced by other qualities. During 1930, the world's cotton mills for the first time used less American than other raw cotton. But since the second half of the 1930-31 season there has been a vigorous reaction in favour of American cotton, which has gradually reaffirmed its dominant position. The aggregate production of East Indian, Egyptian and "sundry" qualities of cotton had not shown any reduction during the depression years, except for bad seasons in India in 1929-1931, and a big cut in acreage in Egypt in 1931, which caused the crop of 1932 to be only half the normal.

The area under *flax* in Europe outside the U.S.S.R. has diminished rapidly, while it nearly doubled in the U.S.S.R. between 1928 and 1932. The crops in the former area have dwindled and in 1932 touched the lowest figure ever recorded, while the Russian crop has enormously increased. The stimulation of Russian exports has contributed to the fall in prices and hence to the restriction of flax-growing in the rest of Europe. The *hemp* crop has shown a continuous decline since 1928, and consequently has not outstripped the demand of the market. The production of *jute*, which is practically confined to India, was reduced by almost 50 per cent in 1931-32, and appears to have recovered but slightly in the following season.

The production of *wool* in the last few years has been largely influenced by increased reliance upon "mixed farming". The increased consumption of mutton has helped to augment the supplies of wool, and the proportion of medium and coarse wools has risen. At the same time, owing to the low level of prices and the preference of consumers for finer qualities, the consumption of fine wools has recently shown a tendency to increase. After the record clip obtained in 1928, the annual supply only diminished moderately, remaining almost unchanged in 1930, 1931 and apparently also in 1932.

The production of *natural silk* has decreased considerably during the years of depression, but that of *artificial silk*, after a slight drop in 1930, attained a new high record in 1932. The development has been extraordinarily rapid in Japan, which nearly doubled its production in 1932. Until recent years, the introduction of artificial silk reacted favourably, rather than the reverse, upon the consumption of natural silk, with which it was frequently mixed. The artificial silk cartel was enlarged in 1932 so as to include all the principal producers of continental Europe.

#### *Rubber.*

The production of crude rubber is generally estimated on the basis of net exports, which afford a fairly exact measure of production. Total shipments of rubber have declined year by year since the record output of 876,000 tons in 1929, the total reduction up to 1932 being about 18 per cent. The shipments of the last year, however, still exceeded the quinquennial average (1925-1929) by 8 per cent. The Dutch East Indies were responsible for the greater part of the decrease in 1932, British Malaya and Ceylon for a smaller part. The production of reclaimed rubber has decreased much more than that of crude rubber owing to a shift in relative prices. World consumption of rubber has varied much less than production, and remained remarkably stable in 1930-1932.<sup>1</sup> Nevertheless, prices have fallen to a point at which producers' profits have been practically eliminated. The 1932 supplies came from trees planted before or during 1925, and, since that year, both the acreage and the yield per acre have increased.

<sup>1</sup> Cf. Appendix II, Table 13 (a).

### *Wood-Pulp.*

The world output of wood-pulp has been reduced during the depression more than that of other raw materials of a vegetable origin, but much less than that of mineral products. The total drop between 1929 and 1932 probably amounts to some 20 per cent; reliable figures for the latter year were not, however, available at the time of calculating the index. The North American industry has suffered more severely than the European, the output of which began to contract only in 1931. On the other hand, the production of chemical has been more reduced than that of mechanical pulp. The European wood-pulp producers have organised cartels with a view to curtailing production and regulating exports. While the northern mechanical-pulp cartel was dissolved in 1932, the producers of chemical pulp agreed further to restrict the output in 1933.

### *Fuels.*

The economic depression has seriously affected the *coal-mining* industry. The decrease in world output has continued with striking regularity since the peak year 1929, the total reduction between that year and 1932 amounting to 378 million tons—*i.e.*, almost 30 per cent. The margin between productive capacity and demand has been further widened, and the disequilibrium between actual production and demand has been reflected in a large accumulation of stocks. The drop in the coal output has, however, been less than the decline in the metal and manufacturing industries, for coal is not only an industrial raw material but also an article of domestic consumption. The output of the United States declined much more than that of the European and other countries during the depression. The American production of 1932 was the lowest since 1904. The output has fallen in all European countries, except some of the minor producers (Austria, Italy, etc.). The decrease has been relatively smaller in the United Kingdom than in the other major producing countries, and the share of the United Kingdom in the total European production has increased from 44.3 per cent in 1930 to 46.5 per cent in 1932.

The world's *petroleum* output also reached its peak in 1929, but has since then been reduced considerably less than the coal output. The total drop between 1929 and 1932 was 25.7 million tons, or 12.5 per cent. The greater part of this reduction is due to restrictive measures taken in the United States. In 1932, also, the American, British, Dutch and Roumanian exporting interests reached an agreement for an international limitation of exports. These restrictive measures have not, however, proved adequate to effect an adjustment of the supply and demand.

### *Electricity.*

The group index of fuel production does not give a complete idea of the world's total power supply, chiefly because it excludes electric power. A considerable part of the output of fuels is transformed into electric current, and a further supply of electricity is generated by hydro-electric plants. It may therefore be of interest to supplement the discussion of the fuel industries by a brief account of the world's electricity supply.

Owing to the flaws in existing statistics, it is not possible to estimate with accuracy the total output of electricity in the world. It is known to have increased very rapidly until 1930, however, when, according to available information, it would appear to have amounted to roughly 296,000 million kwh.<sup>1</sup> The decrease in the two subsequent years has been slight, probably not more than 7 per cent. It should be noted, however, that the statistics largely ignore the generation of current by industrial establishments for their

<sup>1</sup> See League of Nations, *Review of World Production, 1925-1931*, page 73. Detailed statistics relating to the production and distribution of electricity are given in the *Statistical Year-Book of the League of Nations, 1932-33*, Table 60.

own use, and therefore are likely to understate the rate of decrease in total output during the depression. On the other hand, as the technique of transmission has improved, the generation of electricity has become more and more concentrated in public stations.

The output in North America amounts to about 45 per cent and that of Europe to something less than two-fifths of the world total. The chief producers outside these continents are Japan and the U.S.S.R.

It is, unfortunately, not possible to divide these aggregate figures between thermo- and hydro-electric plants. Information available for the principal countries suggests that the greater part of the world's supply of electricity is produced by fuels. Water power, however, has gradually increased its share in the world supply. Among the major producers, the percentage produced by water power was, in 1931: United States, 32.4; Germany, 16.8; the United Kingdom, 1.9; France, 42.4; Japan, 92.7; Italy, 96.9; Canada, 98.0; and in Norway, Switzerland and Sweden, practically the whole production is generated by hydro-electric plants.

#### *Metals.*

The statistics on which the metal index is based relate to smelter production and not to mine production, except in the case of silver and nickel. Consequently, the continental distribution shown in the annexes must not be interpreted as indicating the primary sources of supply. The figures for North America and Europe are higher, and those for the other continents appreciably lower, than they would have been had it been possible to employ data relating to the output of mines.

The group index for metals has shown a greater decline than any other group index during the period under review. It dropped by not less than 56 per cent between the peak year 1929 and 1932. In 1932, the aggregate output of metals was 49 per cent below the average for the quinquennium 1925 to 1929, and touched the lowest level recorded in the twentieth century.

*Pig-iron* and ferro-alloys (that part of output which is not used for the making of steel) and steel ingots and castings account for about 70 per cent of the aggregates upon which the metal index is based, and thus largely determine the movement of that index. The iron and steel industry is dealt with in Chapter II. It may suffice to mention that, by 1932, the world output of both pig-iron and steel had fallen to less than half its average volume during the quinquennium 1925-1929, the drop since the peak of 1929 being as great as 60 per cent in the case of pig-iron and 58 per cent in the case of steel.

The production of *non-ferrous metals* contracted more moderately than that of iron and steel during 1930 and 1931, but the reverse was the case in 1932. Compared with the average for 1925-1929, the output of non-ferrous metals taken as a whole had shrunk by 40 per cent in 1932. Compared with the record year 1929, the drop in 1932 was greater in the case of *nickel* than of any other metal (65 per cent); the output of *copper*, the most important of the non-ferrous metals, declined heavily (54 per cent), as did also the output of *zinc* (46 per cent) and *tin* (47 per cent). Demand has not been sufficient, however, to absorb even such reduced supplies.

In the difficult circumstances which the non-ferrous metal industries experienced during the depression, the chief producers and exporters have been led to make serious attempts at controlling the market. Most of the schemes adopted, however, have resulted in partial or total failure. The price stabilisation policy of the Copper Exporters' Inc. failed in 1931, as producers elsewhere increased their output while North American producers and their Latin American subsidiaries curtailed their production; and further negotiations in 1932 for an agreement to restrict world production failed. The Lead Producers' Association, which comprises practically all the lead producers outside the United States, established a voluntary restriction scheme in 1931; but, when the United Kingdom adopted

a tariff system in March 1932, the operations of the association practically came to an end. The Zinc Cartel, uniting European, Canadian and Mexican producers, was reconstructed in the middle of 1931, with the object of curtailing output in, and imports into, Europe, but again broke down at the end of 1932, and has been continued only by temporary agreements. The Tin Producers' Association endeavoured to establish a voluntary restriction scheme. This did not prove successful, and the four principal Governments interested (those of Bolivia, Malaya, Netherlands East Indies and Nigeria) therefore concluded an international Convention concerning production and exports of tin in 1931 (the "Quota Scheme"), which was soon joined by Siam. The scheme succeeded in bringing production and consumption into equilibrium, but not in preventing a further fall in the price of tin; private international tin pools were therefore constituted at the end of 1931 and in 1932 to withhold stocks from the market. The aluminium market has been controlled by the European Cartel and the American-Canadian Trust, and the nickel production has been concentrated in two closely allied enterprises.

The supply of *silver*, which is obtained chiefly as a by-product of copper, lead and zinc mining, is rather inelastic. The production of virgin metal was reduced from 1929 to 1932 by about 40 per cent. But the general demonetisation has at the same time augmented the supply by sales of old silver and diminished the monetary demand for the metal. The supply of old silver marketed amounted to nearly 26 per cent of the total supply in 1929, and to over 30 per cent in 1931. The sales by the Indian Government since 1929, by French Indo-China in 1929 and 1930, and by Siam and Mexico in 1931 have contributed largely to the continuous fall in the price of silver up to the beginning of 1933.

#### *Non-metallic Minerals.*

This group comprises cement, asbestos and salt. The movement of the group index is chiefly determined by the production of cement. *Cement* statistics are rather incomplete, but sufficiently representative to afford a fair indication of the growth of the industry. The output of cement declined at an accelerating rate since 1929, the total fall in three years being nearly 40 per cent; the United States are responsible for the greater part of this drop. The production of *asbestos* dropped still more. On the other hand, the production of *salt* has fallen off little during the depression.

#### *Chemicals (Fertilisers).*

The chemical industry was, on the whole, among the most prosperous until 1929, and its output in 1930 remained well above the average for the preceding quinquennium. The decreased purchasing power of farmers has, however, been reflected in a serious contraction in the consumption of fertilisers. In 1931, the aggregate production of fertilisers was curtailed by about 25 per cent. The incomplete data for 1932 suggest a further, but much more moderate, decline.

The three principal groups of fertilisers considered are phosphates, potash and nitrates. The production of *phosphates* continued to increase in 1930 but dropped severely in the two following years. The output of *potash* in Germany declined since 1929 by 50 per cent and in France by 38 per cent. The Chilean production of *nitrate of soda* declined after 1929 more than any other individual commodity considered, production in 1932 being less than one-third of the average for 1925-1929. On the other hand, the production of synthetic and by-product nitrogen, controlled until the middle of 1931 by the European Nitrate Cartel, fell less. The demand of the farmers has been diverted to cheaper fertilisers, and thus the output of *sulphate of ammonia* appears to have increased fairly considerably in 1932. Because of the low prices ruling in the market, consumption of nitrates in 1931-32 exceeded production for the first time since 1926-27.

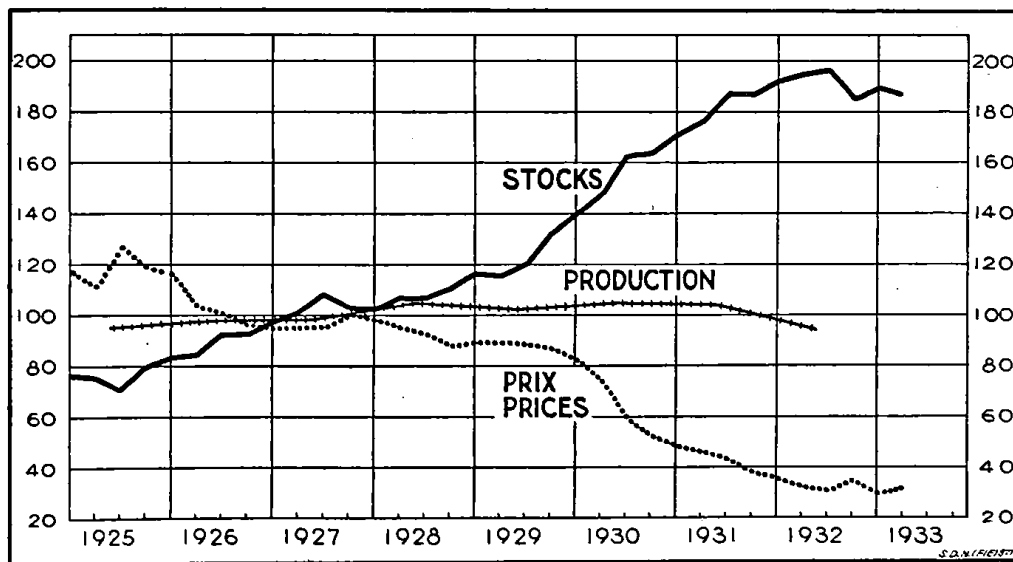
### STOCKS OF PRIMARY COMMODITIES.

The accumulation of stocks of primary commodities before and during the world economic depression constitute the most obvious indication of the maladjustment of supply and demand which has pressed heavily on the market and resulted in the disastrous slump in prices.

Statistics relating to stocks are incomplete. The existing data refer mostly to the "visible stocks" — *i.e.*, stocks in the hands of producers or in public warehouses — and thus exclude stocks of primary commodities which are held by the manufacturing industries and by the wholesale trade. Even the scope of the statistics of visible stocks of the different commodities varies considerably. Attempts have been made, however, to measure the general movement of world stocks by means of a combined stock index. Thus the Department of Commerce of the United States has constructed an index of world stocks which is a weighted average of nine staple commodities, mostly agricultural.<sup>1</sup> This index may be considered as fairly representative of the general movement of stocks.

*Diagram III.*

CHANGES IN PRODUCTION, STOCKS AND PRICES OF NINE PRIMARY COMMODITIES.  
(Base: Average 1925-1929 = 100.)



<sup>1</sup> The German Institut für Konjunkturforschung has also constructed an index of world stocks, including nineteen commodities. The movement of this index corresponds closely with that shown by the American index.

Table VI below gives this general index of world stocks converted on to the basis of the average for 1925-1929=100, together with indices showing the movement of the stocks of a number of individual commodities. Detailed statistics on which the indices concerning the individual commodities are based will be found in Appendix I, Table 6.

Table VI.

INDICES OF WORLD STOCKS OF PRIMARY COMMODITIES.  
(Base: Average 1925-1929 = 100.)

Date	General world index <sup>1</sup>	Wheat <sup>2</sup>	Sugar	Coffee	Cotton: world visible supply	Natural silk	Rubber	Petroleum (U.S.A.)	Copper	Lead (U.S.A. and U.K.)	Zinc (U.S.A. and U.K.)	Tin
1925 average . . . . .	76	72	70	43	80	89	63	91	109	41	56	117
1926 " . . . . .	89	76	103	73	98	90	80	90	108	73	56	89
1927 " . . . . .	104	90	89	85	117	103	111	95	104	110	111	83
1928 " . . . . .	108	112	109	150	101	102	118	105	85	117	134	92
1929 " . . . . .	124	150	129	149	103	116	129	118	94	159	144	118
1930 " . . . . .	158	155	157	243	127	174	183	118	153	311	356	169
1931 " . . . . .	183	167	209	259	151	193	230	109	167	544	467	218
1932 " . . . . .	194	163	230	284	161	193	262	105	(206)	730	448	219
1930: January . . . . .	140	181	157	204	141	153	159	118	125	198	245	136
April . . . . .	148	161	171	246	128	137	177	120	146	.	297	155
July . . . . .	163	118	173	256	104	163	178	119	159	.	359	184
October . . . . .	164	169	101	267	117	210	200	115	164	.	435	179
1931: January . . . . .	172	181	196	262	173	205	210	113	161	423	464	191
April . . . . .	177	187	236	253	163	168	227	111	155	.	464	218
July . . . . .	189	138	196	230	132	160	226	110	171	.	477	225
October . . . . .	186	156	190	277	124	212	236	105	189	.	458	225
1932: January . . . . .	192	189	240	300	178	238	267	107	204	664	458	224
April . . . . .	196	185	254	300	168	200	268	107	.	.	458	224
July . . . . .	196	138	226	256	143	172	255	105	.	.	464	222
October . . . . .	184	155	196	.	144	191	258	103	.	.	422	213
1933: January . . . . .	189	184	244	249	184	216	269	99	213	795	415	207
April . . . . .	187	194 <sup>3</sup>	249	219	171	178	267	99	...	.	454	190

Note. — The above indices should be interpreted in the light of the various explanatory notes which will be found at the foot of Table 6, Appendix I.

<sup>1</sup> General world index: based on the following nine commodities, the weights being indicated in parentheses: Cotton (9); Sugar (6); Wheat (6); Rubber (3); Coffee (2); Copper (2); Silk (2); Tea (1); Tin (1). The weights have been allocated in accordance with the value of the stocks on hand in the original base period, 1923-1925. All series except those for copper and tin are adjusted for seasonal variations (United States Department of Commerce; *Survey of Current Business*, Annual Supplement 1932 and subsequent numbers).

<sup>2</sup> Wheat: calculated from Broomhall's visible supply.

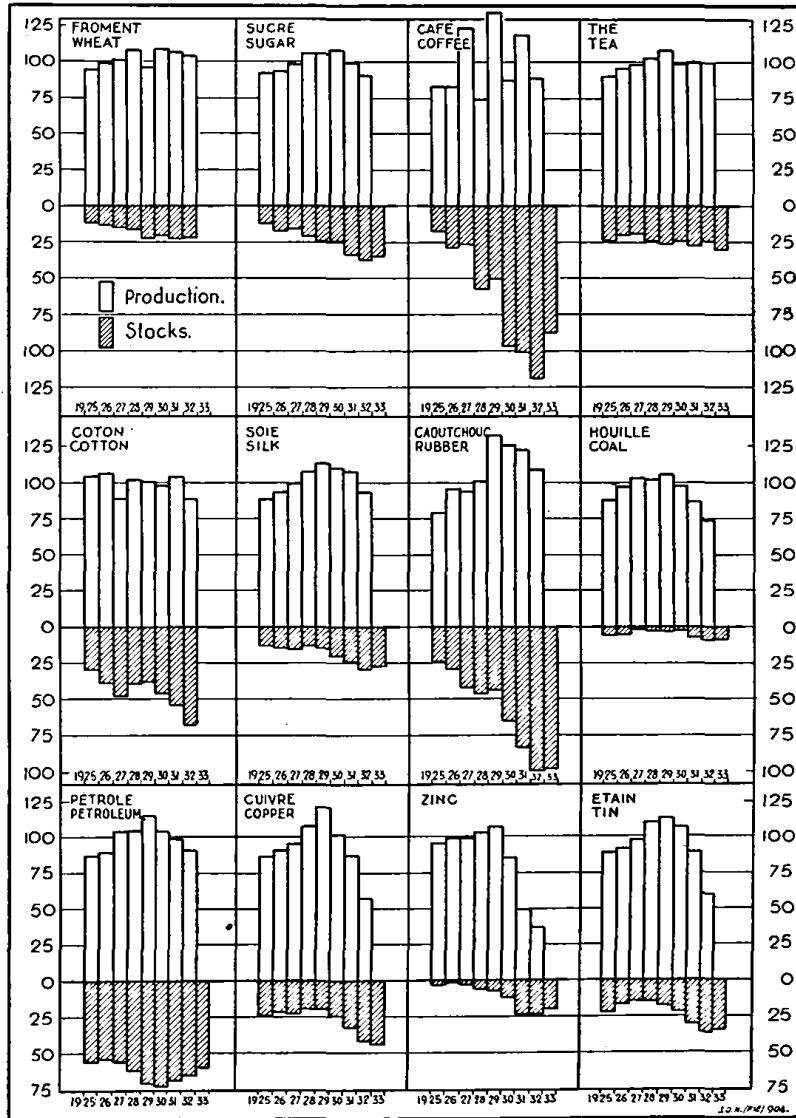
<sup>3</sup> March.

It will be seen that world stocks began to rise several years before the onset of the world economic depression; indeed, they have increased without interruption since 1925. A slackening of the rate of growth was noticeable in 1928; but, when the demand for primary commodities began to shrink with the turn of the business cycle in 1929, the increase assumed much larger proportions. The accumulation of stocks shows, indeed, a close inverse correlation with the slump in prices.



Diagram IV.

PRODUCTION AND STOCKS OF PRIMARY COMMODITIES.  
(Base: Average production 1925-1929 = 100.)



Stocks: Wheat and cotton on August 1st; sugar, coffee, tea, silk and rubber on April 1st; coal, petroleum, copper, zinc and tin on January 1st.

Figures for production and stocks of coal cover Germany, Belgium, Poland (for stocks, Upper Silesia only) and the Saar; those for zinc cover the United States and the United Kingdom. The figures for petroleum are limited to the United States, but, while the production figures are for crude petroleum only, the stock figures cover both crude and refined oils. Tea stocks are United Kingdom stocks.

The rate of accumulation slackened again after the spring of 1931, but stocks continued to increase till the spring of 1932. The situation appears to have been consolidated since July 1932, and stocks in the beginning of 1933 were smaller than they had been a year earlier. Thus, 1932 was the first year since 1925 when current production did not exceed current demand.

The movements of the stocks of the principal individual commodities show considerable differences. It will be seen that stocks of most of the commodities concerned are much less than their annual production; in the case of wheat, for instance, the world's total (not only visible) stocks on August 1st, 1932, represented only some 20 per cent of the harvest of the year ending at that date; in the case of sugar, world stocks represented at the end of 1932 about one-third of the average yearly production; in that of copper, 79 per cent of production in 1932; and, in that of cotton (total stocks), about 75 per cent of yearly consumption. On the other hand, world stocks of coffee at the end of 1932 represented about fifteen months' consumption, and those of rubber roughly a year's consumption.

It will be seen also that, while the stocks of certain commodities decreased during 1932 and the first months of 1933, those of others continued to increase. Thus the stocks of the following commodities increased from the end of 1931 to the end of 1932: sugar (1.8 per cent), tea (10 per cent), cotton of all kinds (3.5 per cent), rubber (0.9 per cent), copper (4.6 per cent), lead (20.8 per cent in the United States). The increase in these stocks was, however, more than outweighed by the decrease in others.

It would appear that, as credit conditions became easier, manufacturing industries and the wholesale trade began to replenish their stocks, which had been considerably depleted during the depression. Stocks of raw materials held by manufacturers are, indeed, not "visible" stocks, and information relating to their volume is extremely scarce. The estimated "invisible supply" of raw cotton held by cotton mills in eighteen countries is given in Appendix I, Table 6. It will be seen that these stocks reached their lowest point in August 1931; since then they have, on the whole, increased. A special index of stocks of raw materials held by all textile industries is available for Germany. Taking 1928 as base, the index stood at 76.7 in February 1931, but increased to 96 a year later, and reached 112.7 in February 1933.<sup>1</sup> The tendency of manufacturers' stocks to increase appears, in general, to have been limited to consumption industries, especially to those which, like textiles, are sensitive to the movements of raw material prices.

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<sup>1</sup> *Wochenberichte des Instituts für Konjunkturforschung*, 6 :2/3 (April 12th, 1933).

“QUANTUM” CHANGES IN INTERNATIONAL TRADE.

It would fall outside the purpose of the present volume to enter upon any detailed analysis of international trade such as is made in the annual *Review of World Trade* published by the Economic Intelligence Service of the League of Nations.<sup>1</sup> It is of particular interest, however, to examine to what extent the changes in the production of primary goods, as measured by the world production index discussed above, and the changes in industrial activity, discussed in Chapter II, are reflected in changes in the quantum of international trade. For this purpose, a few data concerning the movement of the value and quantum of international trade are given below.

The recorded aggregate import value of goods in international trade rose from \$33,150 million in 1925 to \$35,606 million in 1929, but fell to \$13,885 million in 1932. The corresponding export figure, which differs from the import figure partly because it excludes freight and insurance, rose from \$31,434 million in 1925 to \$33,035 million in 1929 and fell to \$12,726 million in 1932. The percentage distribution of this trade among different continental groups and the percentage movement of the value of imports and exports of each group during the period under review are shown in Table VII. The values for each group upon which these percentages are based were reached simply by adding those of the individual countries belonging to it. The figures for each group thus represent, in addition to the trade of the group with the rest of the world, the trade between its constituent parts.

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<sup>1</sup> Last issue : *Review of World Trade, 1932*. Geneva, 1933.

*Table VII.*

PERCENTAGE DISTRIBUTION AND MOVEMENT OF WORLD TRADE, BY CONTINENTAL GROUPS.

(Basis : Recorded values ; special trade ; merchandise only.) <sup>1</sup>

Continental groups	Percentage distribution amongst continental groups <sup>a</sup>				Movement of the value of trade (percentages; average 1925-1929 = 100)					
	1925	1929	1931	1932	1925	1928	1929	1930	1931	1932
<i>Imports :</i>										
1. Europe, excluding U.S.S.R. . . . .	54.6	54.2	58.4	58.1	99	103.5	105	89.5	66.5	44
2. Europe, including U.S.S.R. . . . .	55.9	55.4	61.1	60.7	99	104	105	90.5	68	45
3. North America <sup>2</sup> . . . . .	15.5	16.0	13.1	12.6	95.5	99	105.5	77.5	50.5	32.5
4. Latin America <sup>3</sup> . . . . .	7.5	7.6	5.8	5.5	98.5	100.5	108	82.5	48.5	30.5
5. Africa . . . . .	4.1	4.8	5.4	5.7	91.5	107.5	113.5	98.5	75	52
6. Asia, excluding Asiatic Russia . . . . .	14.0	13.5	13.0	13.5	98	101	102	78.5	57.5	39.5
7. Oceania . . . . .	3.0	2.7	1.6	2.0	101.5	94	99	70.5	33	28.5
Total (groups 2 to 7) . . . . .	100	100	100	100	98	102.5	105	86	61.5	41
<i>Exports :</i>										
1. Europe, excluding U.S.S.R. . . . .	44.3	47.2	51.2	48.8	96.5	104.5	108	92	67	43
2. Europe, including U.S.S.R. . . . .	45.3	48.6	53.4	51.1	96	104.5	108	93.5	68	44
3. North America <sup>2</sup> . . . . .	19.8	19.5	16.1	16.5	100	103.5	103	76	49	33.5
4. Latin America <sup>3</sup> . . . . .	9.2	9.6	9.0	9.2	96.5	105.5	106	76	57	39.5
5. Africa . . . . .	4.3	4.5	5.0	6.4	95.5	109	106	87	67.5	58
6. Asia, excluding Asiatic Russia . . . . .	18.1	15.1	13.9	13.7	109	97	95.5	72	50.5	33.5
7. Oceania . . . . .	3.3	2.7	2.6	3.1	107.5	102	92	68	49.5	41
Total (groups 2 to 7) . . . . .	100	100	100	100	99.5	103.5	104.5	83.5	60	40
<i>Total of imports and exports :</i>										
1. Europe, excluding U.S.S.R. . . . .	49.6	50.8	55.0	53.7	98	104	106.5	90.5	66.5	43.5
2. Europe, including U.S.S.R. . . . .	50.8	52.1	57.5	56.1	97.5	104	106.5	91.5	68	44.5
3. North America <sup>2</sup> . . . . .	17.6	17.6	14.5	14.5	98	101.5	104	76.5	49.5	33
4. Latin America <sup>3</sup> . . . . .	8.3	8.6	7.4	7.3	97.5	103	107	79	53.5	35.5
5. Africa . . . . .	4.2	4.7	5.2	6.0	93.5	108	109.5	93	71.5	55
6. Asia, excluding Asiatic Russia . . . . .	16.0	14.3	13.4	13.6	103.5	99	98.5	75	53.5	36.5
7. Oceania . . . . .	3.1	2.7	2.0	2.5	104	98	95.5	69.5	41.5	34.5
Total (groups 2 to 7) . . . . .	100	100	100	100	98.5	103	105	85	60.5	40.5

<sup>1</sup> The figures upon which the table is based include, in the case of a few countries (among which the Union of South Africa, Australia and Mexico), bullion and specie.

<sup>2</sup> *i.e.*, Canada, United States of America, Newfoundland, Greenland and St. Pierre and Miquelon.

<sup>3</sup> *i.e.*, America other than "North America", as defined above.

The figures shown in the last six columns of Table VII represent changes in the value of trade and cannot therefore be compared with the world indices of the volume of production given earlier. For a number of countries, representing about three-quarters of world trade, calculations are made with a view to showing the variations in the quantum of imports and exports. On the basis of these data,

it is possible to calculate rough world indices of the movement of prices and the quantum of goods entering into international trade as shown below.

*Table VIII.*

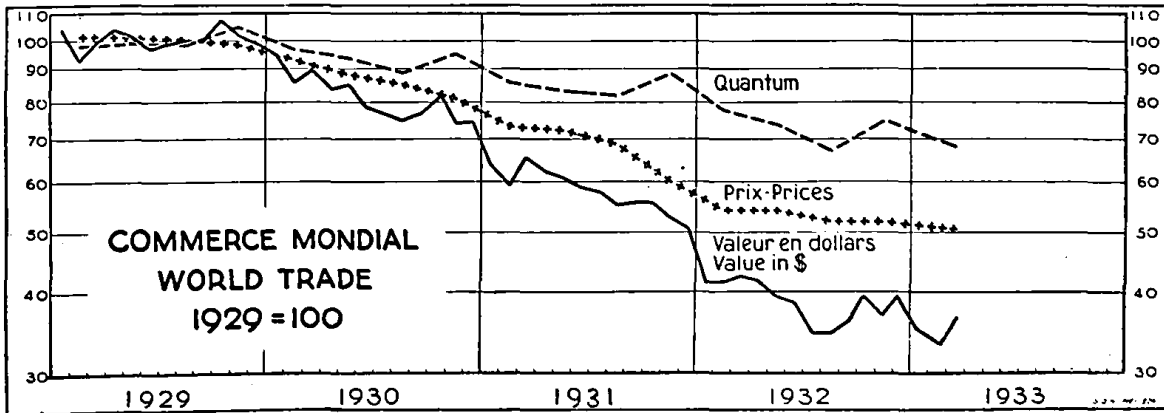
INDICES OF THE VALUE AND QUANTUM OF WORLD TRADE.  
(Base: Average 1925-1929 = 100.)

World trade	Average 1925-1929	1925	1926	1927	1928	1929	1930	1931	1932
World imports:									
Prices (gold) . . . . .	100	107.5	101	98.5	97.5	95	83	65.5	51
Value . . . . .	100	98	95	100	102.5	105	86	61.5	41
Quantum . . . . .	100	91	94	101.5	105	110.5	103.5	94	80.5
World exports:									
Prices (gold) . . . . .	100	108	100.5	98	98.5	95	82.5	65	50.5
Value . . . . .	100	99.5	94	99	103.5	104.5	83.5	60	40
Quantum . . . . .	100	92	94	101	105	109.5	101	92	79.5
Total world trade:									
Prices (gold) . . . . .	100	108	101	98.5	98	95	83	65	50.5
Value . . . . .	100	98.5	94.5	99.5	103	105	85	60.5	40.5
Quantum . . . . .	100	91.5	93.5	101	105	110.5	102	93	80

The following graph shows the monthly movement of total world trade and the quarterly movement of prices and the quantum of trade:

*Diagram V.*

MOVEMENT OF WORLD TRADE.



As was explained in the *Review of World Trade, 1932*, the world indices of prices and quantum show with sufficient accuracy the changes from one year to another. Over a period of years, however, particularly if price relations and the composition of trade are changing, the result may well be less reliable. Several of the national price indices employed are obtained by weighting the prices of individual commodities by the quantities entering into trade in each individual year, which means that these indices are affected, not only by price changes, but also by changes in the composition of trade. As during the last few years the quantities exchanged of those goods which have fallen most in price have contracted the least, it may be estimated that the above figures somewhat overstate the price fall and understate the reduction in the quantum of trade during the period.

Owing largely to deficiencies in the material upon which the calculations are based, the figures indicating the movement of the quantum of imports and exports do not agree exactly. Between 1925 and 1929, however, there would appear to have been an average annual growth in the quantum of world trade of between 4 and 5 per cent. Since then, the quantum has fallen rapidly — between 1929 and 1930 by about 7 per cent, between 1930 and 1931 by 9 to 10 per cent, and between 1931 and 1932 by about 14 per cent. The price fall was still heavier. Since the middle of 1932, the price fall and, it would appear, also the fall in the quantum of trade has slowed down.

The information available concerning fluctuations in prices and the volume of trade is not sufficient to allow indices of the kind given above to be calculated for imports and exports of each continental group of countries. Such information can be given only for Europe and North America, as shown below.

Table IX.

INDICES OF THE PRICES AND QUANTUM OF GOODS ENTERING INTO THE TRADE OF EUROPE AND NORTH AMERICA.

(Base: Average 1925-1929 = 100.)

Continental groups	Imports						Exports					
	1925	1928	1929	1930	1931	1932 <sup>1</sup>	1925	1928	1929	1930	1931	1932 <sup>1</sup>
Europe:												
Prices (gold) . . .	107	99	97	84.5	66	51.5	105.5	98.5	96.5	90	75.5	60.5
Quantum . . . . .	92	105	108.5	107	102.5	87	91	106	113	103	90.5	72.5
North America:												
Prices (gold) . . .	108.5	96.5	91.5	74.5	57	42.5	110	95.5	96	85.5	67	57.5
Quantum . . . . .	88	102.5	115.5	104	88.5	76.5	91	108.5	107.5	89	73	58.5

<sup>1</sup> Provisional indices, subject to revision.

In 1929, live animals and foodstuffs probably represented about 25 per cent of the value of world trade, raw materials 30 to 35 per cent and manufactured articles 40 to 45 per cent. The exact proportions vary from year to year as a result of changes

in the quantities exchanged and in relative prices. In the preceding edition of this publication, certain estimates were made of the approximate rates at which the quantum of trade in primary goods on the one hand and in manufactured articles on the other had increased between 1925 and 1929. These rates were compared with that of the increase in primary production and with a roughly estimated rate of growth of industrial production in the principal industrial countries during the same period. Even granted that these various figures are subject to some margin of error, they definitely suggest that, during the period of rapid economic development to which they relate, the quantum of international trade increased more rapidly than world production, both in the case of primary goods (foodstuffs and raw materials) and in the case of manufactured articles.

Between 1929 and 1932, the world output of primary goods fell by about 11 per cent. According to such estimates as can be made on the basis of available data on the changes in industrial output or industrial activity in individual countries, world industrial production seems to have declined by some 30 per cent (about 37 per cent if Russia be left out of account). Corresponding data for world trade are not available, but there can be no doubt that the quantum of manufactured goods entering into trade fell relatively more than the production of such goods. In the case of the three main European exporters — namely, Germany, the United Kingdom and France — the quantum of manufactured articles exported fell by 41, 39 and 44 per cent respectively; and, in the case of the United States, where the manufacturing export industry has suffered more than in perhaps any other country, the fall probably exceeded 60 per cent. If it be assumed that the quantum of such goods in world trade fell by somewhat more than 40 per cent, the reduction of the quantum of primary goods entering into world trade may be calculated roughly at 15 per cent.

Thus, it may be concluded that, while trade in both primary goods and manufactured articles rose more rapidly than production during the period of expansion from 1925 to 1929, it fell more rapidly than production during the ensuing period of depression.

Possibly the discrepancy between production and trade did not become very marked until the last year under review. Available data point to a slight increase in the trade as well as in the production of foodstuffs in 1930 and 1931, but in 1932 international trade in foodstuffs appears to have fallen somewhat in quantum, though production was maintained or rose. There was in that year a marked increase in self-sufficiency in foodstuffs, not only in many industrial countries, where domestic production was favoured by import restrictions and by an exceptionally high yield of the areas under cereals, but also in certain agricultural countries — such as India and Egypt — which have replaced a part of their production of agricultural products for export by the production of foodstuffs previously imported.

International trade in manufactured articles appears roughly to have kept pace with the production of such articles in 1930 and 1931. The reduction in the quantum of such goods in trade during these years was largely the result of the reduced purchasing power of agricultural and mining countries, whose barter terms of trade

deteriorated with the extremely heavy fall in the prices of their export products, at the same time as the portion of their exports which could be used to pay for imports fell with the increase in the burden (in terms of goods) of the service of their foreign debt. The exchange of manufactured articles between industrial countries on the other hand, which during the period 1925-1929 had grown considerably, was maintained on approximately the same level as in 1929. This state of affairs changed radically late in 1931 and early in 1932, when the enormous growth of trade barriers caused a partial suspension of normal trade activities between industrial countries. Of particular importance was the closure of the British market to many foreign industrial products.



## II. INDUSTRIAL PRODUCTION.

### SCOPE AND METHOD OF COMPUTATION OF THE INDICES OF INDUSTRIAL PRODUCTION.

The index of the output of primary commodities, which was considered in the preceding chapter, affords an indirect measure of the changes in productive activity in the world as a whole and its main continental groups. This index is, however, for reasons already stated, necessarily subject to serious limitations. In the present chapter, the review of world production is pursued from another angle. An analysis is attempted of the variations in industrial production on the basis of composite production indices and of other information which is available regarding the activity in, or the physical output of, the most important branches of industry.

Owing to the great diversity of the products of manufacture and the absence in most countries of periodical statistics covering total industrial production, it is, as a rule, impossible to secure an exact measure of the fluctuations in the physical output of industry over short periods of time. The indices vary widely in composition and scope; they generally cover both mining and manufacture and, in some cases, also the building industry, but, while some cover almost the entire range of national industry, others are limited to important industries or branches of industry which are considered to be representative. Some are based mainly on returns of actual quantities produced; others on production values, corrected for price changes. Some make extensive use — and almost all make some use — of indirect measures of activity such as data concerning consumption of raw materials, orders filed, goods despatched, degree of employment, etc.; and between the indirect data used in the different countries there is no uniformity. In some countries and for certain industries, figures for consumption of raw materials relate to quantities actually delivered at factories, while in other cases only import figures or estimates of the market supply of raw materials are available. The activity of factories is sometimes measured by the number of workers actively employed, sometimes by the number of hours worked or by figures expressing the degree of utilisation of plant, etc. Figures for orders filed relate to an early stage and those for finished goods despatched to the final stage of the process of production. Indices for a particular month or year may therefore reflect both past, present and prospective activity in varying degrees. Thus, no close comparisons between the various national series can be attempted.<sup>1</sup>

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<sup>1</sup> For notes on the different national indices of production, see the *Statistical Year-Book of the League of Nations*, 1932-33, Table 94, and for notes on the different indices of production of certain individual industries, see Appendix II below.

Further, even the most comprehensive of these indices do not necessarily afford an exact measure of the variations in the total productive activity or of the general prosperity of the countries concerned. The share of industry in total national production varies from country to country: the significance of such an index in a highly industrialised country, as for instance the United Kingdom, and in a largely agricultural country, such as Poland, is naturally not the same. Again, information regarding stocks of finished goods is very scanty, and it is therefore difficult to tell how far any given movement in the index reflects a change in effective demand.

Notwithstanding the above limitations, which indeed are inherent in the nature of the production indices, certain attempts have been made to construct a rough measure of the changes in industrial activity of the world as a whole. The German Institut für Konjunkturforschung first compiled such an index in 1931, and has recently published a series of revised and completed indices.<sup>1</sup> The new international annual index intended to measure the changes in world industrial production is a weighted average of national production indices, where available, or other data reflecting relative changes in industrial activity, in thirty-eight countries which are believed to represent some 92 per cent of world industrial production. The system of weighting is based on a combination of the number of workers and the horse-power installed in the industries, supplemented by rough estimates, where possible, of the net value of industrial production. Sub-indices are calculated for various groups of countries,<sup>2</sup> for mining and manufacturing as well as for industries relating to producers' and consumers' goods. A monthly index, corrected for "normal" seasonal variations, is calculated according to the same method; it comprises fifteen of the more important countries, which are estimated to represent about 90 per cent of world industrial production.

#### GENERAL INDUSTRIAL ACTIVITY.

In Table I below, the world index of industrial production, as calculated by the Institut für Konjunkturforschung, but converted to the basis 1925-1929 = 100, is given both including and excluding the U.S.S.R. This distinction is of interest, as Russia, while one of the most important countries as regards the quantum

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<sup>1</sup> Cf. *Vierteljahrshefte zur Konjunkturforschung*, Sonderheft 31 (Berlin 1933), pages 53 to 55, 64 to 69, and *Wochenbericht des Instituts für Konjunkturforschung*, 6:7 (May 17th, 1933).

<sup>2</sup> The twenty-five European countries covered by the index are divided into two groups, "industrial" and "agricultural" Europe. In practice, any such division is necessarily somewhat arbitrary; thus, for instance, Denmark has been included in the former, while Finland, whose economic status primarily depends upon the woodworking industry, is included in the latter group. Russia forms a separate unit, and for the world as a whole two indices are calculated — one including and the other excluding that country. For the twelve remaining countries (outside Europe and Russia) covered by the calculations, an aggregate index is given and also two rather heterogeneous sub-indices, of which one includes the United States of America and Japan, and the other Canada, Mexico, Argentine, Brazil, Chile, Peru, the Union of South Africa, British India, Australia and New Zealand.

Table I.

INTERNATIONAL INDICES OF INDUSTRIAL PRODUCTION (Institut für Konjunkturforschung)  
AND  
WORLD INDICES OF PRODUCTION OF INDUSTRIAL RAW MATERIALS (Economic Intelligence Service).  
(Base: Average 1925-1929 = 100.)

Nature of Indices	1925	1926	1927	1928	1929	1930	1931	1932 <sup>1</sup>
<b>I. Indices of Industrial Production :</b>								
A. World, excluding U.S.S.R. . . . .	93	94	100	103	110	96	84	69
(a) "Industrial" Europe . . . . .	91	87	103	106	112	103	90	(73) <sup>2</sup>
(b) United States and Canada . . . . .	95	98	97	101	109	87	74	58
(c) "Agricultural" Europe . . . . .	90	95	101	102	110	104	97	...
(d) Rest of the world (ten countries in Latin America, Africa, Asia and Oceania) . . . . .	91	98	99	103	109	112	103	...
B. World, including U.S.S.R. . . . .	92	94	100	104	111	100	90	77
<b>II. Indices of Production of Industrial Raw Materials :</b>								
A. World, excluding U.S.S.R. . . . .	93	94	99	103	111	100	89	76
B. World, including U.S.S.R. . . . .	92	94	99	104	111	102	91	79

<sup>1</sup> Provisional indices, subject to revision.

<sup>2</sup> Rough estimate based on incomplete data.

Note. — The countries included in the various industrial indices above, and the weights allocated to them, are as follows :

I.A (a) \*Austria (0.60), \*Belgium (1.10), \*United Kingdom (9.26), \*Czechoslovakia (1.60), Denmark (0.35), \*France (7.00), \*Germany (11.55), Luxemburg (0.05), Netherlands (1.00), Norway (0.25), Saar Territory (0.15), \*Sweden (0.85), Switzerland (0.80) ;

(b) \*Canada (2.22), \*United States of America (44.80) ;

(c) Bulgaria (0.10), Estonia (0.05), Finland (0.15), Greece (0.25), \*Hungary (0.36), \*Italy (3.15), Latvia (0.15), \*Poland (0.75), Portugal (0.25), Roumania (0.30), Spain (1.20), Yugoslavia (0.45) ;

(d) Argentine (0.65), Australia (0.80), Brazil (0.20), British India (1.30), \*Chile (0.30), \*Japan (2.35), Mexico (0.50), New Zealand (0.15), Peru (0.05), Union of South Africa (0.31).

I.B. In addition to the above countries : \*U.S.S.R. (4.65).

Total of the weights : 100.

The countries marked with an asterisk are those which are included in the international monthly index of the Institut für Konjunkturforschung.

of world industrial production, constitutes a self-contained economic system, which is to a great extent divorced from the rest of the world and has in fact followed a course quite different from that of all other countries. For purposes of comparison, the index of the production of industrial raw materials in the world both including and excluding the U.S.S.R., as computed by the Economic Intelligence Service of the League (see Chapter I above) is also given. Further, with reference to the industrial production, separate indices are shown for certain groups of countries. The indices for "industrial" and "agricultural" Europe are those published by the German institute ; those for the United States and Canada, on the one hand, and that for the "rest of the world", on the other, have been specially computed

on the basis of the detailed figures published by that institute, the individual weights calculated by it being utilised.<sup>1</sup>

It will be noted that the index of world industrial production, including the U.S.S.R., as calculated by the German institute (I.B), practically coincides with the corresponding world index of production of industrial raw materials (II.B). This is true also of the world indices, excluding Russia, up to 1929, while during the depression years index I.A has declined more sharply than index II.A. Certain of the reasons for the widening discrepancy between industrial production and the output of raw materials in the latter period are expounded in Chapter I above, and need not be repeated here. On the other hand, in view of the fact that the years 1925-1929 represented a period of rapid industrial development, when, moreover, a far-reaching rationalisation of the manufacturing production was generally effected, the apparent parallelism between the world indices shown in the table under I and II respectively would seem to be in part accidental. As the basic data employed for the latter are more exact and more comprehensive (particularly as regards index II.A) than those employed for the former, the world index of the German institute probably somewhat understates the rate of growth — at any rate of the manufacturing output — during that period.<sup>2</sup>

It will be seen that, as regards the general movement of the sub-indices, there is, on the whole, a closer resemblance between the indices for "industrial" and "agricultural" Europe, on the one hand, than between the former and the index for North America, on the other. In Europe as a whole, the period 1925-1929 was largely characterised by recovery from the disorganisation of production which had taken place during the war and the post-war inflation; but the movement of industrial production was somewhat smoother, or fluctuated between narrower extremes, in "agricultural" Europe — which, in the pre-depression quinquennium, considerably extended the field of its industrial activities — than in "industrial"

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<sup>1</sup> As mentioned in the preceding footnote, the Institut für Konjunkturforschung includes Japan with the United States of America (under the heading: "Hochkapitalismus: Aussereuropa") and Canada with the other non-European countries (under the heading: "Halb- und Neukapitalismus") in calculating its sub-indices. There is, however, a closer resemblance in economic conditions and, indeed, in the course of industrial production between the United States and Canada than between the United States and Japan. The inclusion of Canada in the second of the above sub-indices of the Konjunkturinstitut obscures to some extent the essentially different course of the aggregate industrial production of the remaining countries there included, which course, on the other hand, presents a closer resemblance (particularly in recent years) to the movement of industrial output in Japan. As the index calculations of the German institute extend far back in time, there may be special reasons for the grouping of countries which it had adopted; but, for the purpose of the present volume and for the period to which it relates, the re-grouping made in Table I would appear preferable.

<sup>2</sup> This was in fact suggested by certain calculations made, according to a somewhat different system of weighting, by the Economic Intelligence Service in the preceding edition of this publication. These calculations, which related to a smaller number of countries, were only intended as a check on the results reached according to the system of computation applied by the German institute. As regards the period of depression, on the other hand, it may be mentioned that these calculations, if extended for another year, show a relative decline between 1929 and 1932 in the industrial activity of the twelve countries considered (excluding the U.S.S.R.), which is fairly close to that shown by the new and more comprehensive index of world industrial production (excluding the U.S.S.R.) calculated by the Institut für Konjunkturforschung. As the present volume is principally concerned with that period, it has been thought superfluous, therefore, to complete the calculations of last year on a more comprehensive basis.

Europe. The decline in industrial activity after the turn of the business cycle has also been less marked in the former group of countries, working almost exclusively for domestic consumers' markets, than in the latter group, where industry is working largely for export and where the production of capital goods is of greater relative importance.

In this respect, the group of mainly agricultural countries in Latin America, Africa, Asia and Oceania, to which sub-index I.A (*d*) relates, offers a certain resemblance to "agricultural" Europe. Apart from Japan, the only important industrial country in that group, these countries all have a comparatively young industrial system built up largely during and after the war. The evolution of their industrial production was characterised by a steady and rapid progress up to 1930, when the peak was reached — about one year after the turn of the industrial cycle in North America and Europe — and the subsequent decline seems to have been very much less marked than in the older industrial regions of the world.

In North America, on the other hand, the growth of industrial output was comparatively moderate between 1925 and 1928, but, in 1929, according to the index shown in the table, it suddenly jumped by some 8 per cent, thus helping to precipitate the turn in the business cycle. The subsequent decline has been very much greater than elsewhere, even than in "industrial" Europe.

The decline in the world indices was drastic and continuous in the three years 1930-1932, the total drop since 1929 being 37 per cent, according to the index of world industrial production excluding, and 30 per cent according to that including, the U.S.S.R. The fact that the corresponding indices of the output of industrial raw materials only dropped by 31½ and 29 per cent respectively is an indication of the increase in the stocks of such materials, which is illustrated in greater detail in a separate section of Chapter I above. In 1932, world industrial activity was less than in any year during the preceding decade and, if account is taken of the increase in population, industrial output per head undoubtedly sank very considerably below the pre-war level.

The course of the world industrial depression may be followed more closely from the quarterly indices given in Table II and the accompanying Diagram I, which are based on the monthly international indices calculated by the Institut für Konjunkturforschung.

Table II.

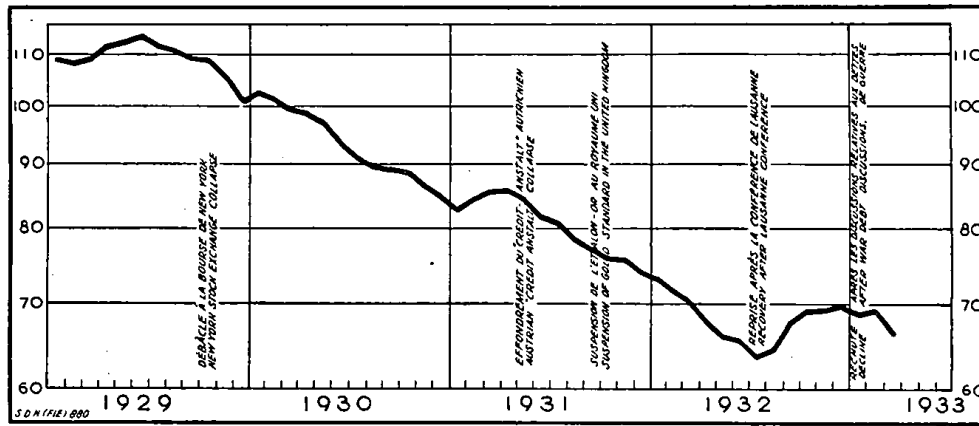
QUARTERLY INDICES OF WORLD INDUSTRIAL PRODUCTION.  
(According to the Institut für Konjunkturforschung.)  
(Base: Average 1925-1929 = 100.)

Quarter	World, excluding the U.S.S.R.					World, including the U.S.S.R.				
	[1929	1930	1931	1932	1933	1929	1930	1931	1932	1933
I . . . . .	110.0	102.2	84.7	72.2	68.8	111.1	105.5	89.2	79.9	76.7
II . . . . .	113.1	97.5	84.5	66.8	...	114.5	101.2	90.1	74.9	...
III . . . . .	111.7	90.2	79.4	65.9	...	113.7	94.2	86.2	74.1	...
IV . . . . .	106.6	86.9	75.5	70.1	...	109.0	91.7	82.2	78.3	...

Diagram I.

INDUSTRIAL PRODUCTION IN WORLD, EXCLUDING THE U.S.S.R., FROM JANUARY 1929 TO MARCH 1933.

(Base : Average 1925-1929 = 100.)



It will be seen that the decline of industrial activity proceeded uninterruptedly from the middle of 1929 to the third quarter of 1932. The rate of decrease slackened to some extent towards the end of 1930 and during the first half of 1931, but after the onset of the financial crisis in the middle of that year the downward movement was again accelerated.

The lowest point of this continuous decline appears to have been passed in the middle of 1932. After the Reparations Conference held at Lausanne, there was some improvement in the raw material as well as in the capital markets. The industrial index showed but a small further decline from the second to the third quarter and there was, in the last quarter of 1932, for the first time since the depression began in the fourth quarter of 1929, an improvement in the general industrial activity. In the first quarter of 1933, however, there was a set-back.

PRODUCTION BY COUNTRIES.

The preceding considerations dealing only with general tendencies should now be completed by an examination of the differences in the course of industrial activity of the various countries.

Table III below gives annual indices or annual averages of monthly indices for eighteen countries. The monthly (or quarterly) movements of the various national production indices are set forth in Appendix II, Table 1. These movements are shown in graphical form in Diagram II on page 50.

Table III.  
GENERAL INDICES OF INDUSTRIAL PRODUCTION.

Country	1925 to 1929 = 100								1929 = 100		
	1925	1926	1927	1928	1929	1930	1931	1932	1930	1931	1932
<i>Africa:</i>											
Union of South Africa <sup>1</sup> . . . . .	84	94	98	108	116	124	...	...	107	...	...
<i>America:</i>											
Canada* . . . . .	83	93	98	109	118	160	84	68	85	71	58
United States* . . . . .	95	99	97	101	109	88	74	58	81	68	54
Chile* (a) . . . . .	.	.	(86)	(94)	(117)	(118)	(91)	(102)	101	78	88
<i>Asia:</i>											
Japan (8 series)* . . . . .	90	91	97	104	118	110	109	113	94	92	96
(12 series) <sup>2(a)</sup> . . . . .	.	.	(100)	(108)	(121)	(114)	(109)	(117)	95	90	97
<i>Union of Soviet Socialist Republics*</i>	59	82	96	117	146	183	222	(c)240	126	152	(c)165
<i>Europe:</i>											
Germany:											
Annual index <sup>3</sup> . . . . .	89	85	107	109	110	97	79	66	83	72	60
Monthly index* . . . . .	87	87	109	108	109	97	80	66	90	73	61
Austria* . . . . .	89	89	100	110	113	96	84	73	85	74	65
Belgium:											
Annual index <sup>4</sup> . . . . .	83	94	103	109	111	98	86	74	89	78	67
Monthly index* . . . . .	80	95	105	110	111	93	84	69	84	76	63
Denmark <sup>5(a)</sup> . . . . .	.	.	(100)	(108)	(117)	(127)	(117)	...	109	100	...
France* . . . . .	88	103	90	104	114	115	102	79	100	89	69
Hungary* (a) . . . . .	.	.	(100)	(99)	(97)	(84)	(68)	(60)	86	70	62
Norway <sup>6(a)</sup> . . . . .	.	.	(100)	(111)	(123)	(124)	(95)	...	101	77	...
Poland* . . . . .	84	82	102	116	115	95	80	62	82	70	54
United Kingdom:											
Board of Trade* <sup>7</sup> . . . . .	(b)(94)	.	(101)	(100)	(105)	(97)	(88)	(88)	92	84	83
London and Cambridge* . . . . .	99	76	109	104	112	100	85	86	89	76	77
Sweden:											
Kommerskollegium <sup>8</sup> . . . . .	87	95	98	104	117	116	111	...	99	95	...
Sveriges Industriförbund* . . . . .	81	94	97	105	112	108	94	88	96	85	79
Czechoslovakia* . . . . .	88	86	100	111	115	101	90	66	87	78	57
<i>Oceania:</i>											
New Zealand <sup>9</sup> . . . . .	93	102	102	98	106	114	111	...	108	105	...

\* The source and original basis of the series are indicated in Appendix II, Table 1.  
 (a) Original basis has not been changed, as figures for 1925 and 1926 are not available.  
 (b) 1924. (c) Average of January-September.  
<sup>1</sup> Index of volume of output, all classes of industry, original basis 1920-21 (years ending June 30th), Office of Census and Statistics.  
<sup>2</sup> Mitsubishi Economic Research Bureau. Basis: 1927.  
<sup>3</sup> Annual index of the Institut für Konjunkturforschung, including 81 series and based on 1928 = 100.  
<sup>4</sup> Annual index compiled by the Institut des Sciences économiques, Louvain. Original basis: 1923 to 1925.  
<sup>5</sup> Annual index of the Statistiske Departement, basis: 1927.  
<sup>6</sup> Annual index of the Statistiske Centralbyrå, basis: 1927.  
<sup>7</sup> Board of Trade index (original basis: 1924) recalculated on the basis: average 1924, 1927 to 1929 = 100.  
<sup>8</sup> Annual index of the Kommerskollegium, original basis: 1913.  
<sup>9</sup> Index of values added by industry, at 1925-26 prices. Years ending March 31st of the following year. Census and Statistics Office.





The industries of the various countries shown in the table were caught in the economic depression at rather different dates. The industrial depression appeared first in Central European countries. In Hungary the decline started in 1928, in Poland in the beginning of 1929, and in Belgium, Germany and Austria the downward movement began early in 1929, although the annual production of that year was just above the level reached in the preceding year. In most other countries, including the United Kingdom, the United States, Canada and Japan, the decrease in industrial activity started late in 1929 or early in 1930. Meanwhile, a number of countries still maintained or even increased their production in 1930. Among these were France, where, however, the decline began in the middle of that year, Denmark, Norway, Sweden and, outside Europe, the Union of South Africa and New Zealand. The contraction of production became universal in 1931 — with one exception — viz., Russia, to which reference will be made later.

As has already been pointed out, the slump passed its lowest point in the third quarter of 1932. After March 1932, there has been a marked and continuous improvement in Japan and Chile, and, since the third quarter of 1932, the indices of Belgium, France, Germany and Sweden have shown an upward tendency. There was a similar rise in Austria, Czechoslovakia, Hungary, Poland as well as in the United States, but these countries experienced a set-back in the course of the first quarter of 1933. Finally, the situation appears to have been stabilised in the United Kingdom. The increases were, however, not important enough to raise the annual indices for 1932 above those for the preceding year, except in the United Kingdom, which maintained its level of production, and in Japan and Chile, which registered increases. It should be noted that in Japan wholesale prices rose during the course of the year by 22 per cent, and the note circulation by 7 per cent; in Chile the comparable figures were 124 and 53 per cent.

The extent of the contraction of industrial production has differed considerably from country to country. Compared with the peak reached in 1929 or 1930, the contraction until the end of 1932 was greatest — more than 40 per cent — in the United States, Canada, Czechoslovakia and Poland. It was not much less severe in Germany, Austria, Hungary, Belgium and France. The decline in the United Kingdom was only 17 per cent, while Sweden, Japan and Chile show a still smaller aggregate reduction in production.

It is obviously impossible to examine here the various factors that have determined the relative changes in industrial activity in the countries concerned.<sup>1</sup> Two factors, however, assumed great importance towards the end of 1931 and during 1932 — first, the rapid strangulation of international trade through the introduction by many countries of increased tariffs, import quotas and exchange restrictions, and, secondly, the suspension of the gold standard by the United Kingdom and a large number of other States throughout the world. The measures taken to reduce imports have naturally directly affected the export industries of the countries normally supplying the markets concerned. Although domestic

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<sup>1</sup> Certain of the most important factors are discussed in the *World Economic Survey, 1931-32* (Geneva, 1932) and 1932-33 (to be published in September, 1933).

industry in certain countries has received a temporary fillip through the shutting-out of imports, the contraction of international trade and the deterioration of the export markets have in general more than offset this effect.

In some of the countries that suspended the gold standard, the export industries received an immediate, although in many cases only temporary, stimulus — *e.g.*, in the United Kingdom, Sweden, Japan and Chile. This point may be illustrated by the following indices for Finland:<sup>1</sup>

Production in	1926	1927	1928	1929	1930	1931	1932
Export industries . . . .	100	118	119	114	106	98	105
Home-market industries .	100	102	117	115	109	95	96

In other countries, however, the depreciation of the currency did not check the decline of industrial activity—*e.g.*, in Canada. Countries which maintained the full gold standard in one form or another, such as Austria, Belgium, Czechoslovakia, France, Germany, Hungary, Poland and the United States have suffered the greatest reduction in industrial activity. But, on the other hand, while the British production was merely maintained, France, Belgium, Germany and the United States have shared in the revival of industrial activity since the autumn of 1932.

A comparison may be made also between the decline of industrial production and that of the quantum of exports for the four most important industrial and commercial countries of the world (apart from the U.S.S.R.), in respect of which both indices are available. The indices of production refer to mining and manufacturing, those of exports to all kinds of goods.<sup>2</sup>

Table IV.

INDICES OF INDUSTRIAL PRODUCTION AND EXPORTS.  
(Base: 1929 = 100.)

Country	Production			Exports (quantum)		
	1930	1931	1932	1930	1931	1932
France . . . . .	100	89	69	89	76	59
Germany . . . . .	88	72	60	95	86	59
United Kingdom . . . .	92	84	83	82	63	63
United States . . . . .	81	68	54	81	65	50 <sup>1</sup>

<sup>1</sup> Estimate.

Exports have declined more than industrial production in all the countries considered. But while in France and the United Kingdom exports have fallen considerably more than production, the difference has been much less marked in Germany and the United States of America. While there was no substantial

<sup>1</sup> Indices representing the value of the products divided by special indices of wholesale prices. Basic series published in *Unitas* (Helsinki).

<sup>2</sup> For the indices of quantum of exports, see League of Nations, *Review of World Trade*, 1932 (Geneva, 1933).

change in the United Kingdom in 1932 either as regards production or exports, France and Germany suffered that year a particularly severe slump in both. In the United States, the downward movement continued steadily during three years, and has been more pronounced than in the other countries. As has been pointed out in Chapter I, exports of manufactured goods have decreased during the depression much more than those of primary goods — especially in the case of the United States.

Fully comparable series for Russia covering the whole period under examination are not available: the series shown are the result of the linking of two separate and overlapping series, and end in September 1932. Whatever the defects of the statistical series may be, however, the development to which they point is clear. There was over the whole period under review a very considerable increase both in the productive capacity of the country and in the output of industry. The index given in Table III shows a rise of 25 per cent in 1930 and of a further 21 per cent in 1931; in the first nine months of 1932 compared with the corresponding period of 1931, there was a further rise of 12 per cent. The rate of increase has thus slackened, and it would appear that industrial activity was little more than maintained in the latter part of 1932. Thus the advance in the concluding year of the Five-Year Plan appears to have fallen much short of the planned estimate of a 36 per cent increase.

#### PRODUCTION BY CATEGORIES OF GOODS.

As the economic depression has hit the different countries in a different degree, so it has also caused considerable disturbance in the previous balance between the different branches of industry. The present section will be mainly concerned with changes characteristic of the business cycle — namely, the relative changes in the demand for, and hence the output of, producers' goods on the one hand and consumers' goods on the other.

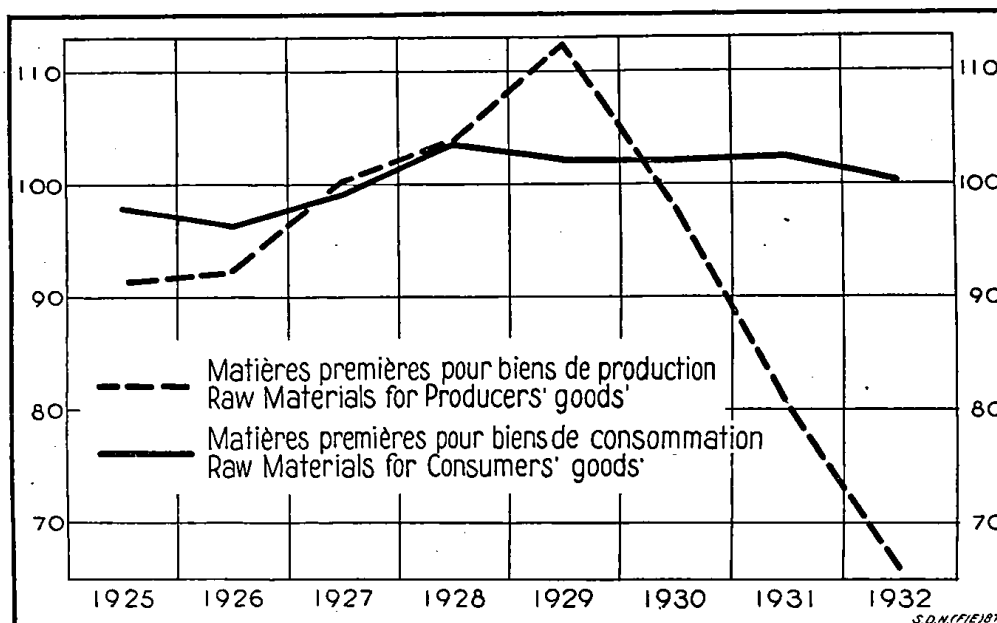
The different movements of the output of producers' goods and consumers' goods are indeed apparent from the relative changes in the output of the various crude products discussed in the previous chapter. Diagram III shows (*a*) raw materials mainly for producers' goods and certain durable consumers' goods, including metals, cement, asbestos, fuels and chemicals; (*b*) raw materials mainly for non-durable consumers' goods, including crude foodstuffs (cereals and other food crops, meat, wine and hops, coffee, cocoa and tea), vegetable-oil materials, tobacco and textiles.<sup>1</sup> Neither of these two groups consists exclusively of raw materials for producers' or consumers' industries respectively, but they are sufficiently representative for their movements to be significant. The diagram relates to the output of the world as a whole, excluding the U.S.S.R.

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<sup>1</sup> Wood-pulp and rubber, which constitute separate groups in the raw-material production index, but which are difficult to classify for the present purpose, as they serve for the manufacture both of investment goods and of consumers' goods, have here been left out of consideration. They are, in fact, the two smallest raw-material groups and their exclusion is therefore of little consequence.

Diagram III.

CHANGES IN OUTPUT OF RAW MATERIALS FOR PRODUCERS' AND CONSUMERS' GOODS.  
(Base : Average 1925-1929 = 100.)



The two series illustrated in the diagram are given below (average 1925-1929 = 100) :

	1925	1926	1927	1928	1929	1930	1931	1932
<i>World, excl. U.S.S.R. :</i>								
Raw materials for producers' goods . . . . .	91.3	92.2	100.1	103.9	112.5	98.0	80.5	66.0 <sup>1</sup>
Raw materials for consumers' goods . . . . .	97.9	96.3	99.0	103.3	102.1	102.2	102.5	100.4 <sup>1</sup>

The contrast between the general movements of the two categories of crude products is very striking. The commodities to which the index of raw materials for consumers' industries relates are, with the exception of artificial silk, all of agricultural or pastoral origin, and the index is almost wholly governed by the output of cereals and meat, while the raw materials for the producers' goods considered are all of mineral origin. The differences in the development of these industries have been analysed in Chapter I.

As has been mentioned above, the German Institut für Konjunkturforschung has made an attempt to compute separate international indices for the production

<sup>1</sup> Provisional.

of producers' and consumers' goods in thirty-seven countries taken together, excluding the U.S.S.R. These indices cover both mineral production and manufacturing industries. They are given below, converted to the base 1925-1929 = 100 :

	1925	1926	1927	1928	1929	1930	1931
<i>World, excl. U.S.S.R. :</i>							
Producers' goods . . . . .	92	94	97	103	112	96	77
Consumers' goods . . . . .	94	94	103	102	106	97	87

These indices appear to be representative of the general tendencies of industrial production during the period covered. The production of producers' goods underwent both a much more rapid increase until 1929, and a far heavier decline after that year, than the output of consumers' goods. This contrast is, however, less marked than that shown by the world indices relating to the production of raw materials. On the one hand, the index of raw materials for producers' goods declined, between 1929 and 1931, almost as much as that relating to producers' goods ; on the other, the index of raw materials for consumers' goods did not decline at all, while that of consumers' goods shows a considerable drop.<sup>1</sup> It should be noted that the index of raw materials for producers' goods overlaps to some extent with that of producers' goods, while this is not true of the indices for consumers' goods. It should moreover be pointed out that the indices of raw-material production of both producers' and consumers' goods are calculated according to quite different methods from those used in the calculation of the above indices of producers' and consumers' goods.

Unfortunately, very few national indices of industrial production make a clear distinction between the output of producers' (or investment) goods and consumers' goods. For Germany, Poland and Sweden, however, composite indices of this kind are available month by month for several years past. These three indices are shown below in tabular and graphical form, together with rough indices for the U.S.S.R., the United Kingdom and the United States of America, which have been constructed by combining certain of the sub-series of the general industrial production indices of these countries. It should be noted that the division between "producers' goods" and "consumers' goods" is not clear cut, and that the indices concerned vary considerably in composition.

<sup>1</sup> The index of industrial raw materials of agricultural origin (Chapter I, Table IV), which is determined by the production of textiles and vegetable-oil materials, shows a small decrease between 1929 and 1931, but a fairly considerable drop in 1932.

**Table V.**  
**INDICES OF PRODUCTION OF PRODUCERS' AND CONSUMERS' GOODS.**  
 (Base: Average 1925-1929 = 100.)

Country and grouping	1925	1926	1927	1928	1929	1930	1931	1932	Quarters															
									1930				1931				1932				1933			
									I	II	III	IV	I	II	III	IV	I	II	III	IV	I			
<b>GERMANY :<sup>1</sup></b>																								
Producers' goods	88	85	108	107	112	95	70	54	108	98	90	85	77	76	71	58	54	55	52	54	58			
Investment goods	88	81	111	108	112	91	60	40	97	97	87	83	60	70	63	47	36	43	40	42	40			
Other producers' goods	88	91	102	106	113	103	90	81	110	103	98	101	93	90	88	87	80	80	77	88	83			
Consumers' goods	87	89	111	109	104	101	94	85	103	103	99	99	92	98	94	91	86	84	83	86	85			
With elastic demand	86	89	117	108	100	95	90	80	101	96	91	92	85	93	88	92	82	75	74	90	79			
With inelastic demand	83	93	102	111	112	112	104	96	112	112	113	111	110	107	101	100	99	97	95	94	93			
<b>POLAND :<sup>1</sup></b>																								
Producers' goods	80	75	100	124	122	97	73	52	107	96	96	89	77	76	76	63	48	51	54	54	49			
Consumers' goods	88	81	107	114	110	92	82	70	92	90	92	91	87	88	81	73	68	73	71	69	56			
<b>SWEDEN :<sup>1</sup></b>																								
Producers' goods	90	91	95	107	117	110	91	80	123	110	107	100	97	86	86	95	89	73	73	85	85			
Consumers' goods	93	98	101	103	105	105	100	101	114	103	100	103	<sup>2</sup> 80	102	109	107	113	107	93	91	97			
<b>U. S. S. R. :<sup>1</sup></b> (1927-1929=100):																								
Producers' goods	.	.	82	97	121	174	214	(a) 345	160	168	175	194	207	193	206	250	257	234	244	...	...			
Consumers' goods	.	.	79	99	122	137	163	(a) 157	145	124	109	169	149	136	165	203	170	154	149	...	...			
<b>UNITED KINGDOM<sup>3</sup></b> (1924, 1927-1929=100):																								
Producers' goods	†91	.	102	100	107	96	78	75	108	102	93	84	83	80	73	77	78	77	72	75	77			
Consumers' goods	†99	.	101	100	100	90	88	90	95	90	87	90	85	87	87	96	92	93	85	90	89			
<b>U.S.A. :<sup>3</sup></b>																								
Producers' goods	93	99	92	104	113	83	54	29	97	92	78	63	66	60	47	42	36	27	24	28	25			
Consumers' goods	97	97	102	100	104	88	89	82	95	88	85	87	88	91	92	87	84	70	84	87	82			

† 1924.

(a) Average of January-September.

<sup>1</sup> The composition of the indices is as follows:

*Germany*: Producers' industries include *investment goods*: iron and steel, non-ferrous ores and metals, building, machinery, motor vehicles, shipbuilding; *other producers' goods*: coal, petroleum, gas, electricity, paper, hemp yarn and potash.

Consumers' industries include *consumers' goods with elastic demand*: textiles, footwear, glassware, porcelain, musical instruments; *consumers' goods with inelastic demand*: meat, dairy products, sugar, tobacco products, beer, brandy, sea-fishes.

*Poland*: Producers' industries. — Building, minerals, textiles, iron-ore mining, iron and steel, and chemical industry.

Consumers' industries. — Textiles, clothing, leather, food, paper and printing.

*Sweden*: Producers' industries. — Mining, iron and steel, metal working, engineering, saw-mills, pulp, earth and stone industries, chemicals.

Consumers' industries. — Paper, textiles, leather, household goods, food and drink.

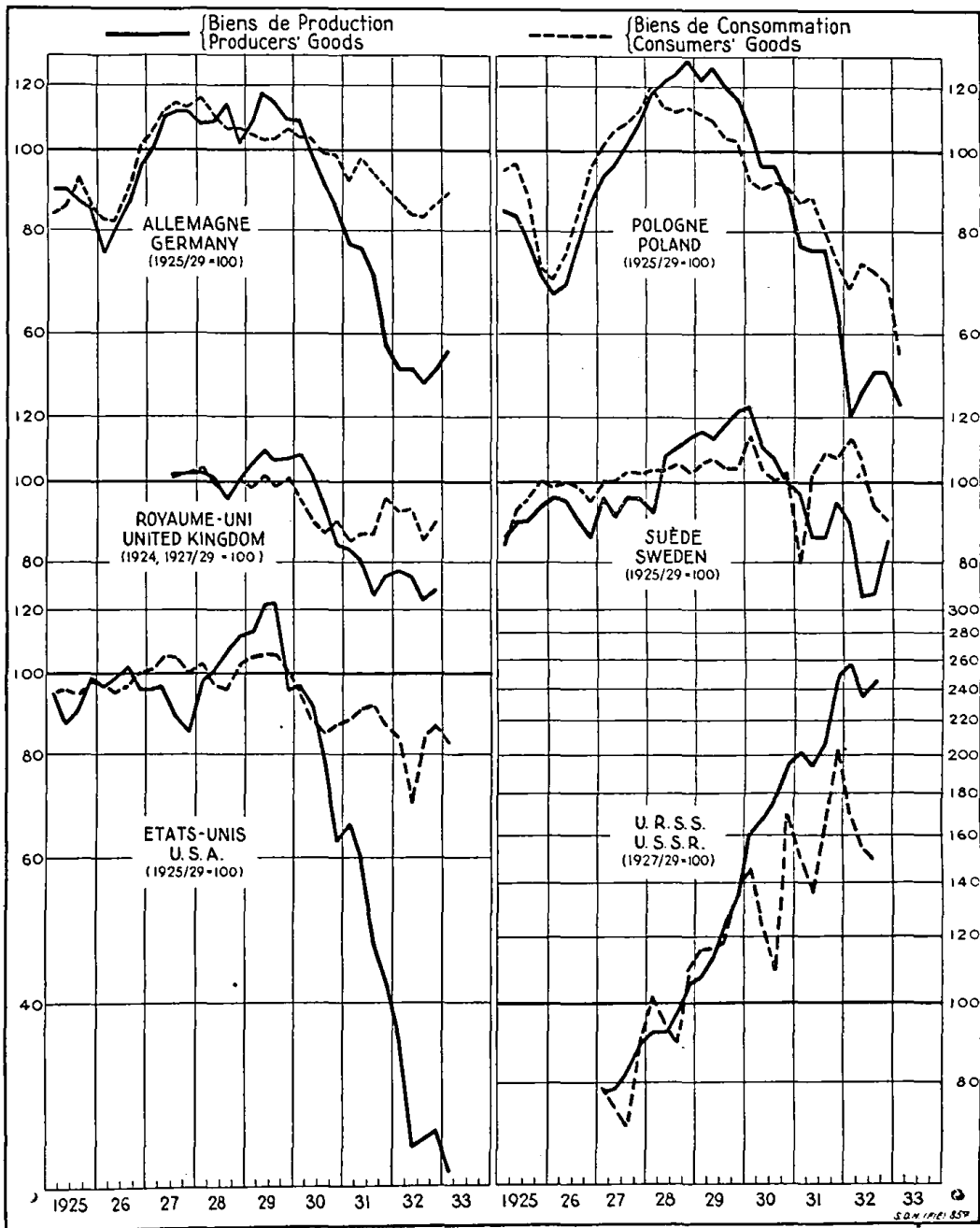
*U.S.S.R.*: The composition of these indices is not specified. They are compiled by the Statistisches Reichsamt, Berlin, on the basis of total production values at 1926-27 prices published monthly by the Soviet Government.

<sup>2</sup> Labour dispute in textile industries.

<sup>3</sup> Investment industries are represented by iron and steel, tin and cement in the case of the United States; iron and steel industries, non-ferrous metals, chemicals, engineering and shipbuilding in the case of the United Kingdom. Consumers' industries are represented in both countries by textiles, leather and food industries.

Diagram IV.

INDICES OF PRODUCTION OF PRODUCERS' AND CONSUMERS' GOODS.



In all the countries shown, the producers' or investment goods record a far more rapid expansion than the consumers' goods up to the turn of the business cycle. On the other hand, the output of the former has fallen much more sharply during the depression. In Germany and Poland, consumers' industries began to decline earlier than producers' industries. In Germany, the downward movement of the former started in the autumn of 1928, but the output of those goods for which demand is relatively inelastic did not decrease before the fourth quarter of 1930. The contrary appears to have been the case in Sweden. There producers' and consumers' industries at first decline simultaneously in the first quarter of 1930, but the latter recovered subsequently, so that the output of consumers' goods was practically as great in the first quarter of 1932 as in the first quarter of 1930, and showed a definite drop only during the three last quarters of 1932. In the United Kingdom and the United States, the decisive turn came at about the same time in 1929 in both groups of industries.

Individual producers' and consumers' industries have, of course, been affected in very different ways. There is a broad difference in the conditions of the demand for durable consumers' goods — such as motor vehicles and certain household articles, the replacement of which can be postponed — and non-durable goods — such as textiles, footwear and foodstuffs. Consumers' goods requiring the investment of savings have again been affected much more by the contraction of incomes in the past three years than those bought out of current income. Between textiles and footwear and small household goods on the one hand and foodstuffs on the other, there is a further line of demarcation, the latter being, of all the consumers' groups, the most inelastic. Differences appear again between goods supplying primary and secondary needs, the latter being relatively sensitive, *ceteris paribus*, to a contraction in incomes.

The producers' industries have likewise been subject to varying conditions of demand. The conditions determining the output of agricultural and textile machines, for example, are obviously not the same. Locomotive construction and shipbuilding, industries producing highly durable products, have suffered a catastrophic fall in activity. The changes in world production of certain important producers' and consumers' goods are illustrated in Diagram V given below (p. 63).

Up-to-date statistics relevant to these questions are unfortunately not available for most countries. Estimates of the percentage decline in the output of various industries may, however, be shown for Germany and the United States. The following figures show the percentage drop from the average level of output, in 1928 in the case of Germany and 1929 in the case of the United States, to the lowest point attained in the course of 1932.<sup>1</sup>

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<sup>1</sup> Calculated from the monthly returns published in *Wochenbericht des Instituts für Konjunkturforschung* (Berlin) and *Survey of Current Business* (Washington).



GERMANY (1928 = 100).

UNITED STATES (1929 = 100).

<i>Producers' Goods :</i>		<i>Consumers' Goods :</i>		<i>Producers' Goods :</i>		<i>Consumers' Goods :</i>	
Wood-pulp . . .	— 23.0	Paper . . . . .	— 28.0	Electrical goods <sup>1</sup> . . .	— 78.3	Foodstuffs . . .	— 16.5
Machines . . . .	— 66.5	Textiles . . . .	— 29.0	Cement (Portland) . . .	— 79.1	Cigarettes . . .	— 26.2
Steel . . . . .	— 68.1	Footwear . . . .	— 33.4	Trucks . . . . .	— 81.3	Shoes . . . . .	— 33.3
Rolling-mill products . . . .	— 70.6	Porcelain . . . .	— 62.2	Locomotives <sup>2</sup> . . . .	— 85.9	Silk consumption . . .	— 36.3
Iron . . . . .	— 73.0	Passenger cars . . . .	— 86.0	Electric motors <sup>1</sup> . . .	— 87.4	Books sold . . . .	— 37.3
Cement . . . . .	— 85.9	Motor-cycles . . . .	— 89.6	Steel castings . . . .	— 89.9	Cotton textiles . . . .	— 47.9
Lorries . . . . .	— 88.1	Pianos . . . . .	— 94.5	Woodworking machines . . .	— 91.1	Gloves and mittens . . . .	— 61.8
				Machine-tools . . . .	— 92.3	Household furniture <sup>3</sup> . . .	— 76.0
				Foundry equipment . . . .	— 94.6	Vacuum cleaners <sup>1</sup> . . . .	— 79.2
						Dom. power pumps . . . . .	— 88.8
						Passenger cars . . . . .	— 90.8

<sup>1</sup> Values ; the quantitative reduction in output has, of course, been less.  
<sup>2</sup> Decrease from the average 1927-1929 to 1932.  
<sup>3</sup> Shipments expressed in working days' production. Grand Rapids District.

In both of these two countries, certain consumers' goods have fallen as much or more than the producers' goods most adversely affected ; they are all of a " durable " nature.

Some further information on this point of a somewhat fragmentary character is given for other countries in the section and the relevant tables in Appendix II relating to the activity of individual industries.

The indices given in Table V for Russia naturally have a significance quite different from those for other countries, as they reflect a deliberate State policy of forced industrialisation. It will be seen that the extraordinarily rapid rise in the Russian industrial production was for the most part due to the advance in investment industries. Consumers' industries reached their peak in the fourth quarter of 1931 and declined during 1932. In fact, it would appear that the proportion of the different branches of industry prescribed in the Five-Year Plan was disturbed by actual developments : the investment industries as a whole exceeded, whereas the consumers' industries failed to attain, the levels of production envisaged in the Plan. But the heavy industries have begun to experience difficulties of organisation and to feel the effects of insufficient supplies of foodstuffs and raw materials.

STOCKS OF MANUFACTURED COMMODITIES.

As has been pointed out above, in order to gain an accurate idea of the course of industry, an analysis of the production indices should be supplemented by statistics of stocks.

A distinction should be made at the outset between (a) stocks of manufactured goods held by manufacturers ; and (b) stocks of manufactured goods held by the wholesale or retail trade.

Statistics of these different kinds of stocks, adequate for the purpose of a quantitative analysis, are extremely scarce.<sup>1</sup> Quantitative indices of stocks of manufactured or finished goods held by manufacturers are only available for Sweden and the United States. These are given in Table VI below, converted to the base 1925-1929 = 100.

Table VI.

INDICES OF THE QUANTUM OF STOCKS OF MANUFACTURED COMMODITIES IN SWEDEN AND THE UNITED STATES

(Base : Average 1925-1929=100.)

Country and group of industry	1925	1929	1930	1931	1932	1931				1932				1933	
						Jan.	April	July	Oct.	Jan.	April	July	Oct.	Jan.	April
<i>Sweden :<sup>1</sup></i>															
All industries . . . . .	89	105	98	93	99	90	94	92	95	89	100	105	100	92	96
Producers' industries . . . . .	96	101	97	99	95	93	103	99	96	89	94	100	94	83	89
Consumers' industries . . . . .	75	119	107	93	112	93	92	93	101	96	115	120	114	109	114
Home-market industries . . . . .	86	106	101	95	103	89	96	92	99	90	102	108	106	97	103
Export industries . . . . .	106	98	89	91	86	88	91	92	94	75	88	92	82	69	70
<i>United States :<sup>2</sup></i>															
Manufactured goods . . . . .	92	107	110	102	93	106	106	104	93	96	96	93	88	87	85
Iron and steel products . . . . .	87	113	118	106	75	113	113	103	99	86	77	72	69	64	63
Forest products . . . . .	95	96	104	95	90	101	95	95	91	93	87	89	90	97	92
Textiles . . . . .	84	108	102	81	73	88	82	79	77	84	77	66	68	65	65
Rubber goods . . . . .	73	116	96	73	60	73	81	77	66	62	77	49	52	53	57

Sources : <sup>1</sup> Sveriges Industriförbund, *Meddelanden* (Stockholm). The indices are corrected for seasonal variations.

<sup>2</sup> United States Department of Commerce, *Survey of Current Business* (Washington). Not corrected for seasonal variations.

Generally speaking, manufacturers — like producers of primary commodities — were induced by the boom to expand their production over and above the requirements of current consumption. Stocks, indeed, increased without interruption in the two countries considered between 1925 and 1929-30.

After the onset of the crisis, the development has been very different in the two countries considered. In Sweden, stocks reached their peak before the turn of the business cycle which came in 1930. The diminution of stocks of consumers'

<sup>1</sup> The existing statistics of stocks are generally unsuitable for the present purpose for two reasons : first, they refer to values, not quantities, and, secondly, they often refer to combined stocks of raw materials and finished goods.

and home-market industries in the first half of 1931 was largely due to an extensive dispute in the textile industries in the beginning of the year; from the middle of 1931 to the first quarter of 1932 production increased and stocks showed an upward tendency. On the other hand, stocks of producers' and export industries, which fell from the middle of 1931 to the beginning of 1932, increased again during the first half of 1932. During the latter part of 1932, production generally increased — especially in export industries — and stocks fell off, but these movements were again reversed in the first quarter of 1933. In the United States, where the industrial depression has been much deeper than in Sweden, total stocks attained their maximum after the crisis, in 1930, and dwindled fairly regularly thereafter. The indices for the four large industries representative of producers' and consumers' goods show a different movement during the earlier stages of the depression. The index for textile stocks began to decrease much earlier and much more than that for iron and steel stocks, but the decrease in both during 1932 was practically analogous and much more marked than in the general index. The revival in industrial activity toward the end of 1932, however, slackened the downward trend of stocks.

The above data, supplemented by other information available, point to the conclusion that stocks of manufactured goods held by manufacturers were considerably decreased during the later stages of the depression.

In the retail trade, a reduction of inventories has also taken place. Rough figures concerning the quantitative changes in retail stocks can be obtained for Germany, the United Kingdom, and the United States.<sup>1</sup> It appears that, in Germany, the quantum of total retail stocks decreased from 1925 to 1931 by not less than 35 per cent. In the United Kingdom, the volume of stocks of department, co-operative, multiple and independent stores decreased from March 1930 to March 1932 by 13 per cent, but to March 1933 only by a further 1 per cent. In the United States, stocks of department stores increased somewhat in 1930 and 1931, but decreased by 10 per cent in 1932 and further in the first quarter of 1933. On the basis of these figures relating to three important countries, it may be concluded that retail stocks are now lower than in the beginning of the depression, but that the downward movement has tended to slacken recently.

#### REVIEW OF IMPORTANT INDUSTRIES.

The recent development of the more important industries for which periodic data are available in various countries is briefly reviewed below.

No attempt will here be made to examine in detail the causes of the relative movements of individual industries in different countries. Each industry has been to a greater or less extent affected by the general influences to which reference

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<sup>1</sup> Germany: *Vierteljahrshefte zur Konjunkturforschung*, Sonderheft 32. United Kingdom: Bank of England *Statistical Summary*, April 1933. United States: Department of Commerce, *Survey of Current Business*. In the case of the two latter countries, figures are given in values, and a rough idea of the quantum changes has been obtained by deflating them by appropriate price indices.

has been made above, working on the industrial system of the country in which it is placed. Individual industries have, of course, gained or suffered also as the result of a number of special factors, both external and internal, such as changes in price relations, relative flexibility of costs, relative ability to adapt production to changing requirements, to hold or capture markets, etc. Thus, for instance, the British cotton industry records an almost uninterrupted decline from 1925 to 1932; on the other hand, the British wool industry has expanded its raw wool consumption by little less than 40 per cent over the same period. Similar examples could be given from other countries and industries.

The broad effects of the economic depression of 1930-1932 on the main industries have already been emphasised. Of the industries considered below, iron and steel, shipbuilding, mechanical engineering, motor-car production and the timber industry have been among the most seriously depressed. Electrical engineering has suffered less than the other branches of engineering. The paper and printing, textile and rubber industries have declined much less than the heavy industries. Of the major textiles, cotton has been the chief sufferer in industrial countries; but wool and natural silk industries also show a considerable decline during the depression, while the production of artificial silk rose 11.5 per cent in the last three years, and the newly developed textile industries in certain countries have contracted but little. In the case of many of the consumers' industries — cotton, wool, silk, boots and shoes — the rate of decline in output has tended to slacken; consumers' industries also appear to account for the greater part of the industrial revival which was noticeable during the latter half of 1932. Building activity has continued at a relatively high level throughout the depression in some countries where interest rates have remained low and public building has been extended; in other countries, the building industry has suffered very greatly, with disastrous consequences for the numerous related trades.

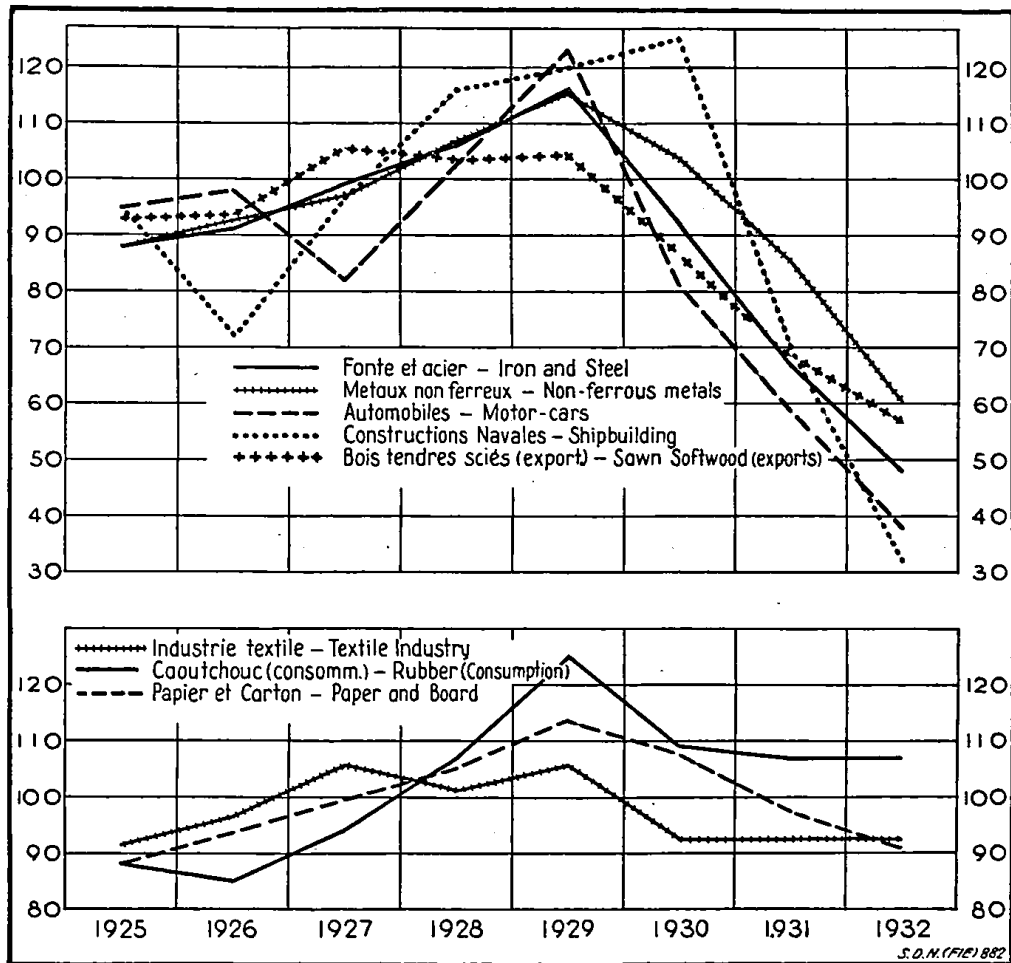
Tables are given in Appendix II showing indices of productive activity or other relevant statistics relating to various industries for which detailed statistics have not been published in the *Statistical Year-Book* of the League of Nations.<sup>1</sup> These indices cover the majority and, in some cases, all of the important producing countries, but they are not uniform in scope or methods of construction and frequently afford only a rough indication of the changes that have occurred in the activity of the industries concerned.

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<sup>1</sup> For reasons of economy, the number of tables given in the preceding edition of this publication (*Review of World Production 1925-1931*) has been considerably reduced in the present edition.

Diagram V.

CHANGES IN WORLD PRODUCTION OF CERTAIN IMPORTANT INDUSTRIES.  
(Base : Average 1925-1929 = 100.)



*Iron and Steel Industry.*

The heavy decline in real investment in the past three years has naturally affected the basic heavy industries most seriously. The world production of both pig iron (including ferro-alloys) and crude steel (ingots and castings) has fallen as follows :<sup>1</sup>

	Metric tons (000's)				Average 1925-1929 = 100			
	1929	1930	1931	1932	1929	1930	1931	1932
Pig iron . . . .	98,570	80,050	55,550	39,700	115	93	65	46
Steel . . . . .	120,570	94,910	69,280	50,300	117	92	67	49

The slump in the iron and steel industry has been most pronounced in North America, whose share in world production was reduced from 45.1 per cent in the case of iron and 48.7 per cent in that of steel in 1929 to 22.9 and 27.7 per cent in 1932. The aggregate drop in the pig-iron production of the United States in three years was over 79 per cent and in the steel production 76 per cent, and in Canada the contraction of pig-iron output was still greater.

The share of Europe in world production has, in consequence, risen; yet the total reduction in three years was 63 per cent in pig-iron and 61 per cent in steel output. The countries which have shown the greatest decline are Germany, Poland and Czechoslovakia. The reduction from 1929 to 1932 in the iron production of Germany was 70 per cent, and in her steel production, 64 per cent; it was still greater in Czechoslovakia. Since 1930, Germany has lost her place as the largest European producer of iron to France, and her steel production has been almost equalled by that of France. The French industry benefited from the maintenance of a high level of capital investments in the country and the rationalisation of heavy industries during 1930, but declined at an accelerating rate in the two subsequent years. The total decline of the British industry since 1929 has been slightly greater than that of the French. The United Kingdom suffered in the first two years of the depression mainly on account of increased imports of iron and steel products at low prices; but the downward movement was checked at the end of 1931, and, unlike all other European countries (apart from the U.S.S.R.), the British output of steel increased, though only slightly, in 1932. The Belgian and Luxemburg industries, which export the great bulk of their production, have resisted the depression better than the other large producers, but at the cost of heavy price cuts.

The iron and steel industries of Russia and Japan have followed a course quite different from the general trend. The former country, after a set-back in 1931, reached new high records in 1932 — without, however, attaining the levels fixed in the Five-Year Plan. In that year, for the first time, output of both iron and steel was greater in the U.S.S.R. than in any other European country. Japan also increased her production in 1932, the total output rising almost to the peak levels reached in 1929.

The recent changes in activity in six important producing countries, which together account for over two-thirds of the world output of iron and steel, are illustrated by the following figures which show the quarterly production as a percentage of production in the corresponding quarter of 1929. The countries are arranged in the order of importance of their combined iron and steel production in 1932 :

<sup>1</sup> For detailed statistics, see the *Statistical Year-Book of the League of Nations*, 1932-33, Tables 65 and 66.

QUARTERLY INDICES OF PIG-IRON AND STEEL PRODUCTION.

(Corresponding quarter of 1929 = 100.)

Years	Pig iron							Steel						
	1930	1931	1932				1933	1930	1931	1932				1933
	IV	IV	I	II	III	IV	I	IV	IV	I	II	III	IV	I
U. S. A. . . . .	59.3	33.9	28.0	20.1	15.4	19.0	16.1	68.8	41.1	31.1	21.4	18.2	26.7	21.4
France . . . . .	91.7	66.6	55.3	52.1	51.7	53.4	57.1	92.4	69.4	58.6	56.4	57.9	59.1	66.5
Germany . . . . .	57.9	36.2	31.9	30.2	24.0	31.9	37.2	61.2	41.6	31.6	38.7	30.2	41.2	39.3
United Kingdom . . . . .	58.5	46.4	59.1	49.0	40.3	42.2	53.1	54.3	56.6	57.2	52.8	51.1	56.8	62.7
Belgium . . . . .	72.9	74.8	75.0	70.9	58.5	67.9	72.9	72.8	74.2	73.3	70.7	58.1	70.3	73.1
Japan . . . . .	114.5	89.2	93.4	98.7	93.0	99.0	109.2	79.2	82.1	96.7	105.2	102.4	107.8	130.6

The total exports of raw and semi-manufactured iron and steel from the five principal exporting countries have fallen considerably less than their production. While the aggregate drop between 1929 and 1932 in the production of iron was 68 per cent and in that of steel 66 per cent, exports declined by 51 per cent. In 1929, the order of importance of the five countries considered was : Germany, Belgium, the United Kingdom, France and the United States of America. During the depression, there has been a catastrophic fall of 80 per cent in the American exports. British exports showed a sharp drop in 1930 and 1931, but only a slight further fall in 1932, while the decline in German exports was especially pronounced in 1932 ; the total drop in three years was almost equal in the case of both countries (57 and 56 per cent). French exports were best maintained in 1930 and 1931, and Belgian exports in 1932 ; the total decline in the case of the latter country was only 30 per cent. The order of importance of the countries had changed in 1932 to the following : Belgium, Germany, France, the United Kingdom and the United States.

The iron and steel markets became greatly disorganised during the depression years on account of increasing restrictions to international trade and also the failure of the European Steel *Entente* to control the market. The *Entente* was, however, reconstructed in May 1933, on a new basis, with a programme of export regulation under a quota system.

*Mechanical Engineering.*

Owing to the diversity of the products of the mechanical engineering industry, no uniform and comparable measure of the quantities of production is possible. Some indications of the variations in the activity of this industry<sup>1</sup> in certain countries may, however, be obtained from the data relating to it which enter into the general production indices of these countries and from certain specially compiled series which are also available. These indices are set forth in Appendix II, Table 2.

In all the countries considered, there was a rapid expansion in the activity of the industry up to 1929 or 1930 ; in all, except Russia, there was a marked decline in output in 1931, and in all, except the United Kingdom, Poland and Russia, a much more drastic contraction in 1932.

<sup>1</sup> Activity in one important branch of the industry — motor-car manufacture — and in ship-building and electrical engineering, which in part fall under the category of mechanical engineering, is reviewed in separate sections below.

The mechanical engineering industry of the United States has suffered more than that of any other country ; and, further, it has suffered more than any other American industry. The demand for machine tools and foundry equipment, which is regarded as "a significant indicator of the prospective activity contemplated by the machinery-manufacturing industry," was at its lowest point in the third quarter of 1932, only 14 and 11 per cent respectively of the average demand in 1925-1929. In Germany, too, the mechanical engineering industry was hit earlier and more severely than other industries. The total domestic requirements for machines are estimated to have been in 1932 only a quarter of what they were in the peak year 1928.<sup>1</sup> The activity of the industry, however, improved considerably during the year. Foreign sales, in which sales to Russia predominate, were much better maintained as a result of heavy price cuts in the earlier stage of the depression, but later, and particularly in 1932, they diminished more rapidly than domestic requirements. The Board of Trade index for the United Kingdom includes shipbuilding, which was affected especially severely in 1931 and 1932 ; conditions in other branches of the industry would thus appear to have been more favourable than the index might at first sight be interpreted to suggest. A considerable drop in activity in the locomotive and rolling-stock section is shown by the index-number of the London and Cambridge Economic Service for 1931, but a rise occurred in 1932. Bridge-building and structural engineering experienced perhaps the worst year on record. On the other hand, the trade in textile machinery has increased with the revival of the textile industry after the end of 1931. Exports of machinery from the United Kingdom diminished from 1928 to 1932 by 46.7 per cent (in weight). The French industry remained at a high level in 1930, but a decline set in during the second half of the year and became very rapid between the third quarter of 1931 and the second quarter of 1932.

The Russian machine production exceeded the average for 1925-1929 by 268 per cent in 1931. This striking increase was indeed greater than in any other branch of the Russian industry and appears to have exceeded the advance prescribed in the Five-Year Plan.

#### *Mercantile Shipbuilding.*

Of all the great industries, shipbuilding has been most directly hit by the disorganisation of international economic relations since 1929.<sup>2</sup> The total tonnage launched, including sailing vessels, in the United Kingdom, by far the greatest shipbuilding country, and in the world as a whole (excluding, however, the U.S.S.R., for which recent figures are not available) in 1929-1932 will be seen from the following figures :

	Gross tonnage launched (000's)				Average 1925-1929 = 100			
	1929	1930	1931	1932	1929	1930	1931	1932
United Kingdom . . . . .	1,523	1,479	503	188	129	125	43	16
World . . . . .	2,759	2,890	1,617	727	120	125	70	32

Owing to the execution of orders previously placed, the peak of shipbuilding was reached in 1930. As a result of a heavy decline in new orders, total tonnage decreased by 44 per cent in 1931 and by a further 55 per cent in 1932. The figure for 1932 is the lowest ever recorded by *Lloyd's Register*.

Tonnage launched decreased in 1931 in all countries except France and Italy, and in 1932 in all without exception ; but the decrease has proceeded at a very different rate in the various shipbuilding countries. The rapid and drastic contraction in the British shipbuild-

<sup>1</sup> *Vierteljahrshefte zur Konjunkturforschung*, 6 : 3 : B, page 161.

<sup>2</sup> The source of the shipbuilding statistics is *Lloyd's Register of Shipping*. Tables showing the tonnage launched, tonnage under construction (end of year figures), tonnage afloat and laid-up are given in the *Statistical Year-Book of the League of Nations* 1932-33, Tables 101-103.



ing industry has been shown above. The order of importance of the major shipbuilding countries of the world, and their percentage share in world tonnage launched was in 1930 : the United Kingdom (51.2), Germany (8.5), the United States of America (7.4), the Netherlands (5.3), Japan (5.2), Denmark (4.8), Sweden (4.6), France (3.5), Italy (3). This order was considerably changed in 1932 : the United Kingdom (25.8), the United States (19.8), France (12.3), Germany (11.1), Japan (7.5), Italy (6.5), Sweden (5.9), the Netherlands (3.6), Denmark (3.1).

The stagnation of the shipbuilding industry is brought out more clearly by the following figures for tonnage under construction at the end of the months indicated, and by the even more significant figures relating to the tonnage laid down during the quarter ending at the close of the month indicated. The figures refer to all vessels, including sailing vessels, of 100 tons and upwards.

	Tonnage under construction (000's)				Tonnage laid down (000's)			
	1930	1931	1932	1933	1930	1931	1932	1933
End of :								
March . . . . .	3,143	2,000	1,298	741	857	242	80	141
June . . . . .	2,901	1,826	1,110	...	581	234	71	...
September . . . .	2,569	1,531	901	...	480	173	43	...
December . . . . .	2,326	1,404	766	...	421	226	84	...

The decline in total tonnage under construction started at the end of March 1930 and amounted three years later to 76 per cent. The aggregate tonnage laid down also shrunk without interruption until the third quarter of 1932, the total decrease since the first quarter of 1930 being as much as 95 per cent ; but the last quarter of 1932 and the first of 1933 show a noteworthy revival.

The shipbuilding industry has recently been undergoing rapid technological changes which have raised the transport capacity per ton.<sup>1</sup> The average speed and tonnage of vessels have been considerably increased. Oil has been largely substituted for coal as the fuel for steamers and the proportion of motor-ships has gradually risen, although there was a sharp reversal of this tendency in 1932. Motor-ships accounted for 45.5 per cent of total tonnage launched in 1929, for 57 per cent in 1931, but for only 37 per cent in 1932. Of the total steam tonnage launched in the world, about 79 per cent in 1931 and 63 per cent in 1932 represented steamers fitted for burning oil fuel, so that the tonnage depending exclusively upon coal for propulsion was less than 10 per cent in 1931, but rose to about 23 per cent in 1932. The oil tankers launched represented in 1931 over 40 per cent, but in 1932 less than 19 per cent of the world output of vessels.

*Merchant Shipping.* — As has been shown above, the supply of the means of maritime transport increased both through new tonnage launched and improvement in transport capacity. Tonnage afloat reached the record figure of 70.1 million tons in the middle of 1931 and has been but little reduced since that date. On the other hand, both the passenger and goods traffic has contracted severely. The quantum of world trade fell between 1929 and 1932 by some 27 per cent. The surplus of ocean-going world tonnage is estimated at over 50 per cent. The further accentuation of the crisis has been checked to some extent by laying up tonnage and selling vessels for scrapping. At the end of 1932, 14.5 million tons — *i.e.*, 21.5 per cent of world tonnage — had been withdrawn from service, and the figure has increased since that date.<sup>2</sup> As a result of these various developments, maritime freights have fallen heavily, the index number (annual average) of the *Statist* showing

<sup>1</sup> It is estimated that the transport capacity of the present merchant fleet is about 130 per cent of transport capacity in 1914. (R. LA BRYÈRE in the *Revue des Deux Mondes*, October 15th, 1932, page 904.)

<sup>2</sup> Chamber of Shipping of the United Kingdom, *Annual Report*, 1932.

a drop of 33 per cent from the peak in 1927 to 1932, and, in the first quarter of 1933, there has been a further fall.<sup>1</sup>

Shipping cannot, like other industries, be directly protected by Customs barriers. As, on the other hand, great national importance is attached to the development of shipping in all maritime countries, shipowners have in many cases obtained Government assistance and subsidies and thus developed a "shipping protectionism" which has further aggravated the depression. The International Shipping Conference has been considering various plans for an international agreement to break up old ships.

*Motor-Car Industry.*

The motor-car industry was one of the new industries which made most rapid progress during the boom period, and which has also been most adversely affected by the depression. The following figures show the contraction of production since 1929:<sup>2</sup>

	Number of motor-cars (000's)				Average 1925-1929 = 100			
	1929	1930	1931	1932	1929	1930	1931	1932
Europe (excl. U.S.S.R.) . . . . .	692	627	551	510 <sup>1</sup>	120	108	95	88 <sup>1</sup>
North America . . . . .	5,620	3,510	2,472	1,432	124	77	54	31
World . . . . .	6,314	4,146	3,048	1,970 <sup>1</sup>	123	81	59	38 <sup>1</sup>

<sup>1</sup> Provisional.

The share of Europe in world production increased from 11 per cent in 1929 to 27 per cent in 1932. Within Europe, the United Kingdom has taken the place of France as the leading producer; the output of her industry, after a slight set-back in 1931, reached its peak in 1932. Production in both Germany and Italy was, in 1932, slightly less than half of what it was in 1929. On the other hand, Russia has rapidly built up a considerable automobile industry.

The recent movements in four of the principal producing countries may be roughly illustrated by the following figures, which represent quarterly averages of the monthly indices for 1930-1932 and the first quarter of 1933 expressed as percentages of the corresponding quarters of 1929.

QUARTERLY INDICES OF MOTOR-CAR PRODUCTION.  
(Corresponding quarter of 1929 = 100.)

Years	1930				1931				1932				1933
	Quarters	I	II	III	IV	I	II	III	IV	I	II	III	
U. S. A. <sup>1</sup> . . . . .	69.4	67.1	50.5	69.1	46.3	50.2	38.6	42.6	25.2	29.0	20.3	35.6	25.2
Canada . . . . .	49.8	67.5	61.4	56.6	31.3	38.4	25.1	18.9	18.6	23.8	30.8	25.6	19.8
France . . . . .	96.0	95.8	99.6	99.2	85.6	80.7	83.6	80.4	67.0	57.9	64.8	70.8	71.8
Germany (passenger cars) . . . . .	87.3	87.1	63.8	69.6	65.2	73.7	53.5	52.1	35.8	37.6	45.3	...	...

<sup>1</sup> Adjusted for seasonal variations.

In North America, but not in Europe, the production of commercial vehicles has been far better maintained than that of passenger cars.

<sup>1</sup> Indices of freights are given in the *Statistical Year-Book of the League of Nations, 1932-33, Table 104.*

<sup>2</sup> For detailed statistics see the *Statistical Year-Book of the League of Nations, 1932-33, Table 106.*

On the other hand, it would appear from the returns in certain European countries that there has been a rather rapid movement away from the heavy vehicles in favour of light types. In Germany, the share of the output of small passenger cars in the total production was about 57 per cent in 1928-29, but almost 90 per cent in 1932.<sup>1</sup> As the unit produced has been growing smaller over the period considered, the figures relating to the number of cars produced understate the decline in the quantum output of the world's industry.

Since 1929, according to the trade statistics of the various countries concerned, the exports of motor vehicles from the United States and Canada have declined much more than those from the European countries. The exports of both Canada and the United States were, in 1932, only 16 per cent of the average for 1925-1929, while the corresponding figure for the four principal European exporters taken together was 60 per cent in 1931 and 71 per cent in 1932.

#### *Electrical Engineering.*

Indices relating to the activity of this branch of engineering in a few countries are shown in Appendix II, Table 3 (a). Unfortunately, no comprehensive series are available for three of the important producing countries — Germany, France and Switzerland. The indices shown in Table 2 (Mechanical Engineering) for Germany and France cover the electrical branch.

Although activity has in general been better maintained in electrical than in mechanical and marine engineering, this industry has not escaped the effects of the depression. While the demand for household electrical goods has fallen relatively little, the general downward movement of the demand for investment goods has affected the heavy sections of the industry. The index for the United States shows a drastic reduction — 70 per cent between 1929 and 1932 — in new orders for electrical goods. Activity in the British electrical manufacturing industry declined in the same period by 45 per cent. In Germany, while the production of wireless apparatus was well maintained, the demand for heavy equipment has almost completely ceased. In Italy, output of electrical machinery decreased in the three years considered by 32 per cent.

Statistics of the value of exports of electrical apparatus from the seven principal producing countries are also shown in Appendix II, Table 3 (b). Owing to the drop in prices — which, however, has been less marked in the case of certain important classes of electrical goods than in that of other finished products — these figures exaggerate the decline in export quantities in the last three years considered.

The total decline in the value of exports of the countries considered taken together was 56 per cent. The Netherlands and Germany have been able to maintain a larger proportion of their former exports than the other countries.

#### *Building.*

In Appendix II, Table 4, are given indices of building activity for a number of countries covering as far as possible the whole period 1925 to 1932. The statistical measurement of activity in this industry raises problems of great difficulty and the indices shown must be used with extreme caution — first, because they are not comparable from country to country and, secondly, because, in many cases, they are not based on aggregates of like units. Again, the indices for the majority of countries refer to only one branch of building activity — the building of dwelling houses. This, however, has one advantage, for the conditions of demand and supply differ widely in the case of dwelling houses, industrial and commercial buildings and public buildings respectively, and the statistics relating to building activity in general tend to obscure the different tendencies that have

<sup>1</sup> *Vierteljahrshefte zur Konjunkturforschung*, 6 : 4 : B, page 238.

been noticeable in these separate classes of building. For most purposes, however, more comprehensive statistics are desirable ; it may be useful therefore to supplement the indices by the figures of unemployment which are available for a few countries. Such figures relating to the middle and end of the years 1928 to 1932 are given below :

UNEMPLOYMENT IN THE BUILDING INDUSTRY.  
(Percentage of Trade Unionists unemployed.)

Country	End of June					End of December				
	1928	1929	1930	1931	1932	1928	1929	1930	1931	1932
Canada . . . . .	3.9	7.5	26.2	38.6	60.8	15.5	25.6	44.5	58.1	69.2
Germany <sup>1</sup> . . . . .	8.0	10.4	38.0	56.6	78.0	50.6	52.8	65.4	85.4	86.1
Belgium. . . . .	0.4	0.1	2.7	11.5	21.6	15.0	5.5	19.5	28.3	26.7
Denmark <sup>2</sup> . . . . .	2.5	0.2	0.5	0.3	40.0	52.9	33.0	42.2	52.7	59.9
Netherlands . . . . .	7.0	2.1	6.2	9.2	32.7	27.2	24.5	30.2	39.1	55.8
United Kingdom . . . . .	10.0	8.5	12.7	18.1	26.1	15.2	16.9	22.7	28.6	32.1
Switzerland <sup>3</sup> . . . . .	1.2	0.6	1.1	1.5	4.9	14.4	13.0	15.9	22.9	29.4
Australia . . . . .	12.6	8.8	23.3	32.6	42.1	8.7	14.3	27.9	36.0	40.2

<sup>1</sup> Wholly unemployed only.  
<sup>2</sup> Masons only.  
<sup>3</sup> Including wood-working industry.

Building expanded rapidly during the period 1925-1929, especially in countries where a deferred demand had to be met. Unlike the great majority of countries shown, the United States records a downward tendency in the construction of residential buildings over the entire period, only a very moderate expansion in commercial buildings in the years of industrial prosperity, but a rapid expansion in factory building in 1928 and 1929. The sharp drop in residential building in 1929 illustrates a phenomenon which was characteristic of pre-war economic history — the diversion of capital in the later stages of boom periods from building construction to other forms of investment offering a higher yield.

With the downward turn of the business cycle, there was a heavy drop in building activity in the majority of the countries shown in the table, particularly in the United States and in countries — Canada, the Argentine, Chile, Australia, New Zealand, as well as Germany, Finland, Poland — which were severely hit by the fall in the export prices of their main products or by rapidly increased interest rates, caused by the shortage of foreign loans. In most of these countries, the building depression was accentuated in 1931 and 1932. In no country was the downward course as precipitate as in the United States. The index of all building contracts awarded in that country dropped from 109 in 1928 to 18 in 1932. In Germany, the activity in the building industry dwindled from 1929 to 1932 by more than half, but the decline was checked during the second half of 1932, so that the number of building permits and of buildings begun was higher at the end of 1932 than a year earlier. The Italian index shows a drop of 60 per cent between 1929 and 1932. Again, in Spain, building continued to increase until 1931, but contracted severely in 1932. On the other hand, in countries which were favourably placed in respect of prices or interest rates, building either expanded or recorded only a relatively moderate contraction during the depression. In 1932, the indices for Belgium, Finland, Switzerland (dwelling houses), the United Kingdom (dwelling houses) and Chile even increased, while a reduction was recorded in France, Denmark, the Netherlands, Sweden (dwelling houses), Switzerland (permits) and South Africa.

In so far as building is dependent on unaided private enterprise, it is highly sensitive to changes in domestic interest rates on the one hand, and private incomes on the other.

In recent years, however, public building and public subsidies for building, designed to stabilise the industry and to relieve unemployment, have acquired increasing importance. This may be illustrated by the following figures showing the difference in movements of private and public building in the United States: <sup>1</sup>

	1928	1929	1930	1931	1932
Building contracts:					
Largely private . . . . .	100	81	47	30	10
Public and largely public . . . . .	100	102	106	83	39

Local public construction collapsed, however, in 1932, and Federal construction only slightly mitigated the resulting depression. In Germany, private investment in residential and factory building was, in 1932, less than one-fifth of the peak figure reached in 1928, but schemes largely financed by public funds supplied a stabilising element in 1932. In Sweden, construction of non-speculative buildings rose in 1932. Owing to the serious financial position of public authorities, both local and central, in almost all countries, and especially in those which normally depend on foreign borrowing, public building programmes have been generally cut or reduced.

Another distinction must be made between the building of dwelling houses and industrial and commercial construction. As might be expected, the former, which satisfies a primary consumers' demand and has to some extent been stimulated by public funds, has generally been less affected than the latter, which follow fairly closely the trend of industrial activity.

#### *Timber Industry.*

The timber industry shared in the general prosperity during the boom in industrial investment and was particularly favourably affected by the increase in house-building, the furniture trades and the paper industry consequent upon the general rise in the standard of living characteristic of that period.

During this period, however, certain shifts in the regional distribution of timber production and in price movements in the importing markets gradually undermined the equilibrium of the industry. The decline in prices set in as early as 1928. During the economic depression, the timber industry has undergone a severe crisis which has been reflected in a continuous fall in prices. A considerable proportion of the industry has worked at a loss, and in some forest areas the root value of trees has sunk to zero.

Indices of activity in the timber industry in the principal producing countries are given in Appendix II, Table 5 (a). This table shows that, between 1929 and 1932, the activity of the North American industry declined by approximately two-thirds—more in the United States, less in Canada—and that the corresponding drop in most European countries was between 50 and 60 per cent; in Sweden, however, notably less. Russia has shared in the general downward movement in the past two years.

The changes in the order of the importance of the various producing countries on the world market may be seen from Appendix II, Table 5 (b), relating to exports of sawn softwood.<sup>2</sup>

The important Western European market was previously under the control of the Northern producers, who disposed of large natural surplus areas on sea coast. The post-war penetration of the Western market by Central and Eastern European producers, which

<sup>1</sup> Based on reports of the F. W. Dodge Corporation given in the *Harvard Business Review*, Vol. XI, No. 2 (January 1933), page 149. The figures are based on dollar values of building contracts, and hence overstate the decline. Figures for 1932 are partly estimated.

<sup>2</sup> The Economic Intelligence Service is indebted to M. Thorsten STREYFFERT, of Stockholm, for this table, which he has been compiling for some years past and which he has revised and brought up to date for the purpose of the present publication.

compensated for the absence of Russian exports up to 1927, was the first disturbing factor in the development of the timber industry. The principal event that brought about the crisis, however, was the reappearance of Russia as a keen and effective competitor after 1927. Exports from the European countries other than the U.S.S.R., in fact, declined from that year. The market did not, however, show signs of serious weakness until the active demand of the Central European building trades slackened and supplies from Russia suddenly increased towards the middle of 1929. In the three subsequent years, there was very active competition among the exporting countries for the reduced markets. Compared with the average for 1925-1929, the fall in exports in 1932 was heaviest (about 71 per cent) for the Central and Eastern European groups—Poland, Czechoslovakia, Austria, Yugoslavia and Roumania. The Northern countries have suffered much less as a group—the aggregate decline was about 33 per cent—but, while Swedish exports fell by only 28 per cent and the Finnish by 35 per cent, Norway lost 50 per cent of her trade. Russian exports also diminished in 1931 and 1932, but remained much above the level of years prior to 1929. As a result, Russia now ranks as the largest exporter of softwood in the world (21.4 per cent of the total in 1932). Finland and Sweden have alternated in the lead among the other European exporting countries, their exports being roughly equal in volume.

Exports from the United States and Canada have declined by almost two-thirds since 1929, or relatively much more than those from Europe as a whole.

The position of the timber industry, especially in Europe, has changed during the depression. Certain technological changes tended to diminish the demand for timber, even before the depression—*e.g.*, the replacement of timber for constructional purposes by cement, iron and steel, plaster and bricks, and the growing substitution of plywood for planks in furniture, etc. However, the shrinkage of demand in these branches was more than compensated by an increase in other branches, particularly in paper manufacturing. The total demand for timber, therefore, does not appear to have contracted more seriously during the depression than the demand for consumption goods. On the other hand, the supply of timber was increased by the appearance in the market of “new” areas, especially Russia, and the exploitation of forests over and above the natural growth, especially in Central European countries. Both of these special factors, however, have been checked by the depression. Thus the disequilibrium has tended to diminish, and stocks have been reduced to a minimum.<sup>1</sup>

The Central and Eastern European countries agreed, at a Conference held in Vienna in June 1932, to adopt a scheme for the restriction of exports. Similar negotiations have been pursued among the Northern countries.

#### *Paper and Printing Industries.*

The wood-pulp industry has been briefly considered in Chapter I.

The paper and printing industries expanded rapidly between 1925 and 1929, with the increasing circulation of newspapers and output of books and the extended use of paper and paper products for industrial and commercial purposes. The industrial demand for the products of the paper industry and for printing fell off in the three subsequent years. But these industries have suffered less than the majority of other, either investment or consumption, industries.

The total production of paper and board in North America, Europe and the world (excluding, however, some minor producers) has contracted since 1929, the peak year, as follows:<sup>2</sup>

<sup>1</sup> Cf. Egon GLESINGER in *Ekonomisk Tidskrift* (Stockholm), 1932, No. 2, pages 48 to 55.

<sup>2</sup> Detailed statistics of the output of wood-pulp, paper and board are given in the *Statistical Year-Book of the League of Nations, 1932-33*, Tables 52 and 53.

	Metric tons (000's)				Average 1925-1929 = 100			
	1929	1930	1931	1932 <sup>1</sup>	1929	1930	1931	1932 <sup>1</sup>
North America . . . . .	13,238	12,142	10,938	9,600	114	104	94	82
Europe (excl. U.S.S.R.) . . . . .	8,570	8,330	7,600	7,600	113	110	100	100
World . . . . .	22,900	21,670	19,630	18,300	114	108	97	91

<sup>1</sup> Estimates.

It will be seen that the output of the United States of America and Canada, the two largest producers of the world, has declined much more sharply than that of Europe.

Indices of the activity of the paper and printing industries are given in Appendix II, Table 6.

The output of newsprint in Canada dropped over 30 per cent from 1929 to 1932. The decline in the activity of the United States paper industry was almost as great. In Japan, production has declined relatively little.

In most European countries, productive activity declined in 1931 and 1932. In Germany, the biggest European paper-producing country, the output of paper decreased by rather less than a quarter during the depression, and there was a distinct revival in the industry toward the end of 1932. The British paper industry benefited by the improved competitive position of the industry on foreign markets following the suspension of the gold standard and by the imposition of import duties on paper and board (except newsprint) in 1931 and 1932; production in 1932 equalled the record attained in 1929.

The industries of the Netherlands, Sweden (except the paper-board branch) and Finland reached a new record in 1931; the very low figure for Norway was due to a serious labour dispute. The competitive capacity of Finland, Norway and Sweden in foreign markets — on which their industries mainly depend — was improved after the depreciation of their currencies in the autumn of 1931. The Finnish industry expanded further in 1932; the Swedish output amounted to approximately the same quantity as in the preceding year and Norwegian production came up to about normal.

The Northern producers of "kraft" paper formed, in November 1932, a joint office with a view to regulating output and stabilising prices.

*Leather and Boot and Shoe Industries.*

Although the world demand for boots and shoes, the principal product of the leather industries, would seem to have varied little more than that for other articles of clothing in the period under consideration, the fortunes of the various national industries have differed widely, as the indices given in Appendix II, Table 7, clearly show. The activity of the leather industries of the United Kingdom, Germany, Sweden, Canada, Australia and Japan has declined since 1927; the indices for Finland, France, Hungary and Poland began to fall in the following year and have continued to fall since then, and in most other countries a decrease has been recorded since 1929. In 1931, production fell in all countries except Czechoslovakia (the world's greatest exporter of boots and shoes), Belgium, Canada and Russia, where the index for boot and shoe production stood at the very high figure of 327 (1925-1929 = 100). In 1932, the industries of the United States, Canada, Chile, Poland and Portugal alone maintained the level of the previous year, but it is to be noted that figures are not available for a number of countries.

The decrease in output has been particularly marked in Chile since 1930, in Finland since 1931 and in Czechoslovakia in 1932. The leather and boot and shoe industries of all countries for which quarterly indices are available, except the United Kingdom, experienced a revival during the latter part of 1932.

In the past two years, there has been a strong shift in the world demand from the more expensive to the cheaper qualities of leather for soles and uppers. There is thus reason to believe that, while the total output of footwear has been relatively well maintained, the average quality of boots and shoes produced has deteriorated.

*Textiles.*

The production of raw cotton, jute, flax, hemp and other textile materials of vegetable origin cannot be either easily or rapidly adjusted to changes in demand. Hence, the composite index of the world output of crude textile materials considered in Chapter I does not accurately reflect the year-to-year changes in the activity of the textile manufacturing industry. This may be seen from the following comparison between the index mentioned and an international index of industrial textile production published by the German Institut für Konjunkturforschung :<sup>1</sup>

	Base : Average 1925-1929 = 100.							
	1925	1926	1927	1928	1929	1930	1931	1932
Textile materials . . .	96	101	94	103	106	103	105	95
Textile products . . .	96	96	105	100	104	91	92	92

Since 1928, the industrial index has remained below the index for raw materials : this is mostly to be explained by the accumulation of stocks, to which reference has been made above. The difference was, however, considerably less in 1932, when the output of raw materials dropped heavily, while manufacturing business remained at the level of the preceding two years. The international monthly index of the Institut für Konjunkturforschung shows a remarkable advance — some 15 per cent — in the activity of the textile industries as a whole from May to October 1932, but a relapse in the beginning of 1933.

Composite indices of textile production in thirteen countries are set out in Appendix II, Table 8. In several important manufacturing countries — such as Italy and China — no composite index is published, but the development of business can be followed from the indices relating to the individual industries given in subsequent tables of the Appendix.

Of the countries shown in Table 8, the United Kingdom, Germany and Czechoslovakia record a decline in textile activity since 1927, and Canada, France, Belgium and Poland since 1928. In the United States of America, the U.S.S.R. and the Netherlands, the peak was reached in 1929, while in Chile, Norway and Sweden, production increased until 1930. In India, and, it would appear, in China and several small producing countries in different parts of the world, cotton manufacture has continued to expand throughout the depression. Compared with 1931, the activity of the textile industries taken as a whole increased in 1932 in Chile, India, Japan and the United Kingdom ; in the three last-named countries, this increase was closely connected with currency depreciation. In almost all countries, there was a considerable revival in textile activity during the second half of 1932 — indeed, the industrial recovery shown by the general indices discussed above was principally due to the textile trades — but many countries, especially the United States and Germany, experienced a setback during the first quarter of 1933.

The available statistics unfortunately do not show the changes in the output of different qualities of goods, or of the various classes of finished products. It is certain, however, that there has been a strong tendency towards a greater relative consumption, not only of rayon and silk fabrics, but also of the finer qualities of cotton and wool.

*Cotton.* — The world production of raw cotton and the cotton-mill consumption of raw cotton in all countries for which information is available may be compared in the following table :<sup>2</sup>

<sup>1</sup> *Konjunkturstatistisches Handbuch* 1933, page 327, and *Wochenberichte* 6 : 7 (May 17th, 1933), page 28.

<sup>2</sup> Detailed statistics are published by the International Federation of Master Cotton-Spinners' Associations in the *International Cotton Bulletin*. These statistics are expressed in bales. The figures in metric tons up to 1930-31, as well as the conversion rates, are given in the *Review of World Production, 1925-1931*, Appendix VI, Table 11 (a).



	Metric tons (000's)				
	1925-26	1929-30	1930-31	1931-32	1932-33
Raw-cotton production . .	6,050	5,760	5,640	5,970	5,000
Cotton-mill consumption .	5,352	5,434	4,824	4,865	... <sup>1</sup>

<sup>1</sup> Half-year ending January 31st, 1933 : 2,600.

The variations in the raw-cotton crops, the competition between American and other qualities and the growth of cotton stocks have been dealt with in Chapter I. In the half-year ending January 31st, 1933, cotton-mill consumption was considerably higher than in the four preceding half-year periods, but it was still 10 per cent below the corresponding figure for the period ending January 31st, 1930. The shares of North America and Europe in total world production fell during the period under review, while those of Latin America, Asia and Russia rose. The consumption of Asia exceeded that of North America for the first time in 1929-30, and, rising to 32 per cent of the world total in 1931-32, nearly equalled that of Europe (33.5 per cent). In 1930-31, the industrial demand of the United Kingdom was less than that of the United States of America, and also than the demand of the three great Asiatic producers, Japan, India and China, but in 1931-32, British demand again exceeded that of India and China.

The indices of activity in cotton-spinning and weaving shown in Tables 9 (a) and 9 (b) cover almost all important producing countries. It will be seen that cotton-spinning in Germany and the United Kingdom was already falling in 1928, and in France in 1929. The drop in North America and Italy began during 1930. There has been a substantial expansion in Japan and India during recent years. The extraordinary increase in the Hungarian indices for 1932 is due to restriction of textile imports. The quarterly figures show that the lowest point was in most cases passed in the second or third quarter of 1932 ; the low figure for the United Kingdom in the third quarter is due to a labour dispute.

While in the world as a whole, the bulk of the production of cotton goods is intended for home consumption, exports are vital to certain national industries, in particular the British and Japanese. Total exports from the United Kingdom rose by 28 per cent, and those from Japan, her principal competitor in the Asiatic market, by 44 per cent in 1932. Certain features of the trade in cotton goods have been discussed in a companion volume<sup>1</sup> and need not be further referred to here.

*Wool.* — The indices of activity in the wool industry, given in Appendix II, Table 10, indicate in the case of several countries a better position than that shown by the figures for the cotton industry. In the United Kingdom, there has been an almost uninterrupted increase since 1925, and the index for 1932 was as much as 26 per cent above the average for 1925-1929. A more marked expansion occurred in Denmark and Spain, and an even greater one in Japan and Russia, while the extraordinarily high indices for Chile illustrate the process of "localisation" of the textile industries. The wool industries of other countries underwent a reduction in output as appreciable as, or even greater than, that in the cotton trades. The index for the United States was, in 1932, 4½ per cent below the quinquennial average, the index for Belgium shows a similar, and that for Italy a somewhat smaller, decrease. The weaving sections in Germany and Poland have also been rather severely hit, while the spinning sections have been relatively well maintained. The quarterly figures show a revival of the wool industry during the latter part of 1932.

*Natural Silk.* — Indices of activity in the natural-silk industry are given in Appendix II, Table 11. It will be seen that in the United States of America, the world's greatest producer of silk tissues, the industry suffered relatively little during the depression ; in 1932, deliveries still equalled the average for 1925 to 1929. The weaving branch of the

<sup>1</sup> League of Nations, *Review of World Trade*, 1932.

Japanese industry was more active during the second half of 1932 than at any previous time. The British silk industry reached a new high record in 1932. The principal industries of the European continent have declined heavily since 1928 or 1929 and conditions were worse in 1932 than in any previous year; the French industry made considerable progress, however, from quarter to quarter in 1932. The rapid development of the natural and artificial silk industries in certain small producing countries for which figures are available — Sweden, Poland, Portugal, Hungary — is of interest as illustrative of the process of decentralisation in this as in other textile industries.

*Artificial Silk.* — Artificial silk is one of the very few commodities which registered an increase in output during the depression. World production of artificial-silk yarn since 1925 has increased as follows:<sup>1</sup>

Estimated production in metric tons				
1925	1929	1930	1931	1932
86,000	208,480	199,630	224,180	232,490

The production of 1932 constituted a new high record, 64 per cent above the average for the quinquennium 1925 to 1929. The advance was not equally shared by all countries. A record production was attained in 1932 in Canada, Japan, Russia, Spain, the United Kingdom and Sweden; in some other countries — *e.g.*, France and the Netherlands — output increased as compared with 1931, and the decrease in others was, generally speaking, only moderate. While the United States of America remained the world's greatest producer, the United Kingdom reached the second and Japan the third place, thus outdistancing Italy and Germany. The rapidly growing Asiatic market has been almost completely captured by the Japanese industry.

The efficiency of the industry has continued to increase rapidly during recent years, especially in the direct method of processing yarns.

*Linen, Hemp, Jute, etc.* — The trends shown by the indices of raw-material production in Appendix I, Table 2, and the indices of activity in the industries concerned shown in Appendix II, Table 12, differ to some extent. But, if allowance is made for the exceptional increase of the flax crop in the U.S.S.R., which much more than offset the decrease in all other countries, it is evident that both the production of flax, hemp, jute, etc., and the corresponding manufacturing industries have been affected more seriously than the other textiles. With the exception of linen, none of this group depends mainly on consumers' demand, as do cotton, wool and silk, and a considerable part of the output of linen tissues is taken, not by private individuals, but by hotels, shipping companies, etc., whose demand has contracted greatly. The British and German industries passed their peak in 1927, the Belgian, Polish and Finnish industries in 1928, and most others in 1929.

The linen industry has tended to decline in practically all countries for which information is available during the depression. However, the Danish linen-weaving and the Polish flax-spinning industries recovered in 1931, the American industry recorded a remarkable advance and the Belgian and German flax-spinning industry also recovered a little in 1932, while the Russian industry reached its peak in 1930, declining but slightly in the following year.

The hemp and jute industries have generally suffered more than the linen trade. The American hemp industry shows a very sharp decline since 1925, the index in 1932 being only a quarter of the average for 1925-1929. The requirements of the jute-manufacturing industry have been fully satisfied by supplies of raw jute, which, in 1931 and 1932, were only about half of those in the preceding years.

<sup>1</sup> Detailed statistics are given in the *Statistical Year-Book of the League of Nations, 1932-33*, Table 50. Indices of world production are to be found in Appendix I, Table 2, of this volume.

*Rubber Products.*

The figures for the consumption of crude rubber (Appendix II, Table 13 (a)) indicate roughly the relative importance of the rubber industries of the countries shown. As, however, the nature of the rubber industries varies from country to country, the relative values of production diverge considerably from the relative consumption of the raw material. For the same reason, the changes in crude-rubber consumption do not always accurately reflect the variations in the activity of the national industries; the consumption figures have therefore been supplemented wherever possible by indices based on actual production of rubber goods or indirect indications of activity (Table 13 (b)).

The absorption of rubber by the United States of America, the world's largest consumer, was nearly one-third lower in 1932 than in 1929, but that of all other countries taken together rose by 12 per cent, owing chiefly to increased absorption by Russia, Japan, the United Kingdom and the minor consuming countries, which are largely manufacturers of rubber boots and shoes. The drop in the American absorption is to a great extent to be attributed to a falling-off in the home demand for tyres, but also in part to the fact that many American firms interested in the export market have established branch factories abroad. The considerable contraction in the activity of the American rubber industry in the second half of 1932, which is the reverse of what happened in most other industries, was due to special taxes on the industry, introduced in the middle of the year. On the other hand, the British rubber industry was appreciably more active in the later than in the earlier part of the year.

### III. PRICE MOVEMENTS

#### MOVEMENTS OF THE GENERAL LEVEL OF WHOLESALE PRICES.

The rapid fall in commodity prices which began in the autumn of 1929, and which constitutes in some respects the central factor in the present economic depression, persisted almost without interruption throughout 1932 and the first quarter of 1933. The intensity of the decline may first be measured by means of general indices of wholesale prices; the following table shows for a group of important countries the percentage decline in these indices from their peak month in 1929 to March 1933:

*Table I.*

#### WHOLESALE PRICE INDICES OF CERTAIN COUNTRIES.

Pre-War Base.

	Peak in 1929	Low Point of Depression	March 1933	Per cent decline Peak 1929- March 1933
Netherlands . . . . .	147	72	72	51
Egypt . . . . .	125	70	70	44
Italy . . . . .	499	287	287	42
France . . . . .	660	390	390	41
U. S. A. . . . .	138	86	86	38
Switzerland . . . . .	143	90	90	37
Germany . . . . .	140	91	91	35
Canada . . . . .	154	99 <sup>1</sup>	101	34
United Kingdom . . . . .	140	98	98	30
Australia . . . . .	171	122	122	29
Sweden . . . . .	145	105	105	28
Japan . . . . .	172	111 <sup>2</sup>	134	22

<sup>1</sup> February 1933.

<sup>2</sup> June 1932.

Several interesting facts emerge from the above table. Although the indices for different countries are not completely comparable, as they are not constructed on uniform principles, it seems clear that since 1929 the fall in the general level of wholesale prices has been greatest in the countries adhering to the gold standard, and that in this group the decline has ranged from about 40 to 50 per cent. Of the six countries included in the above table whose wholesale price indices fell by 37 per cent or more from their peak in 1929 to March 1933, five were still on the gold standard in the latter month. The price index of the sixth, Egypt, is largely influenced by the prices of raw materials which, as is well known, continued their downward course to the beginning of 1933. This is also true of the price index for Canada, which fell by 36 per cent between the 1929 peak and February

1933 and rose slightly in March. With the exception of Canada and Japan, wholesale prices in all countries, including those which had abandoned the gold standard, were lower in March 1933 than in any previous month of the depression. Even in the case of Japan, the low point of prices was reached after, and not prior to, the abandonment of the gold standard in December 1931. In the majority of countries included in the above table, the general level of wholesale prices in March 1933 was lower than in 1913; this applies also to France and Italy where the indices of *gold* prices stood more than 20 per cent below their pre-war level.

The recent fall in wholesale prices is remarkable, not only for its magnitude and universality, but also for its duration. The following table compares the movements of the Bureau of Labor Statistics index number of wholesale prices in the United States during the post-war depression of 1920 to 1922 and the current recession.

Table II.

COMPARISON OF MOVEMENTS OF WHOLESALE PRICES IN THE UNITED STATES OF AMERICA, 1920-1922 and 1929-1933.

	1920-1922	1929-1933 <sup>1</sup>
Percentage decline . . . . .	45	38
Duration of decline . . . . .	21 months	44 months
Intensity of decline per month (percentage) . . . . .	2.8	1.1

<sup>1</sup> To February 1933.

The recent decline of 38 per cent in the general level of wholesale prices in the United States may be compared with a fall of 45 per cent during the deflation crisis of 1920 to 1922; the present decline has, however, lasted for 44 months (to February 1933), or more than twice as long as in the earlier period. There is, moreover, another important distinction between the two periods: in the middle of 1920, wholesale prices turned sharply downwards after a very rapid rise which had brought the general level up by almost 25 per cent in less than a year, and by over 140 per cent in five years. The pre-recession level of 1920 was not one which could have been regarded as permanent, and relatively few long-term commitments had been entered into on the basis of that level; consequently, the resistances to liquidation were relatively weak. The decline of 1929 to 1933, on the other hand, started from a level which had shown only slight variations during the preceding eight years. The general price position in the first half of 1929, in so far as judged by wholesale price indices, had an air of permanency: a very large volume of debt had been contracted on that basis; and new wage policies had been adopted on the assumption of price stability. As a result, when the downward pressure began in the autumn of 1929, the resistances to liquidation were extremely strong. These resistances prevented the attainment of a new equilibrium at a lower level and brought about a distortion of the price structure, which it is one of the aims

of this chapter to analyse. The discrepancies in the price movements of particular commodities and commodity groups necessarily caused a contraction in production and trade and brought a continuous downward pressure to bear on the whole price level. The strong resistances to liquidation during the current depression are reflected in the last line of the above table, which shows that, during the depression of 1920 to 1922, price decline proceeded at the average rate of 2.8 per cent per month, while, between July 1929 and February 1933, the average rate of price decline was only 1.1 per cent per month. When prices stopped falling in 1922, they stood at the same level as they had been five and a-half years earlier, and were still over 40 per cent higher than before the war; in order to find the American wholesale price index at as low a level as that reached in the first months of 1933, it is necessary to go back almost a generation to the period before the war: wholesale prices in March 1933 were, on an average, almost 15 per cent lower than in 1913.

The disastrous consequences of so rapid a decline in prices as the world has experienced during the past three and a-half years are unfortunately well known and need not be reviewed again at this point. Perhaps the most serious aspect of the fall in prices has been the very unequal incidence of the decline on different types of goods and services. Under the present organisation of economic society, business enterprises necessarily enter into contracts requiring them to make fixed money payments at stated dates over considerable periods of time. Funded debt, mortgages, leases and insurance contracts may be cited as examples of such obligations. When prices fall rapidly, the monetary value of the national income contracts and a larger share of the smaller total is required to meet these fixed obligations. Other charges, such as wages, though not fixed by contract, are often difficult to reduce; in other words, costs do not fall as rapidly as prices, with the result that profits are reduced or entirely eliminated. Investment being unprofitable, few new enterprises are begun and existing firms operate at only part capacity. Unemployment follows and the purchasing power of industrial workers declines. While prices are falling rapidly, investment falls short of savings, because the difficulty of adjusting costs to prices makes investment unprofitable; under these circumstances, savings become "abortive" or are consumed through public or private distribution of "purchasing power" in the form of unemployment relief, etc.

Industries and countries with a heavy burden of overhead charges are affected with particular severity by the fall in prices. A large national debt, for example, may endanger budgetary equilibrium in such a period, as the service of debt is fixed in terms of money, and State revenues generally decline along with prices and incomes. Some countries of outstanding credit have resorted to successful conversion operations in order to reduce the burden of their national debt, but this expedient has not been open to all. Countries with rigid wage-systems and capital structures have found themselves unable to compete successfully in world trade with those whose wage-systems and capital structures have been more elastic.

The burden of fixed monetary obligations has been particularly serious where such obligations have been payable abroad. Even before the onset of the depression, when international lending fell off in 1928 and 1929, the debtor States were constrained to adjust their trade balances to the necessity of meeting interest and amortisation payments in foreign currencies. This they could do only by increasing their exports, which helped to precipitate the fall in the prices of these products; as debtor States are in most cases producers of raw materials, this meant a lowering in their prices and a widening of the price margin between raw materials and finished products — obviously a relationship of a nature to stimulate an industrial boom. When this boom broke in the autumn of 1929, the pressure on the debtor States became doubly severe; not only did long-term international capital movements come virtually to a standstill, but short-term credits were withdrawn. In part, these credits had been used to maintain or “valorise” the prices of raw products; this “valorisation” was in most cases accomplished by the accumulation of stocks which were withheld from the market. When credits were withdrawn and it was no longer possible to finance these stocks, they were thrown on the market and raw-material prices broke very severely. The real burden on the debtor States was further increased by this fall, and under the influence of industrial recession (caused, indeed, in part by the decline in the purchasing power of primary producers) the demand for raw products both contracted sharply and became inelastic. As early as the end of 1929, certain debtor States producers of raw materials — for example, Argentine and Australia — were unable to satisfy the full demand for foreign currencies at the legal parities and were forced to allow their currencies to depreciate in terms of gold.

The case was somewhat different for the industrialised debtor States, such as Austria and Germany. Here the difficulty was not that export products fell so rapidly in price that the burden of debt became insupportable, but rather the facts, first, that internal rigidities prevented a sufficient reduction in the prices of finished goods to enable these countries rapidly to convert a passive trade balance to an active balance sufficiently large to meet all debts due abroad and pay, as well, for essential imports; and, secondly, that the necessary adjustment in their trade balances through increased exports was hindered by the measures of commercial policy taken by creditor nations to restrict imports into their own territory. For a time, the gap in the balance of payments of these States was bridged by means of foreign short-term credits. These credits, however, added a fresh element of instability to the situation, as they could be withdrawn at any moment. They were, in fact, withdrawn in large amounts in the summer of 1931 and there was, moreover, a considerable flight of domestic capital; the debtor States, faced with the possibility of a depreciation in the external value of their currencies, and unwilling to incur the risk of a repetition of the post-war inflation experiences, declared virtual moratoria on the withdrawal of short-term capital by instituting official control of all transactions in foreign currencies and permitting the purchase of these currencies only for approved purposes. The institution of *devisen* control soon became widespread and the device was adopted, not only by debtor, but also by certain Continental creditor nations.

Finally, the fall in commodity prices brought about the abandonment of the gold standard by the United Kingdom and certain other creditor nations. Here, as in the case of Germany and Austria, the difficulty was one of adjusting the internal level of money costs to the fall in prices, and a consequent loss in export capacity. Imports, on the other hand, were relatively well maintained, partly because the loss in purchasing power resulting from unemployment was offset to some extent by unemployment insurance grants. Budgetary stability, however, was seriously impaired. The United Kingdom, though creditor on long-term, was debtor on short-term, and the financial crisis and institution of foreign exchange control in Germany gave rise to serious doubts regarding the former country's ability to meet her foreign short-term obligations, as it was known that a substantial proportion of her borrowings abroad had been advanced to Germany. For all these reasons, short-term capital was withdrawn from England in large amounts during the summer of 1931, and finally the convertibility of the pound was suspended on September 19th and the external value of the pound allowed to depreciate in terms of gold. The United Kingdom was immediately followed by countries largely dependent on the British market, including the whole of the British Empire except South Africa, the Scandinavian countries and Finland, Portugal and several South-American States. Japan followed at the end of 1931, Greece in April 1932 and the Union of South Africa at the end of that year. Moreover, after the suspension of the gold standard by the United Kingdom, several additional countries imposed restrictions on transactions in foreign currencies.

At the beginning of 1933, the only important countries remaining on the gold standard without an exchange control were the United States of America, France, Belgium, Switzerland, the Netherlands and Poland ; the exchange of Italy had been quoted at a discount substantially greater than the gold export point since November 1931. About thirty countries, including the whole of the British Empire, were off the gold standard ; and the remaining countries of the world had instituted official control of foreign exchange transactions. In considering price movements up to the beginning of 1933, it is, accordingly, necessary to distinguish between these three groups of States, as it is not to be expected that the fluctuations will have been uniform in all of them.

The analysis may begin with a consideration of the movements of the gold prices of sensitive commodities. The following diagram, drawn on a logarithmic scale, shows the monthly fluctuations since the beginning of 1929 of the sensitive price index published by the Harvard Bureau of Economic Research.

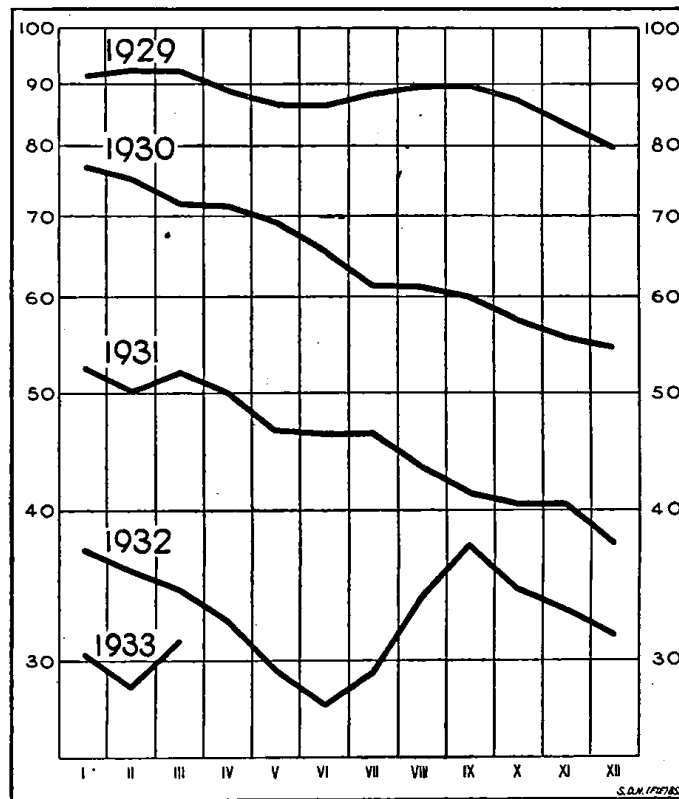
It must be emphasised that this index number is composed of a small number of primary products traded in on world markets and included in the index because they are particularly volatile in price ; the fluctuations of the index are therefore very violent and, as will be shown later, exaggerate the movements, not only of the general level of wholesale prices, but also of primary products considered as a whole. The movements of this index, however, tend to precede those of the general level of prices and as, moreover, the index covers important world



staples such as wheat, cotton, hides, sugar, etc., and therefore reflects in some measure the evolution of the purchasing power of unprotected primary producers, its fluctuations are of particular interest.

*Diagram I.*

SENSITIVE PRICE INDEX OF THE UNITED STATES OF AMERICA, 1929 TO 1933.  
(1926=100.)



It will be observed that, even at the beginning of 1929, the sensitive price index was almost 10 per cent lower than the base year, 1926. The rapid fall of recent years began in October 1929 and persisted almost without interruption to June 1932; in the latter month, the index stood at less than 28 per cent of its 1926 level. The decline from January 1929 to June 1932 amounted to 70 per cent. This fall was, of course, not evenly distributed over the entire period: in 1929 (January 1929 to January 1930), the index fell by 16 per cent, in 1930 by 32 per cent, in 1931 by 29 per cent, and in the first half of 1932 by 25 per cent. The intensity of

decline was greater in the first half of 1932 than at any other period of the depression; from June to September, however, there was an equally violent upward movement which raised the index over 35 per cent to a point higher than the level prevailing at the beginning of the year. It is a significant fact that the index reached its low point just before the successful reparations negotiations at Lausanne in July 1932; during the next three months the commodity markets would appear to have been largely influenced by the optimism engendered by that settlement. Prices again began to fall in October, however, and the decline continued during the first two months of 1933; the index did not, however, reach the low level of June 1932, and an upward movement began in March 1933. The net decline during 1932 amounted to 18 per cent.

Turning now to a consideration of the movements of wholesale prices in general in the three groups of countries distinguished above, attention may be directed to the following diagram, which shows the movements of the official wholesale-price indices of the United States of America, taken to represent the gold-standard countries<sup>1</sup>; the United Kingdom, taken to represent the countries which have suspended gold payments; and Austria, taken to represent the countries instituting official control of foreign exchange transactions; the wholesale-price index of Germany is also shown. Detailed monthly figures for these and certain other countries will be found in Appendix III, Table 1.

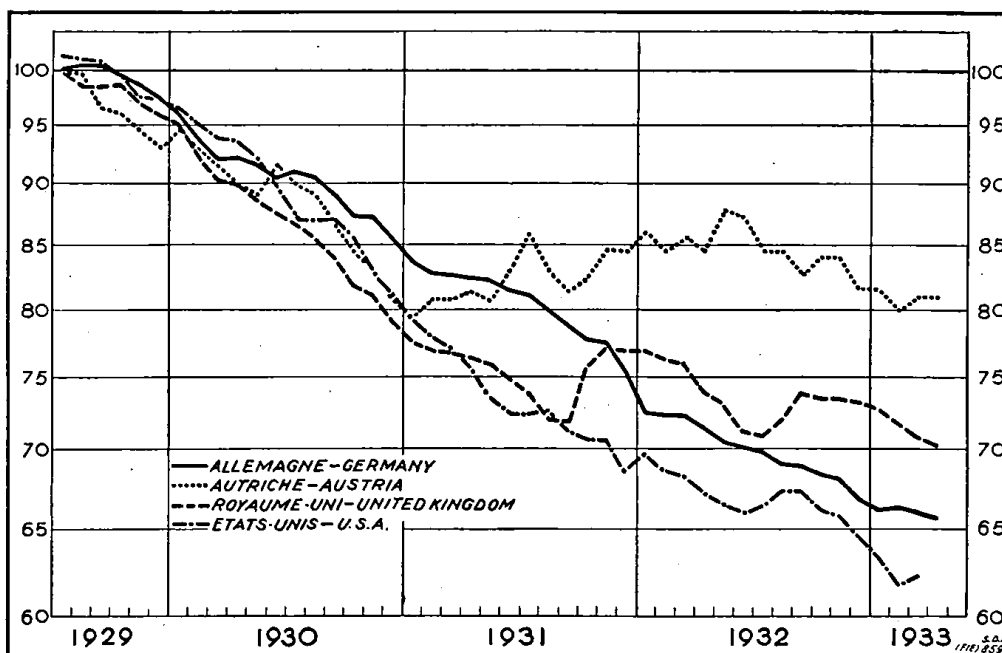
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<sup>1</sup> As Diagram II and Table III below do not extend further than March 1933, the United States is classified as a gold-standard country therein. An embargo on gold exports was temporarily imposed in March 1933 and some control of foreign exchange transactions was instituted. Gold exports were allowed under licence, however, and the external value of the currency fluctuated around its gold parity until April 19th. On that date, a complete embargo on gold exports was imposed, and the value of the currency was allowed to depreciate in relation to its gold parity. For a discussion of price movements in the United States of America since the depreciation of the American exchange, see pp. ~~20-21~~ 95-96 below.

*Diagram II.*

WHOLESALE-PRICE INDICES OF THE UNITED STATES OF AMERICA, THE UNITED KINGDOM, AUSTRIA AND GERMANY.

(First half 1929=100.)



The movements of the four wholesale-price indices shown above are roughly similar until the beginning of 1931; between the first half of 1929 and January 1931, the indices fell by 15 to 20 per cent. From that month to the middle of 1932, the price index for Austria moved irregularly upwards, being over 10 per cent higher in May 1932 than in January 1931; since the former month the index has again declined. The indices for the United States of America and Germany declined almost continuously throughout the period covered by the diagram and were about one-third lower in March 1933 than in the base period. It is of particular interest to observe that the very substantial rise in primary products in the summer of 1932, which brought about a 35 per cent increase in American sensitive price index between June and September of that year (as shown in Diagram I above), was reflected to only a very slight extent in the movements of the general wholesale-price indices; the complete American index was only about 2 per cent higher in September than in June 1932.

The movements of various national price indices since the widespread abandonment of the gold standard and the institution of exchange control in the autumn of 1931 naturally show great divergences and must be studied in greater

detail. In the following table are set out the monthly fluctuations of the wholesale-price indices of nine countries, representative of (a) the gold-standard group, (b) the paper-standard group, and (c) the exchange-control group from September 1931 to March 1933 on the basis of September 1931 = 100.

Table III

WHOLESALE-PRICE INDICES BY GROUPS OF COUNTRIES, SEPTEMBER 1931 TO MARCH 1933  
(September 1931=100.)

	Countries remaining on unrestricted gold standard in March 1933			Countries which had abandoned gold standard by March 1933			Countries which had instituted foreign exchange control by March 1933		
	U.S.A. <sup>1</sup>	France	Switzerland	United Kingdom	Sweden	Canada	Germany	Austria	Roumania
1931:									
X . . .	99	97	100	105	101	100	99	101	99
XI . . .	99	95	100	107	103	101	98	104	100
XII . . .	96	93	97	107	104	101	95	104	94
1932:									
I . . .	95	93	95	107	102	100	92	106	94
II . . .	93	94	94	106	103	99	92	104	95
III . . .	93	94	93	106	102	99	92	105	101
IV . . .	92	93	92	103	102	98	91	104	100
V . . .	90	93	90	102	102	97	90	107	96
VI . . .	90	90	89	99	101	96	89	107	92
VII . . .	91	91	88	99	101	96	88	104	90
VIII . . .	92	88	89	100	101	96	88	104	92
IX . . .	92	87	89	103	103	96	88	102	99
X . . .	90	87	89	102	103	93	87	103	100
XI . . .	90	87	89	102	102	93	86	103	102
XII . . .	88	87	86	102	101	92	85	100	102
1933:									
I . . .	86	87	86	101	99	92	84	100	106
II . . .	84	85	85	100	99	91	84	98	107
III . . .	85	82	85	98	98	92	84	99	—

<sup>1</sup> See note page 84 above.

The general level of wholesale prices in countries remaining on an unrestricted gold standard fell by 15 to 20 per cent between September 1931 and March 1933. The decline was quite steady until February 1933, with some alleviation in the summer of 1932; the American index was slightly higher in March than in February 1933. Less uniformity is naturally found among the price indices of countries which have abandoned the gold standard; wholesale sterling prices in the United Kingdom moved up from September 1931 until the beginning of 1932, then fell steadily until the middle of the year, rose during the summer months and displayed a falling tendency between then and March 1933. The sensitiveness of the British index is due to the fact that it is heavily weighted with raw materials. The Swedish index shows greater stability throughout the whole period, but in broad lines the movements follow those in the United Kingdom. It may be observed that

(largely as a result of private speculation) the exchange ratio between the Swedish krone and the pound remained fairly fixed and that the declared policy of the Riksbank was to maintain a specially constructed index number of consumption goods at a stable level. Wholesale prices in Canada continued to fall from the autumn of 1931 to February 1933, though not so rapidly as in the gold standard countries. Throughout this period, the Canadian dollar has been consistently quoted at a discount about half as great as that on the pound; it is, therefore, not surprising that, in so far as influenced by the currency factor, the general level of wholesale prices in Canada should have fallen more than in the United Kingdom and less than in the gold standard countries.

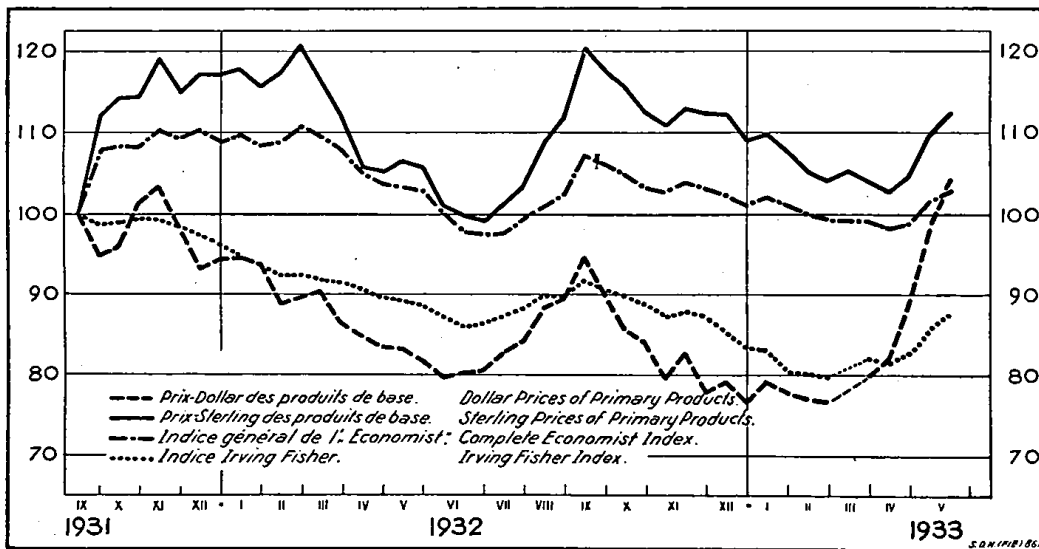
Turning now to the group of countries maintaining official quotations for their currencies in the neighbourhood of the mint parities by restricting transactions in foreign exchange, it is necessary to distinguish between two groups: in the first, of which Germany is representative, the exchange control has been accompanied by a policy of drastic domestic deflation, and the currency has maintained its full value in foreign and unofficial markets. In Germany, the deflationary policy reached its culmination in the Fourth Emergency Decree of December 1931; here the movements of wholesale prices have closely followed those in the full gold standard countries. The same is largely true of Czechoslovakia, where the general index stood at 91 per cent of its September 1931 level in March 1933. In the second group of foreign exchange control countries, the currency, though officially maintained at its gold parity, has been quoted at substantial discounts on foreign and unofficial markets; in Austria, for example, the restriction in imports brought about by means of the exchange control was not accompanied by a corresponding contraction in the means of payment: internal prices therefore rose very perceptibly and the exchange depreciated on unofficial markets. The net result, so long as exchange transactions were legally concentrated in the hands of the Central Bank, and foreign currencies were bought and sold by it at their par rate, was to discourage exports and so defeat the very object for which the control was instituted. In the latter half of 1932, both these policies were reversed: the depreciation of the schilling has been officially recognised, all foreign merchandise transactions now being settled at the true rate, and there has been a substantial contraction in the volume of monetary circulation. From the middle of 1932 to March 1933, the Austrian price index fell by  $8\frac{1}{2}$  per cent, or more rapidly than the indices of Germany or the gold standard countries; this fall was accompanied by a decrease in the *disagio* of the Austrian schilling on foreign markets.

It will be observed in the above table that the general level of wholesale prices in the United Kingdom was lower in March 1933 than in September 1931, in spite of the fact that the exchange value of sterling against gold currencies had fallen by about 30 per cent in this period. Several factors go to explain this apparent discrepancy between the movements of the internal and the external purchasing power of the pound. In the first place, and most important, gold prices fell very considerably after, and, as will be shown below partly in consequence

of the British abandonment of the gold standard. The following diagram shows the relative movements of prices in the United Kingdom and the United States of America since September 1931 on the basis of September 18th, 1931 = 100.

Diagram III.

WHOLESALE PRICES IN THE UNITED KINGDOM AND IN THE UNITED STATES OF AMERICA, 1931-1933.  
(September 18th, 1931=100.)



The upper curves represent the movements of sterling prices, while the lower curves show the fluctuations of dollar prices. Until the depreciation of the dollar exchange in April 1933, the fluctuations of dollar prices may be taken as representative of the general movement of gold prices. For both the United Kingdom and the United States two curves are shown, one representing primary products and the other a complete index; the complete index of dollar prices is that of Irving Fisher; the other indices are calculated by the London *Economist*.

From October 1931 to end of February 1932, the general index of sterling prices remained fairly stable at a level about 10 per cent higher than September 1931, while the sterling prices of primary products fluctuated at a somewhat higher level. During these months, the trend of gold prices continued downwards. Sterling prices fell rapidly from the beginning of March to the end of June 1932, when both the index of sterling prices of primary products and the complete *Economist* index reached lower levels than those prevailing just prior to the United

Kingdom's abandonment of the gold standard in September 1931. The upward turn of prices in the summer of 1932 appears to have originated in the "gold area", as both American indices reversed their downward movement some weeks before the indices of sterling prices. All four indices reached their apex in the middle of September 1932; from that month to the end of February 1933 the trend was downwards. At the last date mentioned, the gold prices of primary products were, on an average, 23 per cent lower than in September 1931 and the complete Irving Fisher index was about 20 per cent lower. The sterling prices of primary products were 4 per cent higher and complete *Economist* index slightly lower than in September 1931.

With the American banking difficulties at the beginning of March 1933, the index number of dollar prices of primary products turned sharply upwards. It rose with particular abruptness after the official suspension of the gold standard in the middle of April, and, in the middle of May, stood more than 35 per cent higher than at the beginning of March. This rise carried the index number of dollar prices of primary products to its highest level since September 1931. The complete index number of American prices moved less violently, but its tendency has also been upwards since the beginning of March. Sterling prices did not show any decided upward movement until after the depreciation of the American currency in the latter half of April; the increase in sterling prices has, moreover, been more moderate than in dollar prices. At the middle of May, the special *Economist* index of sterling prices of primary products was 9 per cent and the complete index 5 per cent higher than at the beginning of April and both indices were considerably below the levels reached in September 1932.

The fall in gold prices between September 1931 and March 1933 is, of course, in part to be attributed to a continuance of the same factors which caused prices to fall almost without interruption since the autumn of 1929. There would appear to be little doubt, however, that the depreciation and fluctuation of sterling itself exercised a depressing influence on gold prices, and this for several reasons.

In the first place, for a large number of products, the leading international price quotations are in terms of sterling. For such products, sterling forms the basis of contracts and a depreciation of sterling automatically effects a corresponding fall in gold prices. Secondly, the depreciation of sterling has as an immediate consequence a fall in the gold value of all British exports; producers in other countries, faced with this increased British competition, have been forced to adjust their own prices to it. Moreover, the depreciation of sterling acts as an automatic tariff against all imports, and the importance of the United Kingdom as a consuming market has forced other countries to lower their prices in an attempt to surmount this tariff; certain States largely dependent on the British market have been unable to effect the cost adjustments required in the ordinary way and have lowered their gold export prices by allowing the external value of their own currencies to depreciate. Since the autumn of 1931, the Scandinavian currencies, for example, have fluctuated more or less at a par with sterling. Other countries whose currencies were already depreciated in relation to sterling

before September 1931 — for example, Australia and New Zealand — have sought to maintain their relative position by keeping the same discount on their currency in terms of sterling after the latter had depreciated; in the case of New Zealand, the discount has even been increased. By the beginning of 1933, the currencies of more than half the countries of the world accounting for over 60 per cent of the total value of world trade were depreciated in relation to their gold parities; the pressure on prices in the gold standard countries and on gold prices throughout the world has been accentuated by this factor. Moreover, the general disorganisation of currencies has placed additional hindrances in the way of international trade, both on account of the increased risk involved and on account of the protective measures it has provoked, and, by tending further to restrict the volume of trade, has added considerably to the forces tending to depress prices on world markets.

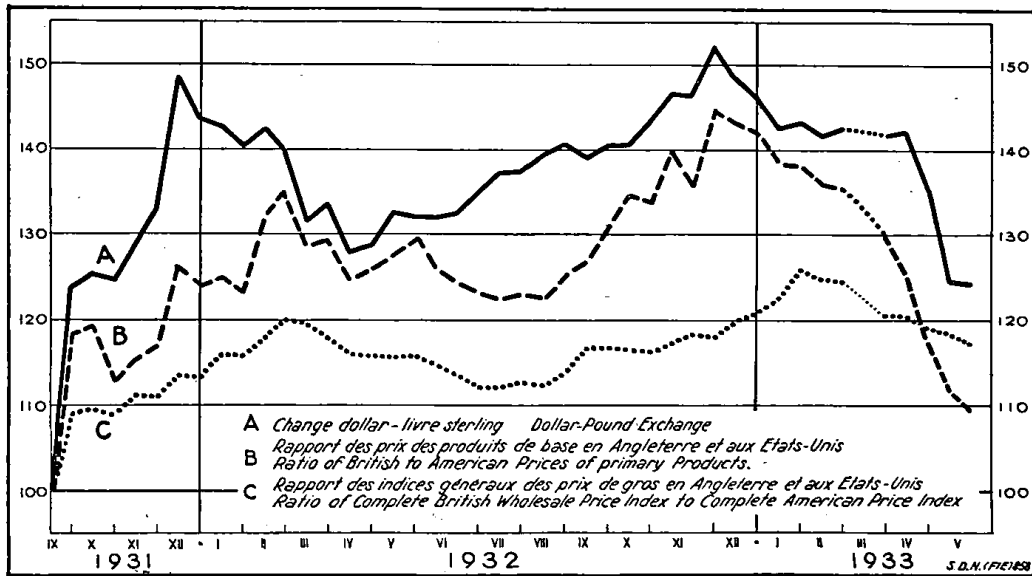
It is now of interest to enquire to what extent the ratio between sterling and gold prices since September 1931 has corresponded with the sterling value of gold, as shown for example in the dollar-pound exchange rate. If prices in the United Kingdom reacted instantaneously to changes in the exchange rate, or if, conversely, the exchange rate adjusted itself immediately to relative changes in sterling commodity prices, then it would be expected that the movements of these two series would be identical.

The following diagram shows the relationship between the dollar-pound exchange on the one hand and the ratio of sterling to dollar prices on the other. The upper curve shows the fluctuations in the value of the dollar in terms of pounds since September 1931; the middle curve shows the changes in the ratio of the sterling prices of primary products to the dollar prices of primary products; and the bottom curve shows the changes in the ratio of the complete *Economist* index of sterling prices to the complete Irving Fisher index of wholesale prices in the United States.



Diagram IV.

RATIO OF BRITISH AND AMERICAN PRICES AND DOLLAR-POUND EXCHANGE, 1931-1933.  
(September 18th, 1931=100.)



As would be expected, the price ratio for primary products traded in on organised exchanges corresponds with the fluctuations of the dollar exchange much more closely than the price ratio of the general indices. The general indices contain many products whose prices are largely determined by internal factors which are not directly or immediately influenced by exchange fluctuations; it will already have been observed in the previous diagram that the divergences between the movements of the general price indices of the United Kingdom and the United States of America are much smaller than the divergences between the two indices of primary products. Even if all raw materials used in the United Kingdom were imported and if their sterling prices rose in full proportion to the depreciation of sterling, the general level of sterling prices would be affected only to the limited extent that imported raw materials enter into the total costs of British industry and agriculture. The connection between exchange movements and the internal level of money costs is not direct and, not only have these costs failed to rise in the United Kingdom since September 1931, but have even tended downwards. The general level of money wages in the United Kingdom, for example, appears, according to Professor Bowley's calculations, to have been 3 per cent lower at the beginning of 1933 than in September 1931. It may be pointed out that during the same period the composite index of wages in the United States

published by the Federal Reserve Board fell by almost 20 per cent. If the internal purchasing power of sterling and the dollar be measured in terms of their command over labour, instead of in terms of their command over commodities at wholesale, as done in the above diagram, then it would appear that the relative decline in the internal purchasing power of the pound between September 1931 and the beginning of 1933 was about 17 per cent.

The above diagram shows that the ratio of sterling to gold prices of primary products by no means coincides exactly with the curve of dollar-sterling exchange, though it is much closer to this than the ratio of the complete price indices for the two countries. The existence of stocks in the United Kingdom and the small volume of international trade would appear to have prevented an instantaneous adjustment of prices and the exchange rate. The discrepancies were particularly marked in the first months of the depreciation of sterling; sterling prices of primary products failed to rise to the full extent of the appreciation of gold in terms of sterling and this fact was no doubt partly responsible for the rise in the exchange value of sterling (shown in the diagram as a decline in the dollar-sterling rate), which set in at the end of November 1931 and persisted until May 1932. For a time there was a relative rise in sterling prices in spite of this favourable exchange movement, but when the discrepancy between the curves had been practically eliminated, they moved more or less parallel for several months. A fresh discrepancy of considerable magnitude developed in May-July 1932, when the sterling-gold price ratio fell simultaneously with a rise in the dollar-sterling exchange, but from July to October the former ratio rose more rapidly than the latter and from the latter month until the beginning of 1933 the two curves moved in the same direction with inconsiderable discrepancies.

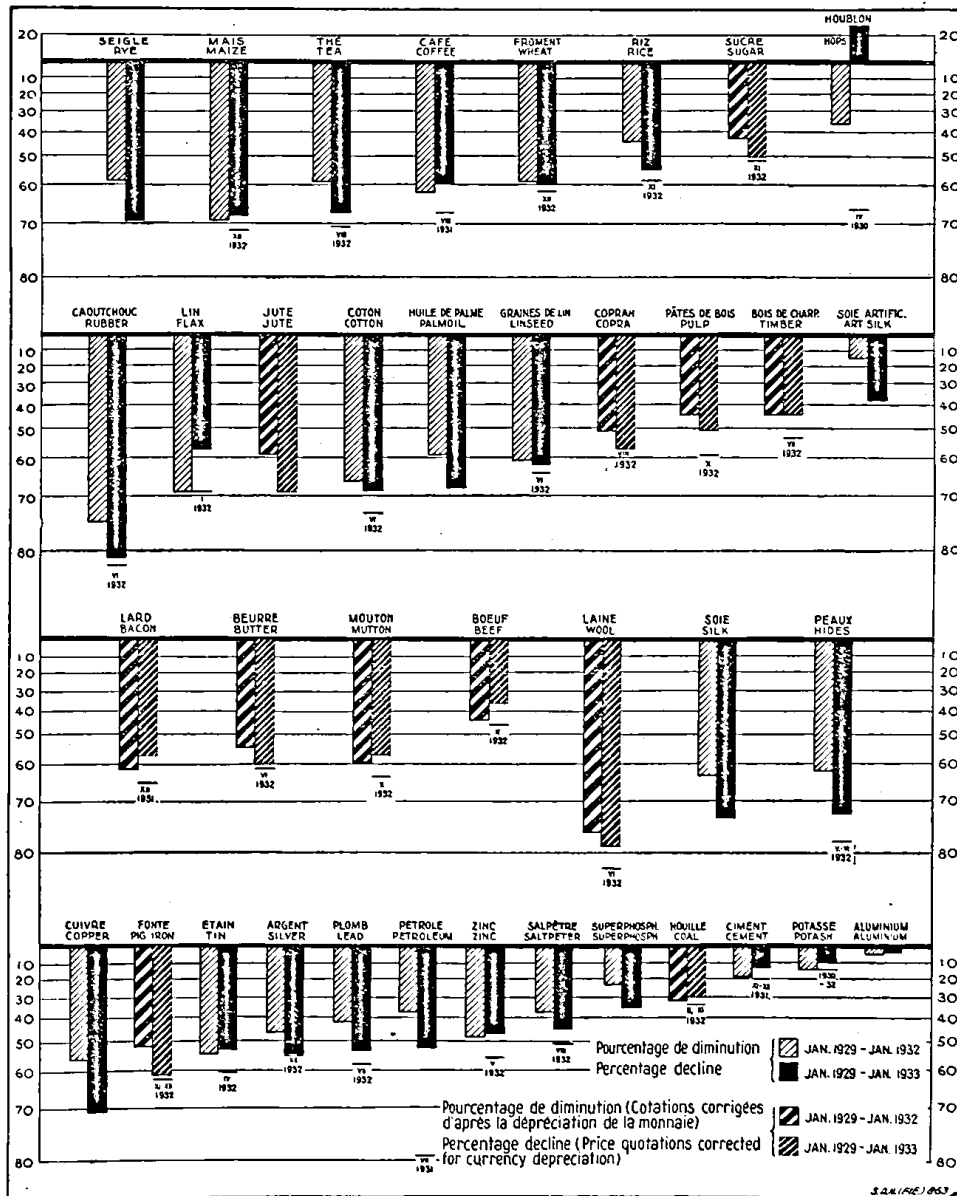
The sharp fall in the dollar-pound exchange after the official abandonment of the gold standard on the part of the United States of America in the middle of April was accompanied, as shown above, by a much greater rise in the dollar prices of primary products than in their sterling prices, with the result that Curve B of the above diagram fell sharply. The position at the beginning of May was as follows: the dollar-sterling exchange was 25 per cent higher than just before the British abandonment of the gold standard; the ratio of sterling to dollar prices of primary products was 10 per cent higher; and the ratio of the complete sterling wholesale-price index to the complete dollar wholesale-price index was 15-20 per cent higher.

#### MOVEMENTS OF INDIVIDUAL COMMODITY PRICES.

The decline in prices has, of course, not affected all commodities with equal intensity. Diagram V shows the percentage changes in the gold prices on world markets of some forty raw materials from the beginning of 1929 to the beginning of 1933. For each commodity two bars are given — the first shows the percentage decline from January 1929 to January 1932, and the second the percentage decline from January 1929 to January 1933. The movement during 1932 may be seen

Diagram V.

PERCENTAGE CHANGE IN GOLD PRICES OF CERTAIN FOODSTUFFS AND RAW MATERIALS ON WORLD MARKETS, JANUARY 1929 TO JANUARY 1933.



by comparing the length of the two bars — in cases where prices rose during 1932, the second bar is shorter than the first. Wherever the price for January 1933 does not represent the lowest price reached in the course of the depression, a straight line has been drawn below the second bar at the appropriate point showing the month in which the lowest point was attained. The price quotations for certain commodities have been taken on markets with fluctuating exchanges (wool, bacon, coal and copra in England, butter in Denmark, beef in the Argentine, mutton in New Zealand and timber and pulp in Sweden); in these cases, broken bars have been utilised. The diagram is drawn on a logarithmic scale.

The most significant disparities in the price decline up to January 1932 of the various commodities included in the diagram were summarised in the last edition of this publication. Attention was there drawn to the fact that the most important organic products (vegetable foodstuffs and textiles) had fallen by 60 to 70 per cent, while many inorganic products (minerals and chemicals) had fallen considerably less. The fall was particularly marked for commodities which were subject to unsuccessful attempts at valorisation, as these attempts frequently resulted in the accumulation of large stocks which were either thrown on or hung over the market, in either case exercising a depressing influence on prices. The price decline was slight for commodities where monopolistic control remained effective during the depression — *e.g.*, aluminium and potash.

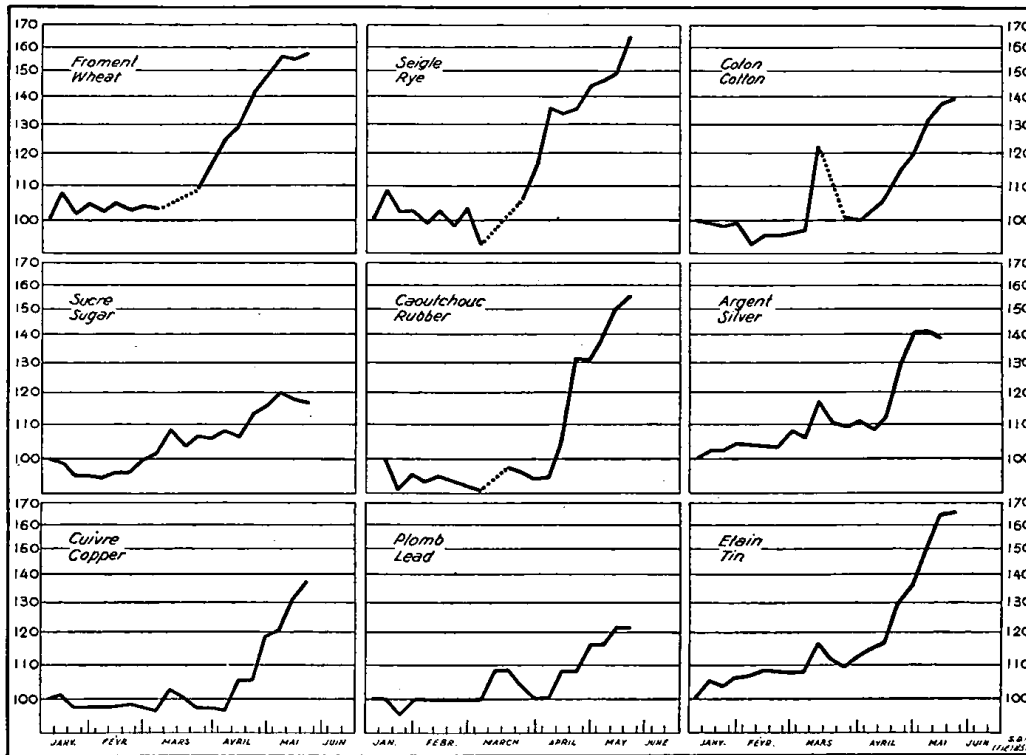
At the beginning of 1933, the world market prices of eleven of the thirty-eight commodities included in the above diagram were higher than a year earlier. Seven of these were agricultural products (maize, coffee, hops, flax, bacon, mutton and beef) and four mineral products (tin, coal, cement and potash). The rise was slight in all cases except flax and hops. The prices of all but eight products reached their low point of the depression some time before January 1933; in most cases the low point was reached during the course of 1932, and frequently in the summer of that year.

The position at the beginning of 1933 may be summarised as follows: the gold prices of most textiles stood at levels 70 to 80 per cent below those prevailing at the beginning of 1929; cereals and other vegetable foodstuffs were 50 to 70 per cent lower in price; animal foodstuffs were 40 to 60 per cent lower; most of the non-ferrous metals, including silver, were 50 to 55 per cent lower, with the exception of copper which was more than 70 per cent lower; coal was about 35 per cent lower, and cement, potash and aluminium had fallen even less.

The above diagram is based upon the movements of *gold* prices; where quotations have been taken on non-gold standard markets, they have been corrected for the depreciation of the exchange in question in relation to the American dollar. The general upward movement in the prices of primary products in the United States of America after March 1933 has already been illustrated in Diagram III above, and it is now of interest to examine the behaviour of particular commodities. The following diagram shows the weekly fluctuations in the prices of nine important staples in the United States of America since the first week of January, which is taken as equal to 100 in all cases.

Diagram VI.

WEEKLY FLUCTUATIONS IN PRICES OF CERTAIN COMMODITIES IN THE UNITED STATES OF AMERICA,  
 JANUARY TO MAY 1933.  
 (First week January=100.)



The most striking feature of the above diagram is, of course, the uniformity with which commodity prices moved upwards during the month of April. In the case of wheat, the rise began earlier and was partly based on forecasts of very small wheat crops in the United States. The upward movement gained momentum during April, however, and by the middle of May wheat prices were over 50 per cent higher than at the beginning of the year. Rye prices were over 60 per cent higher and sugar 20 per cent higher. Rubber, after weakening somewhat in price during the first quarter of 1933, shot up over 50 per cent during April and the first half of May, and tin accelerated its steady rise since the beginning of the year, which was partly brought about by the renewal of control, being almost 70 per cent higher in price at the middle of May than in January. Lead rose by 20 per cent, copper by 35 per cent and silver by 40 per cent.

Although there was some improvement in the statistical position of certain commodities, the chief explanation of the general upward movement during the months of April and May is naturally to be found in the speculation resulting from the uncertainty surrounding the American monetary policy and the anticipation of inflationary legislation. Between the reimposition of the embargo on the export of gold on April 19th, 1933, and the end of May, the exchange value of the dollar against the remaining gold currencies had depreciated by about 15 per cent, but no active inflationary steps had yet been taken.

#### INEQUALITIES IN RECENT PRICE MOVEMENTS.

In the first section of this chapter, attention was concentrated on the movements of the general level of wholesale prices in certain representative countries; in the second section, the behaviour of individual commodity prices was examined; and, in the present section, a study is made of the inequalities in recent price movements. Although this division of the subject-matter is convenient for purposes of analysis, the movements of the general level of wholesale prices is in itself of but little significance, apart from the discrepancies that arise during a general movement. The level of economic activity in various branches of industry is not determined by fluctuations of the general level of wholesale prices, a conception without specific meaning to the individual *entrepreneur*, but by the relative price movements of the things the *entrepreneur* buys and the things he sells. The economic difficulties of the past few years are, indeed, not so much to be attributed to the fact that the general level of wholesale prices has fallen as to the fact that different prices have fallen at different rates. The unequal incidence of falling prices on various groups of products has distorted economic relationships and contracted the volume of production and trade. It is the purpose of the present section to analyse some of the more significant disequilibria which have been introduced into the price structure during the past few years.

#### *Raw Materials and Manufactured Goods.*

In many respects, the most important of these disequilibria is the discrepancy between the price movements of raw materials and manufactured goods. During the past few years, raw materials have fallen very much more in price than finished products; as a result, the producers of the former have been forced to curtail their purchases of the latter, thus causing unemployment in manufacturing industry. This unemployment has reduced the buying power of industrial workers, restricting their demand for commodities and adding further to the forces tending to depress prices. In this way, the discrepancy between the price movements of these two groups brings a continuous pressure to bear on the whole price structure.

The following table compares the decline in the prices of these two groups of products in four countries from the beginning of 1929 to the beginning of 1933; detailed figures will be found in Appendix III, Table 5.

Table IV.

PRICE DECLINE OF RAW MATERIALS AND MANUFACTURED GOODS, 1929-1933.  
(Per cent decline<sup>1</sup>.)

	1929-1933		1929		1930		1931		1932	
	I Raw Materials	II Manufactured Goods	I	II	I	II	I	II	I	II
U. S. A. . . . .	49	31	5	3	22	14	20	10	14	7
Italy . . . . .	49	33	10	12	24	12	17	9	9	4
Canada . . . . .	46	27	4 <sup>2</sup>	0	32	15	12	9	13	6
Germany . . . . .	35	29	4	2	16	9	14	12	5	10

<sup>1</sup> Measurements are from January to January in each case.

<sup>2</sup> Increase.

The first two columns show the relative decline in the prices of raw materials and finished products from January 1929 to January 1933. It will be seen that, over this period, raw material prices fell by some 35 to 50 per cent, while the prices of finished products fell one-quarter to one-third. The columns on the right show how this price decline was distributed over the four years covered: in all cases, raw materials dropped with greatest intensity during 1930 and, though the price fall has persisted since that year, there has been some falling-off in the intensity of decline. This is also true, however, of the decline in the prices of finished products in all countries shown above except Germany; for the other three countries, the discrepancy between the prices of raw materials and finished goods, which became particularly marked in 1930, continued to increase in 1931 and 1932, though generally at a diminishing rate.

The determining factors in the relationship between the prices of raw and finished products are complicated and diverse, and only a few of the more important elements can be touched on here. In an earlier publication<sup>1</sup> it has been shown that throughout the period 1922-1929 there was a striking positive correlation between the changes in the flow of international capital and the relative movements of these two groups of products, raw materials tending to be relatively high in price when large amounts of capital were being loaned abroad, and to suffer a relative price decline when international capital movements fell off. In interpreting these movements it is important to bear in mind that the borrowing countries are in most cases exporters of raw materials and importers of finished products; it is therefore natural that a decline in capital imports should turn the terms of trade against these countries by forcing them to export larger quantities of their products

<sup>1</sup> League of Nations: *Balances of Payments, 1930.*

in order to meet the interest on their indebtedness abroad, which had previously been met to a greater extent by fresh borrowing. Moreover, in many cases, the imports of capital were used by debtor countries to "valorise" the prices of primary products; frequently this was done by withholding stocks from the market, and when new foreign loans ceased to be available to finance these stocks, they had to be liquidated and their prices fell.

Before the depression, this relative decline in raw-material prices, which occurred in the years of a falling-off in the net export of capital from the creditor countries, represented in some degree a transference of purchasing power from the producers of raw materials to the producers of finished products: the widening of the margin between the prices of raw materials and finished products stimulated industrial activity and caused boom conditions in the manufacturing countries. Wages in these countries reached their culminating points in the years of relatively low raw-material prices and relatively low capital exports. Since 1929, however, this mechanism has not worked. Capital exports have fallen away to practically nothing and the relative decline in raw-material prices has been so great that purchasing power has not been effectively shifted to the makers of manufactured goods, but has been destroyed in the process of transference. Industrial communities produce partly for themselves and partly for raw-material producers: a moderate decline in raw-material prices may so increase the profitability of that part of the production of finished goods destined for the industrial community as to more than compensate for the relative decline in the purchasing power of primary producers. As severe a relative decline in the prices of primary products as the world has experienced during the depression, however, represents so great a curtailment in the purchasing power of primary producers that industry, too, is adversely affected and the consequent industrial unemployment diminishes the buying capacity of the industrial community.

The sharp decline in capital exports during the depression has forced the debtor countries to throw increased quantities of their exports on world markets and to restrict imports in an attempt to adjust their trade balances to the necessity of securing foreign exchange with which to meet their debt service. As already pointed out, most of the debtor States are producers of raw materials; the pressure has therefore been most marked on this group of products. In Germany, an example of a debtor State exporting manufactured goods, the discrepancy between raw-material and finished product price movements would appear to have been less than in other countries, and this is the only country shown in Table IV above in which the discrepancy between these two groups was decreased during 1932; in that year, finished products fell by 10 per cent and raw materials by only 5 per cent.

The importance of export surpluses is considerably greater in the determination of the prices of raw materials, considered as a whole, than in the determination of the prices of manufactured articles. A larger proportion of the raw materials produced in the world enters international trade than of the manufactured goods produced. The producers of raw materials are generally producing for sale in foreign



markets, which is a corollary both of their debtor status and of the generally undeveloped state of manufacturing industry in such countries; the producers of manufactured goods, on the other hand, are generally producing for domestic consumption and, under present conditions, frequently behind national tariffs. Raw-material producers are therefore exposed, as a rule, to the full force of international competition, while secondary producers are in a more sheltered position. Quite apart from the technical difficulties of a restriction of production of raw materials, which will be considered in further detail below, the individual producer of raw materials or even all the producers of a single country can have no assurance that, even if a local restriction of production is effected in an attempt to strengthen prices, it will not be countered by an expansion of production elsewhere, so that prices will fall in any case and the restricting producer or country will find itself with a smaller crop at lower prices. The manufacturer, on the other hand, is able to restrict or entirely to cease production; he knows that other national producers will do likewise; and generally he need not fear foreign competition. The counterpart to the drastic fall in raw-material prices is the drastic decline in the volume of industrial production.

The restriction of industrial production consequent upon the discrepancies in the movements of raw and finished products tends, of course, to increase these discrepancies still further, because, as industrial production falls off, unit costs of manufacturing increase and the necessary adjustment is larger and more difficult. Much the same overhead must now be spread over a smaller number of products; capital costs and rent are fixed by contract and wages show some resistance. It should not be thought, however, that no adjustments have been made in the cost of manufacturing; on the contrary, the following diagram suggests that, in the United States, the manufacturing margin has fallen considerably since 1929.

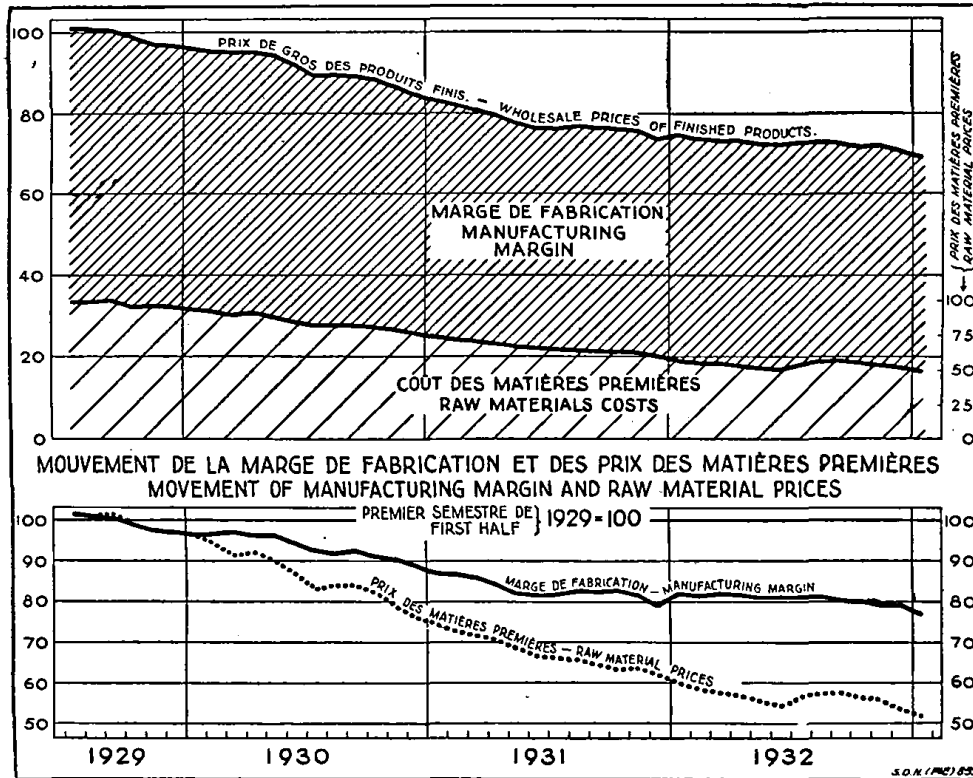
The diagram is based upon the assumption that in the first half of 1929 raw materials accounted for one-third of the total cost of finished products. The upper curve of the top half of the diagram shows the fluctuations in the prices of finished products at wholesale, the scale being given at the left. The lower curve of this half of the diagram shows the fluctuations in the prices of raw materials; the scale for this curve is shown at the right: 100 on the scale of raw material prices is taken as equal to  $33\frac{1}{3}$  on the scale of finished product prices. The area from the horizontal zero line to the bottom curve can therefore be taken as representing raw-material costs and the area between it and the price curve of finished products prices may be taken as representing the manufacturing margin, including labour costs, overhead costs and profits. The top curve in the lower half of the diagram shows the development of this margin since the middle of 1929, the first half of that year being taken as equal to 100; and the bottom curve shows the simultaneous fluctuations of raw material prices.

It will be seen that the manufacturing margin has fallen steadily in the United States since the middle of 1929 and was over 20 per cent lower at the beginning of 1933 than in the base period. Obviously, the exact figure arrived

Diagram VII.

RAW-MATERIAL COSTS, FINISHED PRODUCT PRICES AND THE MANUFACTURING MARGIN IN THE UNITED STATES OF AMERICA.

(First half 1929=100.)



at depends upon the figure taken to represent the proportion of raw-material costs to total costs. If the high figure of 50 per cent had been taken for this proportion, it would have been found that the manufacturing margin was 12 per cent lower at the beginning of 1933 than in the first half of 1929. These figures, though considerable, are small in comparison with the 50 per cent fall shown in raw material prices during the same period.

This decline in the manufacturing margin indicates that, not only is the decline in the prices of raw materials fully reflected in the price movements of finished products — regard being had to their importance in total costs — but that there has, in addition, been a substantial decline in other cost elements. The cost of labour in manufacturing industry in the United States, for example, fell by about 25 per cent from 1929 to the beginning of 1933. Moreover, under

the stress of difficult times, economies have been effected in operation and administration which have enabled the prices of finished products to be reduced to some extent. A certain reduction has also been effected in capital costs, through reorganisations and bankruptcies; it would appear, however, to be particularly in this field that the resistance to liquidation has been strongest.

Statistics relating to overhead charges are unfortunately very deficient; some light may, however, be thrown on the question under discussion by an examination of certain series compiled by the National Bureau of Economic Research relating to changes in selling prices and in production costs in manufacturing industries of the United States.<sup>1</sup> The relevant data are summarised in the following table:

Table V.

CHANGES IN SELLING PRICES AND IN PRODUCTION COSTS, 1927-1931. MANUFACTURING INDUSTRIES OF THE UNITED STATES OF AMERICA.

(Measurements relate to changes per unit of product.)

Year	Average selling price	Average cost of materials	Average cost of fabrication	Average labour cost	Average overhead cost plus profits
1927	100	100	100	100	100
1929	98	95	102	93	108
1931	78	72	89	80	95

The last stages of the boom period were characterised by a decline in the selling prices of manufactured goods brought about by a substantial fall in the average cost of materials which more than counterbalanced a slight rise in the average cost of fabrication. This rise in the average cost of fabrication resulted in turn from an increase in average overhead costs plus profits, which was not quite compensated by a reduction in average labour costs.<sup>2</sup> From 1929 to 1931 average selling prices fell by 20 per cent, the result of a 24 per cent decline in material costs and a 13 per cent drop in the unit cost of fabrication. Again, the two chief elements of fabrication costs behaved differently: in 1931 average

<sup>1</sup> National Bureau of Economic Research, *Bulletin* No. 45: "Changes in Physical Production, Industrial Productivity and Manufacturing Costs, 1927-1932", by Frederick C. MILLS.

<sup>2</sup> A warning should, perhaps, be inserted against possible misinterpretation of the above figures. Any substitution of capital for labour through increased mechanisation, etc., tends, *ipso facto*, to reduce average unit labour costs; this development may take place even though money wages remain high while interest rates are falling.

unit labour costs were 20 per cent lower than in 1927, while average unit overhead costs, plus profits, were only 5 per cent lower. As it is well known that profits have been very severely curtailed during the depression, it is clear that the chief resistance to liquidation has come from overhead costs proper, including rent, interest, taxes and salaries. Figures for 1932 are not yet available but there is some evidence that particular industries succeeded in making substantial cost adjustments in the course of that year.

It is of interest to compare this development with that which took place during the post-war deflation crisis. For the purpose of this comparison, use is made of similar statistics relating to the two-year period 1919-1921.

	Percentage decline	
	1919-1921	1929-1931
Average selling prices of manufactured goods . .	22	20
Average costs of manufacture, per unit of product.		
Materials . . . . .	23	24
Fabrication costs . . . . .	18	13
Labour costs . . . . .	6	14
Overhead costs, plus profits . . . . .	27	12

The chief differences between the two periods occur in connection with the relative movements of the various elements of fabrication costs. In the earlier depression, average unit overhead costs declined very much more than average unit labour costs; in the present depression, average unit labour costs appear (up to 1931) to have fallen more than average unit overhead costs.

These figures confirm and reinforce the statement made above to the effect that the large volume of debt contracted on the basis of a fairly stable price level during the period 1922-1929 has constituted the most serious resistance to liquidation during the past few years. This natural resistance has been reinforced in the United States, as elsewhere, by the use of public credit to maintain a capital structure which had become very high in relation to the earning capacity of industry. The problem was, of course, complicated by the extent to which financial institutions, such as banks and insurance companies, were involved as creditors of industry, and there is no intention here to pass judgment on the merits or demerits of this policy. There can be no doubt, however, that the burden of capital costs has eaten into the profit margin and has in this way helped to prevent a recovery of production and commodity prices.

*Agricultural and Non-agricultural Products.*

In the preceding paragraphs, raw materials have been treated as a single group and their recent price movements have been contrasted with those of finished products. The discussion of individual commodity prices has shown, however, that all classes of raw materials have not fallen with equal intensity; organic products, for example, such as cereals and most textiles, have fallen considerably more than inorganic products, such as minerals. The agriculturist is, of all classes of producer, the least able to control his production; this is to a considerable extent dependent upon meteorological and other factors over which he can exercise no influence. So large a proportion of the total expenses of production consist in mortgage interest and other charges which go on regardless of the quantities produced that the point to which prices must sink before they fail to cover the out-of-pocket expenses of production is frequently very low; production often continues even though all costs are not covered and may even tend to expand under the influence of falling prices. Furthermore, it must be borne in mind that a farm cannot be closed down in the same way as a factory; agriculture represents, not only an economic occupation, but also a way of life; moreover, industrial unemployment effectively prevents any large shift of population from rural to urban areas. In some countries, there has even been a reverse movement of population from city to country districts, which has helped to swell the volume of agricultural output and depress agricultural prices still further.

But if the supply of agricultural products does not react rapidly to a decline in their price, the farmer is none the less among the chief sufferers during a period of rapidly falling prices; this is particularly true in countries such as Canada and the United States, where agriculture is organised entirely on a price basis. During the past few years, the problem of mortgage indebtedness has become particularly serious in agriculture; much of this indebtedness was contracted at a time when agricultural products and real estate had much higher values than at present, and the fall in prices has so increased the real burden of this indebtedness in many parts of the world that defaults and moratoria have become common. The length of the period required in the agricultural process is another factor preventing adjustment; sowings are made on the basis of the prices then prevailing, but frequently prices are much lower at the time of reaping.

Even before the present depression there were certain signs of structural weakness in the general agricultural situation. With a rising standard of living, which was characteristic of the post-war decade, it was to be expected that a larger share of the economic resources of the world would have been devoted to the production of secondary goods and a smaller share to the production of necessities. This adjustment, however, was not easy to bring about, as it implied a rapid shift of population from rural to industrial pursuits, a shift which was hampered by the natural immobility of agricultural population, by immigration barriers, and by the substantial industrial unemployment characteristic even of this boom period. In certain parts of the world, the maladjustment was made manifest in the

development of a "price-scissors" to the disadvantage of agriculture. It is, of course, difficult to prove the existence of this maladjustment by means of statistics, as most price-indices of agricultural products do not give adequate weight to those commodities, such as fruits and dairy products, whose importance increased as a result of the rise in the standard of living. Nevertheless, it seems clear that there was a tendency towards maladjustment in the production of certain of the great agricultural staples; in many cases, however, this maladjustment did not show itself in falling prices of these articles, which would have tended to act as a corrective by making production unprofitable, but rather in official or non-official attempts at "valorisation" or price maintenance. Among the many schemes of valorisation which characterised this period, mention may be made of the operations of the Canadian Wheat Pool after 1923, the wheat and cotton purchases of the American Federal Farm Board, the Egyptian Government's purchases of cotton after 1921, the Cuban Government's sugar policy from 1925 to 1929, the Brazilian coffee valorisation schemes after 1922, and the Stevenson plan for rubber, 1922-1928. In most cases, these schemes did not result in any restriction in production but rather in the accumulation of stocks; between the middle of 1925 and the middle of 1929, world stocks of wheat increased from 14.6 to 26.7 million tons; of rubber, from 131,000 to 304,000 tons; of sugar, from 2.7 to 4.9 million tons; and of coffee, from 0.3 to 0.9 million tons. These stocks hung over the market and aggravated the price recession when cheap credit for their financing ceased to be available.

Even before the present depression, then, the position of important branches of agriculture contained elements of instability; with the depression, the relative movement of prices turned sharply to the disadvantage of farmers: the prices of their products fell with extraordinary sharpness, while the prices of the goods they purchased fell very much less. Detailed figures illustrating these diverse movements will be found in Appendix III, Table 6.

The following table summarises the fall in the prices of agricultural products of eight important countries from the beginning of 1929 to the beginning of 1933.

*Table VI.*

PERCENTAGE DECLINE IN AGRICULTURAL PRICE INDICES OF CERTAIN COUNTRIES.  
(January 1929 to January 1933.)

Argentina . . . . .	51 (71)	Poland . . . . .	48
New Zealand <sup>1</sup> . . . . .	49 (69)	Italy . . . . .	41
Canada <sup>2</sup> . . . . .	60 (68)	Germany . . . . .	41
United States of America . . . . .	60	United Kingdom . . . . .	26 (34)

<sup>1</sup> Export prices.

<sup>2</sup> August 1929 to January 1933.

The figures in parentheses indicate the percentage decline in the *gold* prices of agricultural products in countries which have abandoned the gold standard; account is taken in these figures of the depreciation in the gold value of the various national currencies in which the indices are compiled. The countries in the first column above are all great agricultural exporting countries; the first three are debtor States and agricultural products account for much the greater part of their exports. The fall in agricultural prices has made it impossible for these countries to balance their international accounts and all of them have been forced to abandon the gold standard. The decline in the gold prices of agricultural products among the exporting States has ranged from 60 to 70 per cent between the beginning of 1929 and the beginning of 1933. Among the countries which import some or all of their requirements of agricultural products, shown in the second column above, the fall in the agricultural price indices has been less severe, as many of them have taken special measures to maintain the domestic prices of these products at a relatively high level.

The fall in agricultural prices has been compensated to only a relatively slight extent by a decline in the prices of things which farmers buy. In the United States of America, non-agricultural products in general fell by 32 per cent in the period covered by the above table, and a selected list of commodities purchased by farmers declined even less. In Canada, consumers' goods other than foodstuffs dropped by 16 per cent and fertilisers by about 10 per cent from August 1929 to January 1933. In Poland, industrial products declined by about 31 per cent; in Germany, chemical fertilisers fell by less than 20 per cent.

The effect of this rapid and drastic decline in agricultural prices has, of course, been to contract very sharply the value of farmers' incomes. Thus, in the United States, the gross value of farm production fell from \$11,900 million in 1929 to \$5,200 million in 1932, or by over 55 per cent; in Canada, the decline was from \$1,631 million to \$712 million, also more than 55 per cent; and in the Argentine the value of exports dropped from 954 to 566 million gold pesos, or over 40 per cent.

The effect of the fall in farmers' incomes is illustrated in the following figures: in 1929, the net cash income of the average American farmer — *i.e.*, his income after payment of mortgage interest, taxes, rent, repairs, wages and other expenses of cultivation — was \$600; by 1932, it had dropped to less than \$100. This "net cash income" determines the farmer's demand for industrial products: it is not necessary, in view of these figures, to labour the fact that the sharp fall in farmers' incomes is one of the major causes of present industrial inactivity.

It has already been shown in Table VI above that the prices of farm products fell less in the importing than in the exporting countries; and the same is true of farmers' incomes. In Switzerland, for example, the gross value of farm production was 1,500 million francs in 1929 and 1,300 million in 1932, a fall of less than 15 per cent; in Germany, farmers' incomes were higher in 1932-33 than in the previous year, though they were about 25 per cent lower than in 1929-30.

Among the many measures of national policy taken during the past few years to protect domestic producers against the fall in prices on world markets, attention may be particularly directed to the case of wheat, both because of the great importance of this commodity and because it illustrates clearly the economic results of the above policy. The diagram on the following page shows the changes in the ratio of the price of wheat on four domestic markets to its world market price (Hardwinter No. 2 in Rotterdam) from the beginning of 1929 to the beginning of 1933, the ratio in each case being taken as 100 at the beginning of 1929.

When the price of wheat on world markets began to fall rapidly in the early months of 1930, many European industrial States, which normally do not produce sufficient wheat to cover domestic requirements, raised their Customs duties on imports and took other measures to protect domestic producers. In Germany, for example, the import duty on wheat was raised by stages from 5 marks per 100 kilogrammes in 1929 to 25 marks at the end of 1930 ; in France, it was raised from 35 to 80 francs ; and other countries also raised their duties. To make this protection effective in maintaining the domestic price of wheat, moreover, special regulations were instituted compelling millers to mix a fixed proportion of domestic wheat with that of foreign origin. The result of these measures was, of course, that the domestic price of wheat in these countries diverged sharply from its world market price ; the extent of these divergences is illustrated in Diagram VIII, which shows that, at the beginning of 1932, wheat prices in France and Germany were more than two and a-half times their world level, while in Italy and Czechoslovakia they were almost twice as high.

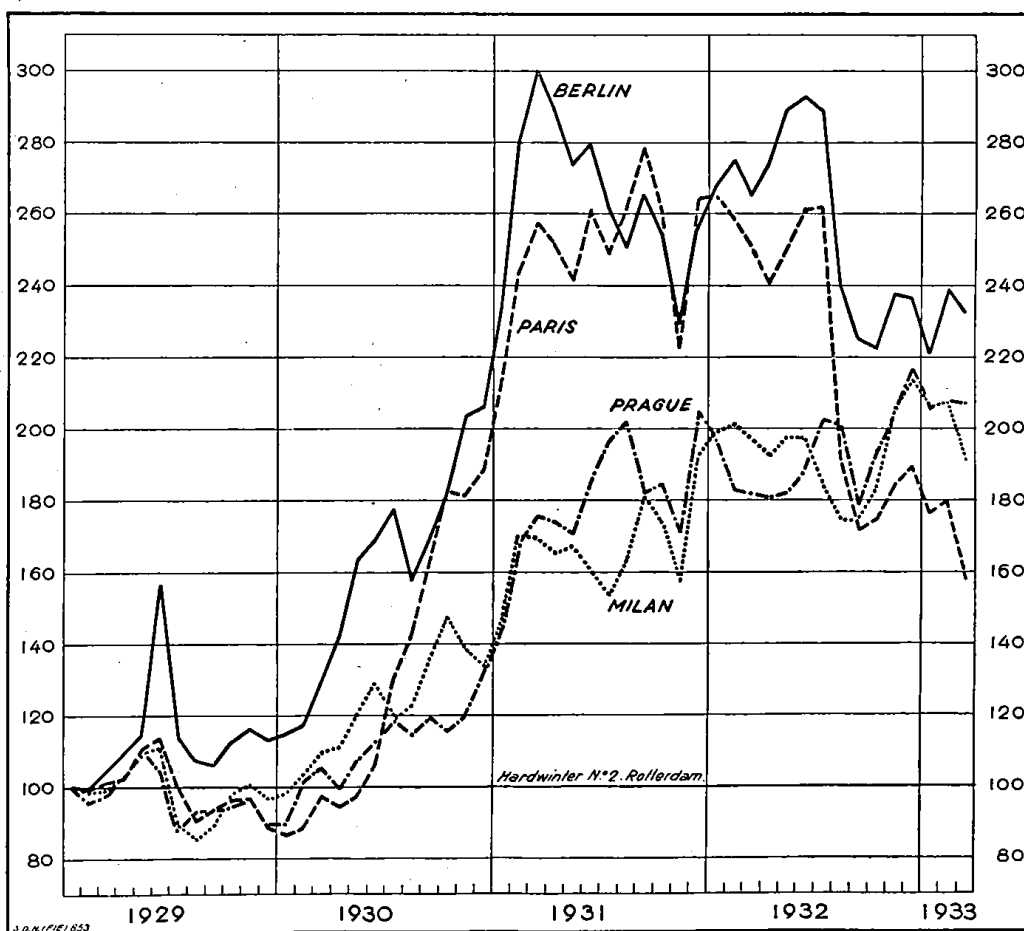
It is not possible here to expound all the effects of these discrepancies, but some of the more important consequences may be briefly indicated. In the first place, it is clear that the restriction of imports into industrial countries has intensified the price decline on world markets ; production in the exporting countries cannot be readily controlled, and with a narrowing of the world market the demand is sharply contracted. Secondly, though the demand for wheat as a human foodstuff is inelastic, a sufficient fall in price would tend to stimulate its use as fodder and so help to sustain its price ; the high price of wheat in the importing countries has prevented this development from taking place there. Thirdly, the protection given wheat producers in the importing States has frequently been sufficient to safeguard the least efficient producers against foreign competition ; these producers can grow wheat profitably only at high costs and prices, and as these high prices have been paid to all producers, wheat growing has become a relatively profitable industry in these countries, and there has naturally been a shift into wheat production. The production of wheat in France, Germany, Italy and Switzerland has increased steadily in the past few years. In France, the wheat crop was over 45 per cent higher in 1932 than in 1930 ; in Germany, it was 32 per cent higher ; in Italy 30, and, in Switzerland, 15 per cent higher. These increases are partly due to higher yields, but there has also been some increase in acreage under cultivation. The effect of this development was not only to aggravate further an already severe maladjustment between the production and consumption



*Diagram VIII.*

CHANGES IN RATIO OF DOMESTIC PRICE OF WHEAT IN CERTAIN COUNTRIES TO WORLD MARKET PRICE,  
JANUARY 1929 TO MARCH 1933.

(January 1929=100.)



of wheat, but also to endanger the industrial countries' control over domestic wheat prices. This control can be effective only so long as domestic production does not cover domestic consumption and the difference must be imported. As soon as an export surplus exists, there is a tendency for the price of the whole crop to be determined by the value of the export surplus on world markets. It is estimated that the wheat crop of France exceeded consumption during the crop year 1932-33 by 600,000 tons. The price of domestic wheat in Paris, which was the equivalent of \$1.82 a bushel in June 1932, fell to \$1.25 by September

of that year. The fall was stayed through the granting of liberal credit facilities by the Government and the withholding of stocks from the market; in recent months, however, there has been a renewed decline. The case of Germany is similar: imports have practically disappeared; production has increased, prices have fallen, large amounts of credit have been extended to grain buyers, and export bounties have been granted.

Finally, the policy of wheat protection, by maintaining at a high level the price of the chief article of food of a large section of the population, tends to keep the cost of living relatively high and to prevent a speedy adjustment of costs in manufacturing industry to a level which will restore trade with the producers of raw materials. And not only is the export capacity of the manufacturing industry of the countries pursuing this policy impaired, but, as the industrial population must now pay a relatively higher proportion of its total income for its staple food, less is left for the purchase of industrial products.

The case of wheat is, of course, not unique in the discrepancies it reveals between the price movements of agricultural products on world and domestic markets. Thus, between the end of 1929 and the end of 1932 the world market price of rye (Western II in Rotterdam) fell by 59 per cent; rye prices in Germany fell by 10 per cent, in Czechoslovakia by 16 per cent and in Sweden by 33 per cent. In Denmark, the gold price of butter fell by 64 per cent; in Germany by 36 per cent, in France by 27 per cent, and in Italy by about 40 per cent. Cuban sugar, free of duty, fell in New York by 58 per cent, and other qualities fell on world markets in similar proportion. In Germany, sugar prices rose by 20 per cent, in Poland they fell by 12 per cent and in New York, duty paid, by 25 per cent.

Examples could be multiplied to show the effectiveness of national economic policy in creating divergences between the price movements of identical raw products on world and domestic markets. Protective measures have, of course, not been confined to agricultural products, but have influenced the prices of other commodities as well. Moreover, it should be noted that, quite apart from the increases in tariffs which have taken place, the real weight of specific duties is increased by the fall in prices and causes a greater proportionate discrepancy between world and home market prices of the commodity in question. Further, the effect of exchange restrictions, import quotas and all other hindrances to international commerce is also to increase the margin between world and domestic prices.

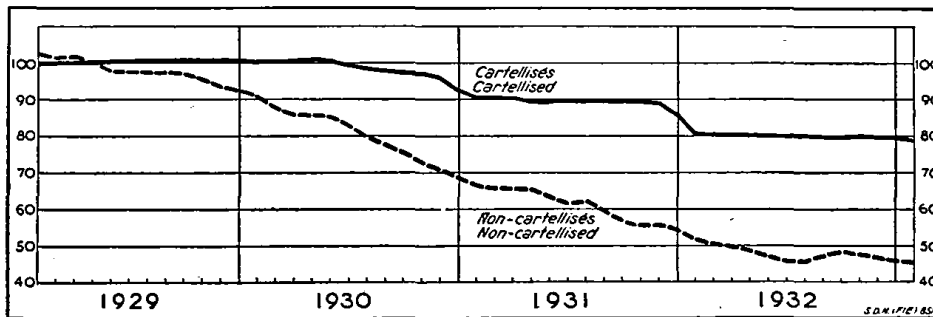
#### *Cartellised and Non-cartellised Products.*

Another important price disequilibrium which has developed in the past few years, and one whose effect is also to maintain certain prices higher on domestic markets than on the world market, is the very sharp divergence in the movements of "cartellised" and "non-cartellised" prices. It has already been observed above that mineral raw materials as a group have fallen less than those of vegetable and animal origin; these differences have been attributed to the greater elasticity in the supply of mineral products. In many cases, the natural elasticity of supply

resulting from the technical conditions of production has been still further enhanced by agreements among producers to restrict production according to specified quotas, and, in cases where these agreements are international in scope, to apportion markets among the various national producers. The inevitable result of these measures has been that "cartellised" products have fallen very much less in price than those in which competition is more free. Quantitative measures of this discrepancy are available only in the case of Austria and Germany; detailed figures for these countries will be found in Appendix III, Table 4, and the following diagram shows the price movement of cartellised and non-cartellised products in Germany since the beginning of 1929 on the basis of the first half of that year = 100.

*Diagram IX.*

CARTELLISED AND NON-CARTELLISED PRICES IN GERMANY, JANUARY 1929 TO JANUARY 1933.  
(First half 1929=100.)



"Free" prices began to fall before "bound" prices and have fallen much more during the depression than the latter. The movements of the curve of "cartellised" products are very regular and show the influence of concerted policy. The sharp movement between November 1931 and January 1932 would appear to be the consequence of the Fourth Emergency Decree of December 1931, which stipulated, *inter alia*, that the prices of all "cartellised" products should immediately be reduced to a level at least 10 per cent below that prevailing in June 1931. The index number of "cartellised" products dropped by about 10 per cent between the months mentioned, but since then it has shown practically no fluctuation. "Free" prices dropped most rapidly during 1930 (27 per cent), rather less rapidly in 1931 (23 per cent), and the rate of decline slowed up considerably in 1932 (10 per cent). At the beginning of 1933, "free" prices were 55 per cent below the level prevailing in the first half of 1929, while "cartellised" products had fallen by about 20 per cent.<sup>1</sup>

<sup>1</sup> The prices on which the index number of prices of "cartellised" products are based consist of list prices; it is known that certain concessions from these prices are allowed in the form of rebates, cash discounts, etc., but it is not possible to measure their importance.

*The Terms of Trade.*

The analysis of various price movements up to this point has shown that the chief sufferers from the fall in prices have been the producers of commodities whose prices are most largely determined by the amounts which export surpluses will fetch on world markets. Thus, raw materials have fallen more than finished products, which are largely made for domestic consumption; the prices of important foodstuffs have fallen less on the domestic markets of many importing countries than on world markets; and cartels and trusts have been potent factors in maintaining the domestic prices of certain raw and semi-manufactured products at a relatively high level.

These factors have, of course, all been of greatest importance in highly industrialised States; such States are characteristically importers of raw materials and primary foodstuffs and exporters of finished products. The prices of the primary products produced domestically are frequently maintained at a relatively high level by means of tariff protection and cartel agreements. The following table shows for three important industrialised States the relative movements of the raw materials and semi-manufactured goods whose prices are determined on world markets and those whose prices are determined domestically.

*Table VII.*

PERCENTAGE DECLINE IN PRICES OF DOMESTIC AND IMPORTED GOODS,  
JANUARY 1929 TO JANUARY 1933.

	Domestic goods	Imported goods
Czechoslovakia . . . . .	28	36
France . . . . .	30	55
Germany . . . . .	24	54

The counterpart of this movement of prices in highly industrialised States is, of course, the fact that the export prices of the raw material producing States have fallen very much more than the prices of the goods they import. It is not necessary to emphasise further the difficulties which such diverse movements place in the way of international trade. The difficulties are illustrated in the following table, which shows the movement of the barter terms of trade of four representative countries — two of which are exporters of finished products, and two exporters of raw materials — from 1929 to 1932.

Table VIII.

IMPORT AND EXPORT PRICE<sup>1</sup> INDICES OF CERTAIN COUNTRIES, 1929 TO 1932.  
(1913=100.)

Country	1929			1930			1931		
	Im- port	Ex- port	Barter terms of trade (imports =100)	Im- port	Ex- port	Barter terms of trade (imports =100)	Im- port	Ex- port	Barter terms of trade (imports =100)
Germany . . . . .	126	132	105	109	124	114	84	108	129
United Kingdom . . . . .	134	159	119	117	152	130	93	136	146
Latvia . . . . .	110	158	144	97	136	140	82	102	124
New Zealand . . . . .	134	162	121	133	128	96	133	98	74

	1932			Percentage change 1929-1932		
	Im- port	Ex- port	Barter terms of trade (imports =100)	Import	Export	Barter terms of trade (imports =100)
Germany . . . . .	62	95	153	-50	-28	+46
United Kingdom . . . . .	89	127	143	-34	-20	+20
Latvia . . . . .	85	82	96	-23	-48	-33
New Zealand . . . . .	130	89	68	-3	-45	-44

<sup>1</sup> Prices in terms of national currencies.

The last two States, which are exporters of raw materials and importers of finished products, received one-third to two-fifths less of imports for a given unit of their exports in 1932 than in 1929, while Germany received 46 per cent more and the United Kingdom 20 per cent more. It will be observed that the barter terms of trade of Germany continued to improve in 1932. In the case of the United Kingdom there was, in spite of the depreciation of sterling, a slight decline in the sterling prices of imports; sterling prices of exports fell somewhat more, and their gold prices, of course, dropped considerably.

*Wholesale and Retail Prices.*

The price discrepancies which have been described up to this point have been confined to various groups of wholesale prices; it is now proposed to examine briefly the course of wholesale prices in general as compared with retail prices. The examination can be brief because the discrepancies between these groups result in large measure from factors which have already been described. Thus,

the ordinary indices of wholesale prices are generally heavily weighted with war materials and semi-manufactured goods, whose prices, as shown above, have fallen very heavily, while the cost-of-living indices (taken to represent retail prices) as a rule include chiefly manufactured articles. Retail prices are much less subject to the influence of the world market than are wholesale prices; competition in the retail trade is at most national and usually it is only local in scope. The cost-of-living indices include, moreover, items such as rent, lighting and transport, which do not receive proportionate weight in the wholesale price indices; the prices of many of these services have been very rigid during the present depression. On account of the regional character of retail trade referred to above, the retailer is frequently able, when wholesale prices fall, to sell his stock at or near the cost price to him, rather than at its replacement price, so that the consumer does not immediately reap the benefit of a decline in wholesale prices. Further, a large part of the cost of retailing — such as rent and service — is relatively fixed and does not vary directly with the amounts sold; when sales fall off during a period of economic depression, much the same overhead must be spread over a reduced turnover if total costs are to be covered: under these conditions, high trading margins do not necessarily mean high profits.

The following table shows the percentage drop in the official wholesale price and cost-of-living indices of six countries from the beginning of 1929 to the beginning of 1933; detailed figures for these and certain other countries may be studied in Tables 1 and 2 of Appendix III.

*Table IX.*

PERCENTAGE DECLINE IN WHOLESALE PRICES AND COST OF LIVING IN CERTAIN COUNTRIES,  
JANUARY 1929 TO JANUARY 1933.

Country	Wholesale prices	Cost of living	Country	Wholesale prices	Cost of living
Netherlands . . . . .	49	14	Germany . . . . .	35	23
France . . . . .	37	4	Canada . . . . .	32	20
Switzerland . . . . .	36	17	U. K. . . . .	28	15
U. S. A. . . . .	36	26	South Africa . . . . .	27	14

From what has been said above regarding the incomparability of these indices, it will be realised that they are grouped together in the above table only to illustrate the differences in their movements. If wholesale and retail price indices covering the same commodities were available, they would show movements much more similar than those illustrated above. In the United States, for example, the wholesale prices of foodstuffs fell by 43 per cent from the beginning of 1929 to the beginning of 1933, while retail prices declined by 37 per cent; in Canada, wholesale prices of foodstuffs fell by 38 per cent and retail prices by 35 per

cent; in the United Kingdom wholesale prices of foodstuffs fell by 27 per cent and retail prices by 23 per cent.

Reference has already been made above to the fact that one of the consequences of the measures taken by certain European industrial States to protect domestic agricultural producers against a fall in the price of cereals and other foodstuffs on world markets was that the retail prices of foodstuffs, and consequently one of the chief elements in the cost of living of the industrial working population, was maintained at a relatively high level. This is illustrated in the following table, which compares the fall in the retail cost of foodstuffs in countries exporting food products and those importing them from 1929 to 1932 (annual averages).

*Table X.*

PERCENTAGE DECLINE IN RETAIL PRICES OF FOODSTUFFS IN COUNTRIES IMPORTING AND COUNTRIES EXPORTING FOODSTUFFS, 1929 TO 1932.

Countries exporting foodstuffs		Countries importing foodstuffs	
Country	Per cent decline	Country	Per cent decline
Netherlands East Indies . . . . .	52	Italy . . . . .	22
Bulgaria . . . . .	39	Switzerland . . . . .	19
Canada . . . . .	37	Sweden . . . . .	17
U. S. A. . . . .	35	France. . . . .	14

The discrepancies between these two groups clearly bring out the effect of the protectionist policy referred to and illustrate again the difficulties encountered by the industrial countries in adjusting costs in manufacturing industry to meet the reduced purchasing power of primary producers.

*Prices of Consumption and of Investment Goods.*

Finally, attention must be drawn to an important price discrepancy which has developed in the course of the present economic depression and which appears to distinguish the current price recession from those of earlier periods. It is a well-known fact that, at the beginning of a period of depression, there is a sharp decline in the volume of capital investment; in past depressions this decline, entailing as it does a falling-off in requirements of investment materials, has brought about a drastic decline in their price. The demand for consumers' goods has for a number of reasons been better maintained and so have their prices; thus, as past depressions have proceeded, the relationship between investment and consumption goods has developed along lines favourable to a resumption of investment and to internal economic recovery.

During the past few years the relationship between the prices of the groups under discussion has developed in precisely the opposite way: the prices of consumption goods have fallen very much more than the prices of investment goods. Comparable indices of these groups are not available for many countries, but all available indications point to this conclusion. In the United States, for example, the National Bureau of Economic Research index number of goods destined for capital equipment fell by 27 per cent between 1929 and the end of 1932, while goods ready for human consumption fell by 37 per cent; in Germany, finished producers' goods fell by 10 per cent and finished consumers' goods by 35 per cent; in Canada, consumers' goods fell by 26 per cent and producers' equipment by 7 per cent. The discrepancies between the prices of these groups of commodities (to which attention was already drawn in the last edition of this publication) were further aggravated in the course of 1932.

The relatively high price of investment goods explains in large measure the failure of investment to be stimulated by the low long-term money rates which prevailed during a large part of the past few years. Though capital-disposal was available on favourable terms, borrowing was discouraged by the various cost maladjustments analysed above, including in particular the high price of capital goods in relation to consumption goods. The reasons for this latter discrepancy are complex; one of particular importance, however, would appear to be the influence of cartels and trusts in maintaining the prices of the raw and semi-manufactured materials used in constructing capital goods at a relatively high level. The materials used in the heavy industries, such as coal, iron and steel, building materials, etc., have increasingly passed into the hands of large concerns, etc., which attempt to pursue a policy of stable prices in good times and bad, and consequently experience marked fluctuations in output rather than in prices. In Germany the raw materials for consumers' goods fell in price by 53 per cent between 1929 and the end of 1932, while the raw materials for producers' goods declined by only 26 per cent. This last fall may be compared with a 20 per cent fall in the price of "cartellised" products during the same period.



## **APPENDICES**

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**Appendix I.**

**METHOD OF CALCULATION OF THE COMPOSITE PRODUCTION INDEX.**

The index is composed of 66 articles which are given in Table 2 of this Appendix. For the purposes of the calculation of the index, a "weight" has been attributed to each commodity equivalent to its relative importance as measured by its aggregate value at selected "world" prices. The prices selected are intended to be representative in the sense that they refer to representative qualities and that their ratios are fairly typical of relative values on the world market. They are, in most cases, annual averages of actual quotations for medium qualities of the various articles in leading producing countries; they are not averages of prices of different qualities or of prices in different countries. In the case of certain commodities, however, the average export price of the principal exporting country has been selected. They have all been converted into terms of dollars according to the annual average rates of exchange.

The indices are thus compiled by the aggregative method, the mathematical formula of which is:

$$I = \frac{q^1 p' + q^{1''} p'' + q^{1'''} p''' + \dots + q^{1^n} p^n}{q^0 p' + q^{0''} p'' + q^{0'''} p''' + \dots + q^{0^n} p^n} = \frac{\Sigma(q^1 p)}{\Sigma(q^0 p)}$$

The quantity of each commodity produced each year ( $q'$ ,  $q''$ ,  $q'''$ , etc.) is multiplied by the price of that commodity ( $p'$ ,  $p''$ ,  $p'''$ , etc.) and the resulting totals for all commodities are summed up. The absolute figures thus obtained for each year are then converted into percentages of the absolute figure for the basic period. As the prices are constant, variations in the index represent changes in the quantities produced and not in the values.

For reasons of space, only indices and percentages obtained by employing the prices ruling in 1930 are given.

Table 1 below shows the aggregates from which the general indices have been calculated. Although provisional indices have been compiled for 1932, the aggregates for that year, in view of the incomplete information available, are not included.

**Appendix I. Table 1.**

PRODUCTION AGGREGATES IN TERMS OF DOLLARS (000,000's omitted).

*According to 1930 Prices.*

Groups of Commodities	Average 1925/29	1925	1926	1927	1928	1929	1930	1931
Cereals and other food crops .	18,081.0	17,971.7	17,637.7	17,888.1	18,616.0	18,291.5	18,795.8	*18,424.1
Meat * . . . . .	11,090.5	10,473.9	10,687.6	11,076.0	11,521.0	11,693.8	11,264.2	11,446.2
Wine and hops . . . . .	722.5	785.1	570.8	695.0	786.2	775.6	665.5	715.7
Coffee, tea, cocoa . . . . .	605.9	534.7	547.3	670.5	551.5	725.4	572.2	668.2
Tobacco . . . . .	828.4	822.4	807.4	798.2	830.1	883.7	917.4	902.7
Vegetable-oil materials . . . .	1,629.5	1,545.8	1,536.7	1,689.3	1,643.3	1,732.5	1,656.8	1,687.6
Textiles . . . . .	3,574.6	3,440.7	3,593.1	3,369.2	3,691.5	3,778.6	3,689.0	*3,739.5
Rubber . . . . .	160.7	127.4	153.0	149.4	161.5	212.2	201.7	196.2
Wood-pulp . . . . .	527.4	450.5	496.4	524.4	548.9	616.8	598.7	519.7
Fuels . . . . .	5,580.2	5,185.1	5,192.5	5,697.1	5,687.4	6,138.7	5,677.7	5,138.0
Metals (smelter production) .	4,673.8	4,128.0	4,259.1	4,617.0	4,953.7	5,411.7	4,428.8	3,335.8
Non-metallic minerals . . . . .	765.9	669.4	713.5	770.9	816.7	858.8	818.9	713.0
Chemicals (fertilisers) . . . .	713.0	628.6	629.3	666.5	775.6	864.9	814.7	620.0
<b>Total . . . . .</b>	<b>48,953.4</b>	<b>46,763.3</b>	<b>46,824.4</b>	<b>48,611.6</b>	<b>50,583.4</b>	<b>51,984.2</b>	<b>50,101.4</b>	<b>48,106.7</b>
Crude foodstuffs . . . . .	30,499.9	29,765.3	29,443.4	30,329.8	31,474.7	31,486.3	31,297.7	31,254.2
Raw materials . . . . .	18,453.5	16,998.0	17,381.0	18,281.8	19,108.7	20,497.9	18,803.7	16,852.5

Territorial Divisions	Average 1925/29	1925	1926	1927	1928	1929	1930	1931
Europe, excluding U.S.S.R. . .	14,543.1	13,846.5	12,943.9	14,573.3	15,080.5	16,271.2	15,025.4	14,443.9
Europe, including U.S.S.R. . .	19,150.2	18,027.3	17,549.0	19,165.5	19,792.4	21,216.7	20,140.1	*19,539.4
North America . . . . .	15,216.7	14,756.9	15,171.9	14,934.1	15,714.3	15,506.2	14,261.8	13,626.8
Latin America . . . . .	3,843.9	3,666.4	3,686.5	3,878.1	3,988.6	3,999.7	4,008.3	3,786.8
Africa . . . . .	1,439.2	1,367.5	1,365.7	1,412.4	1,485.6	1,565.1	1,534.3	1,483.3
Asia . . . . .	8,314.9	8,025.1	8,054.5	8,249.0	8,562.2	8,683.9	9,062.0	8,593.6
Oceania . . . . .	988.5	920.1	996.8	972.5	1,040.3	1,012.6	1,094.9	1,076.8
<b>WORLD . . . . .</b>	<b>48,953.4</b>	<b>46,763.3</b>	<b>46,824.4</b>	<b>48,611.6</b>	<b>50,583.4</b>	<b>51,984.2</b>	<b>50,101.4</b>	<b>48,106.7</b>

\* Partly based on estimates.

Appendix I. Table 2.

INDICES OF WORLD PRODUCTION OF PRIMARY COMMODITIES.

Average Annual Production in 1925-1929 = 100.

Groups of Products	1925	1926	1927	1928	1929	1930	1931	*1932
<i>Cereals and other food crops</i> <sup>1</sup>								
Wheat . . . . .	95	99	101	109	96	109	*106	104
Rye . . . . .	106	97	102	96	100	107	*94	100
Barley . . . . .	95	91	92	107	115	111	*98	107
Oats . . . . .	98	99	94	107	102	102	95	101
Maize . . . . .	105	100	98	97	100	90	100	108
Rice . . . . .	99	99	99	102	100	107	103	102
Potatoes . . . . .	97	88	101	103	111	110	*112	114
Sugar { Beet sugar . . . . .	90	92	100	109	109	132	101	91
Cane sugar . . . . .	95	95	100	105	106	99	101	92
<i>Meat</i> <sup>1</sup>								
Beef . . . . .	*98	*100	*99	*100	*103	*99	*96	...
Veal . . . . .	*99	*98	*99	*100	*104	*99	*98	...
Pork, bacon, etc. . . . .	*92	*93	*100	*108	*107	*103	*110	...
Mutton and lamb . . . . .	*90	*97	*102	*103	*109	*108	*103	...
<i>Wine and hops</i>								
Wine . . . . .	109	79	96	109	107	92	102	104
Hops . . . . .	90	89	98	98	125	95	74	62
<i>Coffee, tea, cocoa</i>								
Coffee . . . . .	83	83	125	74	135	87	119	90
Tea . . . . .	91	97	100	104	109	99	102	102
Cocoa . . . . .	96	96	98	107	104	106	104	103
<i>Tobacco</i> . . . . .	99	97	96	100	107	111	109	...
<i>Vegetable-oil materials</i>								
Cotton-seed . . . . .	104	105	90	101	99	98	102	90
Linseed . . . . .	106	103	108	100	82	108	107	80
Rape-seed . . . . .	123	94	101	90	93	111	101	102
Hemp-seed . . . . .	106	103	105	105	81	74	*82	...
Sesamum . . . . .	86	90	108	106	110	123	110	...
Soya beans . . . . .	92	100	104	102	102	114	112	93
Copra . . . . .	86	95	91	112	116	100	100	97
Palm and palm-kernel oil (crude) . . . . .	99	96	99	100	105	113	106	...
Olive oil (crude) . . . . .	78	69	125	80	149	54	104	98
Ground-nuts . . . . .	86	90	105	114	105	121	109	...
<i>Textiles</i>								
Cotton . . . . .	104	106	90	100	99	97	103	86
Flax . . . . .	109	98	88	96	109	108	122	...
Hemp . . . . .	106	99	100	99	96	89	*89	...
Manila hemp . . . . .	97	98	93	96	115	105	87	...
Jute . . . . .	87	118	99	96	100	109	54	57
Wool . . . . .	93	99	100	105	104	101	101	...
Raw silk . . . . .	87	93	99	108	113	110	107	93
Artificial silk . . . . .	61	71	99	123	147	140	158	164

\* Partly based on estimates.

<sup>1</sup> Excluding China, but including certain crops and meat in Manchuria.

Appendix I. Table 2 (concluded).

INDICES OF WORLD PRODUCTION OF PRIMARY COMMODITIES.

Average Annual Production in 1925-1929 = 100.

Groups of Products	1925	1926	1927	1928	1929	1930	1931	*1932
<i>Rubber (crude)</i> . . . . .	79	95	93	100	132	125	122	108
<i>Wood-pulp</i>								
Mechanical pulp . . . . .	88	96	99	104	113	111	101	...
Chemical pulp . . . . .	84	93	100	104	118	114	99	...
<i>Fuels</i>								
Coal . . . . .	95	95	103	100	107	98	86	77
Lignite . . . . .	91	91	98	106	113	96	88	81
Petroleum . . . . .	86	88	101	106	119	113	109	104
<i>Metals (smelter production)</i>								
Pig-iron: total production . . . . .	89	92	101	103	115	93	65	46
" other than for steel-making . . . . .	*95	*93	*107	*98	*107	*91	*64	*46
Steel . . . . .	88	90	99	106	117	92	67	49
Copper . . . . .	87	91	95	107	121	100	86	56
Lead . . . . .	91	97	103	103	106	99	82	67
Zinc . . . . .	87	94	100	108	112	107	77	60
Tin . . . . .	89	92	97	110	112	106	89	59
Aluminium . . . . .	81	89	96	110	124	121	99	70
Nickel . . . . .	88	80	82	118	132	128	85	47
Silver . . . . .	97	100	100	101	103	97	76	63
<i>Non-metallic minerals</i>								
Cement . . . . .	87	93	101	107	112	107	91	72
Asbestos . . . . .	90	98	95	102	116	97	68	57
Salt . . . . .	90	94	100	104	112	108	102	...
<i>Chemicals (fertilisers)</i>								
Natural phosphates . . . . .	89	98	104	103	106	120	80	67
Potash . . . . .	94	83	97	109	117	110	76	64
Sulphur . . . . .	75	96	107	102	119	129	110	58
Natural guano . . . . .	113	79	87	102	117	108	76	...
Nitrate of soda . . . . .	98	80	66	126	129	101	49	...
Nitrate of lime . . . . .	97	95	97	105	106	172	133	...
Superphosphates of lime . . . . .	94	96	97	103	109	108	78	...
Basic slag . . . . .	82	90	102	108	118	86	78	...
Cyanamide of calcium . . . . .	78	94	96	108	124	119	83	...
Sulphate of ammonia . . . . .	76	77	103	114	129	122	112	...
Sulphate of copper . . . . .	86	95	105	121	93	89	95	107

\* Partly based on estimates.

Appendix I. Table 3.

INDICES OF PRODUCTION OF PRIMARY COMMODITIES, WEIGHTED BY 1930 VALUES.

Average Annual Production in 1925-1929 = 100.

Continents and Groups of Products	1925	1926	1927	1928	1929	1930	1931	*1932
<b>WORLD : General Index</b> . . . . .	96	96	99	103	106	102	98	94
<i>Crude foodstuffs</i> . . . . .	98	97	99	103	103	103	102	103
Cereals . . . . .	100	99	99	103	100	102	*100	104
Cereals and other food crops . . . . .	99	98	99	103	101	104	*102	104
Meat . . . . .	*94	*96	*100	*104	*105	*102	*103	...
Wine and hops . . . . .	109	79	96	109	107	92	99	103
Coffee, tea, cocoa . . . . .	88	90	111	91	120	94	110	97
<i>Raw materials</i> . . . . .	92	94	99	104	111	102	91	79
Tobacco . . . . .	99	97	96	100	107	111	109	...
Vegetable-oil materials . . . . .	95	94	104	101	106	102	104	98
Textiles . . . . .	96	101	94	103	106	103	*105	95
Rubber . . . . .	79	95	93	100	132	125	122	108
Wood-pulp . . . . .	85	94	99	104	117	114	99	...
Fuels . . . . .	93	93	102	102	110	102	92	84
Metals (smelter production) . . . . .	88	91	99	106	116	95	71	51
Non-metallic minerals . . . . .	87	93	101	107	112	107	93	77
Chemicals (fertilisers) . . . . .	88	88	93	109	121	114	87	...
<b>EUROPE (excluding U.S.S.R.):</b>								
<i>General Index</i> . . . . .	95	89	100	104	112	103	99	99
<i>Crude foodstuffs</i> . . . . .	98	92	97	103	109	104	105	110
Cereals . . . . .	103	95	93	99	111	102	99	111
Cereals and other food crops . . . . .	102	92	95	99	112	104	101	111
Meat . . . . .	*91	*94	*101	*108	*106	*106	*111	...
Wine and hops . . . . .	112	78	97	107	107	90	99	98
<i>Raw materials</i> . . . . .	90	84	105	104	117	102	90	80
Tobacco . . . . .	100	98	96	89	118	120	102	86
Vegetable-oil materials . . . . .	81	70	127	77	145	55	92	93
Textiles . . . . .	87	89	99	107	117	110	103	100
Wood-pulp . . . . .	87	92	101	103	118	117	101	...
Fuels . . . . .	96	81	106	104	113	104	95	87
Metals (smelter production) . . . . .	87	84	106	107	116	97	77	62
Non-metallic minerals . . . . .	85	91	100	108	116	109	97	84
Chemicals (fertilisers) . . . . .	87	88	98	105	122	114	91	...
<b>EUROPE (including U.S.S.R.):</b>								
<i>General Index</i> . . . . .	94	92	100	103	111	105	*102	101
<i>Crude foodstuffs</i> . . . . .	97	95	98	103	108	105	*104	106
Cereals . . . . .	101	100	96	98	105	106	*101	106
Cereals and other food crops . . . . .	100	98	97	99	106	107	*103	107
Meat . . . . .	*89	*93	*100	*107	*110	*102	*107	...
Wine and hops . . . . .	112	78	97	107	107	90	99	98
<i>Raw materials</i> . . . . .	89	85	104	105	117	106	97	90
Tobacco . . . . .	105	106	99	86	105	109	115	...
Vegetable-oil materials . . . . .	85	78	120	84	135	69	*98	...
Textiles . . . . .	90	90	98	107	114	111	*113	110
Wood-pulp . . . . .	86	91	101	103	119	119	104	...
Fuels . . . . .	93	82	106	105	115	109	103	97
Metals (smelter production) . . . . .	85	84	106	108	117	102	82	69
Non-metallic minerals . . . . .	82	90	100	109	118	115	104	...
Chemicals (fertilisers) . . . . .	87	88	98	105	122	115	92	...

\* Partly based on estimates.

**Appendix I. Table 3 (continued).**

INDICES OF PRODUCTION OF PRIMARY COMMODITIES, WEIGHTED BY 1930 VALUES.

*Average Annual Production in 1925-1929 = 100.*

Continents and Groups of Products	1925	1926	1927	1928	1929	1930	1931	*1932
<b>NORTH AMERICA: General Index</b> . . . . .	<b>97</b>	<b>100</b>	<b>98</b>	<b>103</b>	<b>102</b>	<b>94</b>	<b>90</b>	<b>82</b>
<i>Crude foodstuffs</i> . . . . .	99	98	101	106	96	94	97	101
Cereals . . . . .	101	96	102	109	92	91	95	103
Cereals and other food crops . . . . .	100	96	102	109	93	91	95	103
Meat . . . . .	*99	*100	*99	*102	*101	*98	*99	98
Wine and hops . . . . .	88	97	96	105	114	84	85	83
<i>Raw materials</i> . . . . .	94	102	95	101	108	94	82	61
Tobacco . . . . .	101	95	90	102	113	121	119	78
Vegetable-oil materials . . . . .	104	110	93	96	96	95	108	90
Textiles . . . . .	102	114	86	97	101	96	117	91
Wood-pulp . . . . .	86	97	98	105	115	107	92	83
Fuels . . . . .	93	102	101	98	106	94	82	70
Metals (smelter production) . . . . .	92	97	93	104	114	85	57	31
Non-metallic minerals . . . . .	95	97	101	104	103	97	78	53
Chemicals (fertilisers) . . . . .	84	94	97	108	117	118	87	57
<b>LATIN AMERICA: General Index</b> . . . . .	<b>95</b>	<b>96</b>	<b>101</b>	<b>104</b>	<b>104</b>	<b>104</b>	<b>99</b>	<b>90</b>
<i>Crude foodstuffs</i> . . . . .	97	97	103	102	102	103	99	94
Cereals . . . . .	95	98	104	112	90	111	101	99
Cereals and other food crops . . . . .	96	97	101	111	95	106	98	89
Meat . . . . .	*100	*100	*100	*99	*101	*104	*97	...
Wine and hops . . . . .	81	81	114	123	101	89	57	...
Coffee, tea, cocoa . . . . .	85	83	124	75	133	88	120	88
<i>Raw materials</i> . . . . .	91	93	95	110	111	107	98	77
Tobacco . . . . .	86	85	107	112	109	105	112	...
Vegetable-oil materials . . . . .	101	108	109	106	76	106	119	74
Textiles . . . . .	95	102	97	102	104	100	97	...
Rubber . . . . .	112	101	122	84	80	52	42	21
Fuels . . . . .	88	87	90	110	125	123	107	106
Metals (smelter production) . . . . .	81	89	98	112	121	102	93	57
Non-metallic minerals . . . . .	62	77	95	121	146	141	150	...
Chemicals (fertilisers) . . . . .	101	80	65	125	128	98	46	...
<b>AFRICA: General Index</b> . . . . .	<b>95</b>	<b>95</b>	<b>98</b>	<b>103</b>	<b>109</b>	<b>107</b>	<b>103</b>	<b>102</b>
<i>Crude foodstuffs</i> . . . . .	95	95	101	103	107	105	108	110
Cereals . . . . .	93	94	99	101	113	98	107	102
Cereals and other food crops . . . . .	94	92	103	100	110	100	104	105
Meat . . . . .	*96	*99	*103	*101	*101	*108	*107	...
Wine and hops . . . . .	103	79	76	124	119	125	142	169
Coffee, tea, cocoa . . . . .	90	98	97	107	108	108	108	108
<i>Raw materials</i> . . . . .	95	95	93	104	112	109	95	90
Tobacco . . . . .	95	102	121	93	89	93	88	...
Vegetable-oil materials . . . . .	95	96	92	103	114	110	93	...
Textiles . . . . .	98	96	88	106	111	107	96	91
Rubber . . . . .	125	125	107	71	71	54	35	18
Fuels . . . . .	94	101	99	102	104	99	87	79
Metals (smelter production) . . . . .	83	82	90	113	132	136	121	70
Non-metallic minerals . . . . .	84	92	102	104	118	131	121	...
Chemicals (fertilisers) . . . . .	86	94	113	104	103	124	78	...

\* Partly based on estimates.

Appendix I. Table 3 (concluded).

INDICES OF PRODUCTION OF PRIMARY COMMODITIES, WEIGHTED BY 1930 VALUES.

Average Annual Production in 1925-1929 = 100.

Continents and Groups of Products	1925	1926	1927	1928	1929	1930	1931	*1932
<i>ASIA: General Index</i> . . . . .	97	97	99	103	104	109	103	101
<i>Crude foodstuffs</i> . . . . .	98	98	99	101	103	108	106	102
Cereals . . . . .	99	98	100	93	110	115	113	103
Cereals and other food crops . . . . .	99	99	99	101	102	109	106	105
Meat . . . . .	*97	*96	99	*105	*103	*105	*107	...
Wine and hops . . . . .	73	110	106	107	106	95	54	84
Coffee, tea, cocoa . . . . .	91	96	101	104	108	97	101	...
<i>Raw materials</i> . . . . .	93	94	99	106	107	111	99	98
Tobacco . . . . .	99	98	96	104	104	107	100	...
Vegetable-oil materials . . . . .	94	93	103	108	102	114	104	...
Textiles . . . . .	96	95	99	106	104	105	88	90
Rubber . . . . .	77	95	92	102	135	130	127	113
Wood-pulp . . . . .	76	93	102	110	120	122	109	110
Fuels . . . . .	94	93	100	105	108	108	101	100
Metals (smelter production) . . . . .	85	91	99	106	118	116	101	92
Non-metallic minerals . . . . .	81	94	100	106	119	108	108	109
Chemicals (fertilisers) . . . . .	81	91	99	*114	115	148	171	183
<i>OCEANIA: General Index</i> . . . . .	93	101	98	105	102	111	109	112
<i>Crude foodstuffs</i> . . . . .	93	102	98	106	102	119	116	118
Cereals . . . . .	84	115	91	115	94	148	134	142
Cereals and other food crops . . . . .	87	109	94	113	97	140	129	136
Meat . . . . .	*96	*98	*99	*102	*105	*108	*108	...
Wine and hops . . . . .	91	113	99	105	92	75	75	79
Coffee, tea, cocoa . . . . .	79	98	109	106	108	121	105	...
<i>Raw materials</i> . . . . .	93	100	100	105	103	99	100	102
Tobacco . . . . .	95	95	105	105	95	95	95	...
Vegetable-oil materials . . . . .	87	92	94	111	115	111	102	...
Textiles . . . . .	92	101	98	106	104	101	110	112
Fuels . . . . .	105	104	107	96	87	81	74	70
Metals (smelter production) . . . . .	95	97	101	100	107	98	83	93
Non-metallic minerals . . . . .	85	91	100	114	109	105	69	...
Chemicals (fertilisers) . . . . .	89	88	99	109	114	107	83	...

\* Partly based on estimates.

















Appendix I. Table 6.

STOCKS OF PRIMARY COMMODITIES.

	Product	Unit	1925	1926	1927	1928	1929	1930
<b>FOODSTUFFS</b>								
1.	Wheat: Total stocks	met. tons (000's)	a) 14,590	a) 16,660	a) 17,670	a) 19,600	a) 26,700	a) 25,210
2.	Visible supply	"			a) 4,080	a) 5,488	a) 8,860	a) 9,734
3.	"	"	6,315	6,691	7,872	9,770	13,128	13,574
4.	Rye: Visible supply	"	.	.	.	c)* 397	c)* 408	c)* 702
5.	Barley: Visible supply	"	.	.	.	c)* 532	c)* 916	c)* 1,050
6.	Oats: Visible supply	"	.	.	.	c)* 566	c)* 737	c)* 632
7.	Maize: Visible supply	"	.	.	.	c)* 1,851	c)* 1,471	c)* 1,168
8.	Sugar: Total visible supply	"	2,533	3,756	3,222	3,977	4,689	5,690
9.	Wine: France	hl (000's)	.	.	.	10,541	11,466	12,381
10.	Coffee: World stocks	met. tons (000's)	316	536	629	1,106	1,097	1,793
11.	Tea: United Kingdom	"	89.4	82.2	82.0	97.0	106.7	115.6
12.	Amsterdam	"	.	d) 1.4	d) 2.6	d) 2.9	d) 4.0	d) 3.1
13.	Cocoa: Europe and New York	"	64.1	59.1	52.0	69.9	90.0	90.7
<b>RAW MATERIALS</b>								
14.	Cotton: Total world stocks	bales (000's)	a) 7,535	a) 9,801	a) 12,087	a) 10,135	a) 9,625	a) 11,715
15.	World visible supply	"	4,579	5,627	6,732	5,791	5,925	7,256
	Of which American cotton	"	3,265	4,210	5,240	4,007	3,880	4,955
16.	Mill stocks	"	e) 3,959	e) 4,648	e) 4,755	e) 4,882	e) 5,294	e) 4,931
17.	Raw silk: Visible supply	met. tons (000's)	7.0	7.1	8.1	8.0	9.1	13.7
18.	Rubber: World stocks	"	154	196	271	288	317	448
19.	U.S.A. stocks	"	.	63.6	95.1	90.4	96.9	161.3
20.	U.K. stocks	"	.	28.8	68.0	43.4	45.1	106.0
21.	Coal: 4 European countries	"	13,173	9,078	5,278	6,047	3,919	13,765
22.	France, pithead stocks	"	.	.	.	.	1,240	2,053
23.	U.S.A., consumers' stocks	"	40,279	38,750	57,032	40,340	34,038	31,881
24.	Petroleum: U.S.A.	barrels (000,000's)	487	481	507	561	628	628
25.	Copper: World stocks	met. tons (000's)	369.7	365.7	354.8	288.7	319.4	519.6
26.	Lead: U.S.A. total	"	h) 89.8	h) 103.7	h) 140.1	h) 145.2	h) 149.4	106.1
27.	" refined	"	d) 10.8	d) 10.3	d) 26.0	d) 27.9	d) 30.5	d) 49.8
28.	United Kingdom	"	d) 0.1	d) 0.0	d) 1.7	d) 2.0	d) 0.9	d) 2.0
29.	Zinc: Cartel + European outsiders	"	.	.	.	.	.	.
30.	U.S.A. + U.K. visible supply	"	17	17	34	41	44	109
31.	Tin: World stocks	"	32.8	25.0	23.2	25.7	33.0	47.1
32.	Cement: U.S.A.	"	2,738	3,218	3,403	3,874	4,160	4,530

Sources: 1-2, Stanford University (U.S.A.), *Wheat Studies*; 3, 15, 23, 32, U.S. Dept. of Commerce, *Survey of Current Business*; 4-7, 13, 17, 21, *Statistisches Jahrbuch für das Deutsche Reich* and Institut für Konjunkturforschung, *Vierteljahrshefte und Wochenbericht* (Berlin); 8, 10-11, 18, 24, 28, 30-31, London and Cambridge Economic Service; 9, *Bulletin de la Statistique générale de la France*; 12, *Economisch-Statistisch Kwartalabericht* (Rotterdam); 14, *Commercial and Financial Chronicle* (New York); 16, *International Cotton Bulletin* (Manchester); 19-20, *The World's Rubber Position* (W. H. Rickinson & Son); 22, *Annales des Mines* (Paris); 25-27, The American Bureau of Metal Statistics; 29, *The Metal Bulletin* (London).

General Note. Unless otherwise stated, annual figures are yearly averages and those for the months of 1931-1933 refer to the beginning of the month indicated.

\* Estimate or provisional figure. — a) 1.VIII. — b) Beginning of previous month. — c) 31.III. — d) Beginning of year. — e) 31.I. — f) End of month. — g) Of this reduction, 18,000 tons is due to revision of estimate of Malayan stocks. — h) Including stocks in Mexico.

Wheat: 1. World wheat stocks ex-Russia covering North America, Australia, Argentine, Lower Danube, India, North Africa, European importers, Afloat to Europe and Afloat to ex-Europe, Japan. — 2. World visible wheat supplies; covers U.S.A., Canada, Argentine, Australia, U.K. ports, Afloat to Europe, includes some flour. — 3. Broomhall's world visible supply which includes wheat in second hands, and flour converted into terms of wheat; stocks in Australia were added as from September 1925.

Rye: 4. Series covers North America, Afloat, Rotterdam, Antwerp, Berlin.

Barley: 5. Stocks in North America, Afloat, and U.K. ports.

Oats: 6. Series covers North America, Afloat, Rotterdam and Antwerp.

Maize: 7. Series covers North America, Argentine, Afloat and Berlin.

Sugar: 8. Stocks in Germany, Czechoslovakia, France, Netherlands, Belgium, Poland, United Kingdom, U.S. ports, Cuba ports and, since July 1926, Cuba Interior.

Wine: 9. Wholesalers' stocks.

Coffee: 10. Visible supply in Europe, U.S.A., Brazil (Rio, Santos, Bahia), plus, since January 1926, stocks in Interior of Sao Paulo, since July 1928, stocks in Interior of Rio de Janeiro and, since April 1930, the Sao Paulo Government stocks.

Tea: 11. Prior to April 1929, official statistics for tea in bond; since then, figures compiled by the "Tea Brokers' Association of London" (representing about 90 per cent of the trade), increased by 10 per cent to obtain a comparable series.

Cocoa: 13. Series covers stocks in France, United Kingdom, Sweden, Lisbon and New York.

Cotton: 14. Series includes, for American cotton, stocks in consuming establishments, public storage, and elsewhere in the U.S.A., linters in U.S.A., stocks in Liverpool, Manchester and continental ports, in mills outside the U.S.A., Afloat to Europe, in Japan and China ports and Afloat; for other kinds of cotton, mill stocks and visible supply at the principal ports of Europe,



Appendix I. Table 6.

STOCKS OF PRIMARY COMMODITIES.

1931				1932				1933		
Jan.	April	July	Oct.	Jan.	April	July	Oct.	Jan.	April	
b) 13,210	15,080	a) 27,600	13,218	16,035	15,894	a) 26,570	12,380	14,963	14,315	1
15,872	16,332	11,786	13,619	16,572	16,215	11,778	13,540	16,130	b) 16,994	2
998	871	12,068	652	806	897	12,106	.	415	405	3
1,350	1,048	694	623	560	559	514	.	474	522	4
862	620	601	507	556	598	279	.	609	656	5
1,787	1,357	375	1,722	2,084	1,590	311	.	2,002	1,592	6
7,131	8,589	7,119	6,920	8,715	9,237	1,943	7,131	8,871	9,045	7
12,870	12,579	12,084	11,674	11,894	11,834	8,198	10,842	11,697	...	8
1,932	1,866	1,692	2,040	2,214	2,214	11,184	.	1,836	1,614	9
130.7	120.7	101.3	97.3	129.7	106.3	90.8	109.3	142.7	137.7	10
3.1	3.9	4.5	4.0	4.0	2.4	3.2	3.6	2.9	4.3	11
65.0	75.8	89.2	73.6	59.9	90.2	105.5	.	95.0	128.2	12
9.897	9.332	a) 13,835	7.113	10.193	9.623	a) 17,046	8.251	10.552	9.796	13
7.841	6.826	7,572	5.275	8.403	7.687	8,205	6.534	8,878	7,977	14
e) 4.586	.	5,236	.	e) 4.608	.	6,215	.	e) 4.542	.	15
16.1	13.2	f) 4,313	16.7	18.7	15.7	f) 4,462	15.0	17.0	14.0	16
514	556	554	579	654	656	g) 625	632	660	655	17
205.8	221.8	230.0	259.8	318.2	340.2	350.5	371.5	395.1	396.4	18
120.2	135.1	138.4	136.7	129.1	127.0	111.3	104.7	94.1	96.1	19
17,419	18,418	19,663	19,915	20,721	20,985	21,490	20,015	19,545	*20,510	20
2,879	3,391	4,322	4,586	4,461	4,672	4,574	4,636	4,334	4,313	21
33,747	26,762	27,306	31,298	32,277	27,261	23,859	24,951	26,913	21,417	22
603	591	587	557	568	570	559	549	525	530	23
547.1	525.6	581.3	640.3	692.7	.	.	.	724.5	...	24
144.0	168.6	180.6	183.8	197.8	217.1	222.9	235.0	238.9	258.8	25
102.1	13.7	13.7	13.4	160.4	14.9	16.0	16.8	187.4	...	26
8.4	.	204.0	197.0	13.3	177.5	167.8	154.6	20.5	25.5	27
142	142	146	140	140	140	142	129	127	139	28
53.4	61.0	63.0	62.9	62.7	62.5	61.9	59.5	57.7	53.0	29
4,414	5,061	4,708	3,878	4,110	4,698	4,101	3,053	3,446	3,632	30
										31
										32

Asia and Africa. — 15. Visible supply compiled by the *Commercial and Financial Chronicle* (New York) and covering all types at Liverpool, London, Manchester, Hamburg, Bremen, Havre, Barcelona, Rotterdam, Genoa, Ghent, Antwerp, Alexandria, Bombay, Afloat to Europe, U.S. ports, interior towns and exports on day of report. — 16. Estimated mill stocks (of American, East Indian, Egyptian and "Sundries") in eighteen countries in Europe, including an estimate for the U.S.S.R., in India, Japan, China, U.S.A., Canada, Mexico, Brazil and elsewhere.

Raw Silk: 17. Stocks in U.S.A., Japan, Canton, Shanghai, London and Milan.

Rubber: 18. Series covers U.K., U.S.A., Malaya, Ceylon, India, Dutch East Indies, Para, Amsterdam, Antwerp, Afloat and, as from January 1928, stocks on estates in Malaya; since 1929, an estimate of world stocks supplied by the Rubber Growers' Association (England).

Coal: 21. Stocks in Germany and the Saar (including coke in terms of coal), Belgium and Poland (Upper Silesia only): these stocks are believed to have represented about 66 per cent of total European stocks at the end of 1931. — 22. Series includes coke and briquettes in terms of coal. — 23. Stocks of bituminous coal in the hands of commercial consumers (electric power utilities, by-product coke ovens, steel and rolling mills, cement mills, coal-gas retorts, other industrial plants and railroads), and retail dealers.

Petroleum: 24. Stocks of crude and refined oils (liquid products only) in the U.S.A., which is believed to hold about 80 per cent of the world's stocks.

Copper: 25. Stocks in N. and S. America (blister copper at smelteries, refineries, in process and in transit to U.S.A., and refined copper), in official warehouses in U.K. and Le Havre, and in Japan (bonded stock excluded).

Lead: 26. Series covers stocks of lead in the U.S.A. (and Mexico up to 1929) in ore, matte, base bullion, in process at, and in transit to, smelteries and refineries together with refined pig and antimonial lead derived from domestic ore. — 27. Stocks of refined lead of domestic and foreign origin. — 28. Stocks in official warehouses only which have never represented anything like the total reserves in the country.

Zinc: 29. Series covers the principal producers with the notable exception of the U.S.A.; the European outsiders' stocks amount to only 2-3 per cent of the total. — 30. Stocks in public warehouses.

Tin: 31. Visible supply as reported by the London Metal Exchange, comprising stocks in U.K., U.S.A., and Netherlands, tin Afloat to U.K., and the U.S.A. and Europe from the Straits, Batavia and Australia and Afloat to U.K. and U.S.A. from China; together with the "tin" estimate of Straits stocks.

Cement: 32. Finished cement stocks.

**Appendix II. Table 1.**  
**NATIONAL INDICES OF INDUSTRIAL PRODUCTION.**  
(Average 1925-1929 = 100.)

Country:	Canada	Chile	United States of America	Japan	Germany	Austria	Belgium	France	Hungary	Poland	United Kingdom		Sweden	Czechoslovakia	U.S.S.R.
Source:	Dominion Bureau of Statistics	Direccion General de Estadistica	Federal Reserve Board	Mitsubishi Economic Research Bureau	Institut für Konjunkturforschung	Oesterreichisches Institut für Konjunkturforschung	Institut des Sciences économiques Louvain	Statistique générale	Ungarisches Institut für Wirtschaftsforschung	Institute for Economic Research	Board of Trade	London and Cambridge Economic Service	Sveriges Industrieförbund	Dr. K. Maiwald	Gosplan
Original Basis:	X	X (a)	X	X	X	X	X	(c)	X (a)	X	(d)	X	X	X	X
Average	1926	1927-1929	1923-1925	1921-1925	1928	1923-1931	1923-1925	1913	1927	1928	1924	1924	1925-1930	1926-1927	1928
1925	83	.	95	90	87	89	80	88	.	84	†(94)	99	91	88	59
1926	93	.	99	91	87	89	95	103	.	82	76	94	94	86	82
1927	98	(86)	97	97	109	100	105	90	(100)	102	(101)	109	97	100	96
1928	109	(94)	101	104	108	110	110	104	(93)	116	(100)	104	105	111	117
1929	118	(117)	109	118	109	113	111	114	(97)	115	(105)	112	112	115	143
1930	100	(118)	88	110	97	96	93	115	(84)	95	(97)	100	108	101	183
1931	84	(91)	74	109	80	84	84	102	(68)	80	(88)	85	94	90	222
1932	68	(102)	58	113	66	73	70	79	(60)	62	(88)	86	88	66	(f) 240
1930															(e)
I	122	(109)	97	108	108	106	107	118		105			120	106	164
II	108	(119)	98	106	106	103	105	118	(92)	99	(105)	111	120	104	172
III	99	(114)	95	115	105	103	102	118		95			117	105	176
IV	101	(123)	95	112	103	104	100	118		94			113	106	181
V	104	(122)	93	113	101	105	99	118	(87)	93	(97)	102	104	104	180
VI	97	(121)	89	104	96	91	88	117		92			103	103	181
VII	98	(120)	85	109	94	91	87	115		93			104	98	178
VIII	99	(130)	82	107	94	89	86	114	(80)	94	(94)	92	104	98	180
IX	95	(119)	82	109	92	90	86	112		96			101	98	185
X	92	(119)	80	113	91	91	89	111		96			101	97	192
XI	93	(114)	78	112	92	86	86	111	(76)	93	(93)	94	101	97	198
XII	90	(103)	77	116	89	88	86	110		87			101	95	201
1931															
I	89	(94)	77	106	84	86	88	109		85			83	90	199
II	92	(95)	78	105	81	85	85	109	(70)	84	(89)	86	90	86	198
III	93	(103)	79	95	83	84	88	108		84			93	87	196
IV	86	(113)	80	101	85	89	87	107		83			98	92	199
V	86	(99)	79	107	84	82	81	106	(70)	84	(87)	82	91	93	203
VI	78	(99)	76	105	85	77	84	103		84			90	90	220
VII	84	(96)	75	116	85	84	86	101		83			96	90	231
VIII	80	(75)	71	116	79	80	85	99	(70)	81	(84)	82	96	93	238
IX	84	(77)	69	114	77	84	84	97		79			95	94	241
X	79	(78)	67	114	72	84	85	96		76			95	94	244
XI	79	(81)	67	114	72	86	83	93	(64)	73	(92)	92	98	91	246
XII	74	(79)	68	113	69	85	75	91		67			102	84	243
1932															
I	74	(76)	66	101	67	79	78	86		60			98	74	240
II	75	(85)	63	105	68	83	74	82	(64)	60	(90)	92	96	69	237
III	71	(100)	61	111	66	79	73	80		61			101	66	237
IV	63	(100)	57	107	66	79	73	78		63			88	65	233
V	69	(100)	55	107	67	70	71	77	(51)	63	(89)	84	92	64	239
VI	71	(99)	54	104	63	69	68	76		63			81	63	247
VII	69	(103)	53	113	65	84	75	75		63			75	62	244
VIII	68	(106)	55	116	63	68	(b) 53	76	(57)	63	(82)	79	82	63	239
IX	67	(105)	60	118	65	68	(b) 55	77		62			86	66	243
X	65	(116)	61	120	66	72	73	78		65			84	67	...
XI	66	(121)	59	125	67	73	79	79	(67)	66	(90)	88	87	65	...
XII	63	(108)	60	128	67	65	78	80		57			88	62	...
1933															
I	58	(113)	59	120	67	66	77	82		54			88	...	...
II	56	(118)	58	118	69	68	72	84	(66)	59	(89)	89	90	...	...
III	58	(118)	55	128	70	67	80	86		54			90	...	...

† Adjusted for seasonal variations.  
(a) Original basis has not been changed, as figures for 1925 and 1926 are not available.  
(b) Coal-mining dispute.  
(c) Partly adjusted for seasonal variations.

† 1924.  
(d) Recalculated on the basis: 1924, 1927, 1928, 1929.  
(e) Monthly index compiled by the Statistisches Reichsamt, Berlin.  
Three months' moving averages.  
(f) Average of January-September.

Appendix II. Table 2.

ACTIVITY IN THE MECHANICAL ENGINEERING INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)				
									I	II	III	IV	
<i>America :</i>													
United States of America <sup>1</sup>	Demand for machine tools	77	84	71	122	145	66	38	18	22	20	14	17
		Demand for foundry equipment . . . . .	86	92	81	113	128	68	34	13	18	10	11
<i>Europe :</i>													
Germany <sup>2</sup>	Despatch of machines . . . .	86	74	97	121	122	101	72	47	45	47	48	46
	Orders received for machines	86	73	108	114	119	87	62	37	33	39	38	37
Denmark <sup>3</sup>		97	99	80	104	120	125	92	...	.	.	.	.
France <sup>4</sup>		88	101	87	105	120	120	104	74	80	72	71	72
Hungary <sup>5</sup>		.	.	(84)	(101)	(116)	(99)	(69)	...	.	.	.	.
Netherlands <sup>6</sup>	Value of products . . . . .	78	85	93	112	131	125	89	...	.	.	.	.
	Workers employed . . . . .	88	87	92	109	124	118	88	...	.	.	.	.
Poland	Metals and engineering <sup>7</sup>	83	76	98	122	122	92	68	54	54	55	52	54
	Agricultural machinery <sup>8</sup>	.	.	.	.	(100)	(63)	...	...	.	.	.	.
United Kingdom	Board of Trade <sup>9</sup>	†(89)	.	(103)	(101)	(108)	(104)	(85)	(78)	(81)	(80)	(76)	(77)
	London and Cambridge Eco- nomic Service <sup>10</sup>	87	89	102	122	101	120	49	51	.	.	.	.
Sweden <sup>11</sup>		76	90	94	114	126	131	126	...	.	.	.	.
U.R.S.S. <sup>12</sup>	Machine production . . . . .	48	69	90	120	173	259	368	...	.	.	.	.
	Prod. of agricult. machinery	35	69	86	125	185	291	333	...	.	.	.	.
<i>Oceania :</i>													
New Zealand <sup>13</sup>		73	83	102	123	119	88	54	...	.	.	.	.

† 1924. — <sup>1</sup> Indices published by the United States Department of Commerce. — <sup>2</sup> Institut für Konjunkturforschung. — <sup>3</sup> Index of value of machines produced, based on figures of the Statistiske Department. — <sup>4</sup> Statistique générale de la France : index based on iron and copper manufacture, shipbuilding and automobile production. — <sup>5</sup> Basis 1927-1929. Index based on value added by manufacture, published by the Ungarisches Institut für Wirtschaftsforschung. — <sup>6</sup> Indices based on figures of the Centraal Bureau voor de Statistiek. Workers employed at September 15th. — <sup>7</sup> Institute for Economic Research : index based on hours worked in the metal and engineering trades. — <sup>8</sup> Basis 1929. Index of output of agricultural machinery based on figures of the Central Statistical Office. — <sup>9</sup> Basis 1924, 1927, 1928, 1929. Board of Trade index of production in engineering and shipbuilding. — <sup>10</sup> London and Cambridge Economic Service : production of railway locomotives, wheels and axles. — <sup>11</sup> Values of production of shipbuilding, vehicles, machines, instruments and watches at 1913 prices : index based on figures of the Kommerskollegium. — <sup>12</sup> Indices based on values of production at 1926-27 prices : *Konjunktura mirovozo khoziaistva (Survey of World Economics)*. — <sup>13</sup> Consumption of iron and steel by engineering mills : index based on figures of the Census and Statistics Office. Economic years ending March 31st of following year.

**Appendix II. Table 3 (a).**  
ACTIVITY IN THE ELECTRICAL INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)			
									I	II	III	IV
<i>America:</i>												
United States of America <sup>1</sup> . . .	87	95	89	100	129	99	68	33	38	37	28	28
<i>Europe:</i>												
Germany <sup>2</sup> { Prod. of electr. bulbs	88	86	106	112	107	96	72	...	.	.	.	.
{ Prod. of wireless												
{ equipment	25	28	68	186	193	256	241	221	.	.	.	.
Denmark <sup>3</sup> (Value of production)	83	87	91	106	133	154	117	...	.	.	.	.
Italy <sup>4</sup> { Machines . . . . .					(100)	(92)	(81)	(68)				
{ Bulbs . . . . .	69	80	95	107	150	169	149	136	146	115	105	172
Netherlands <sup>5</sup> { Value of products	75	75	100	104	147	144	94	...	.	.	.	.
{ Workers												
{ employed	82	86	95	111	126	119	103	...	.	.	.	.
United Kingdom <sup>6</sup> . . . . .	82	95	123	91	110	111	79	61	61	65	58	60
Sweden <sup>7</sup> . . . . .	75	91	100	117	118	126	112	...	.	.	.	.
U.S.S.R. <sup>8</sup> . . . . .	51	69	82	121	177	342	538	...	.	.	.	.

<sup>1</sup> Index based on values of new orders of electrical goods published by the United States Department of Commerce. Figures relate to about 60 per cent of industry.

<sup>2</sup> Institut für Konjunkturforschung.

<sup>3</sup> Index based on figures of value of production of electrical goods published by the Statistiske Departement.

<sup>4</sup> Index of production of machinery furnished by the Associazione Nazionale Fascista fra Industriali Meccanichi ed Affini (basis 1929). Index of output of bulbs based on figures published by the Istituto Centrale di Statistica.

<sup>5</sup> Indices based on figures published by the Centraal Bureau voor de Statistiek, workers employed on September 15th.

<sup>6</sup> Index of activity in the Electrical Manufacturing Industry, compiled by the British Electrical and Allied Manufacturers' Association (BEAMA).

<sup>7</sup> Index based on figures of value of production of electrical goods, published by the Kommerskollegium.

<sup>8</sup> Index based on value of output of electro-technical machinery at 1926/27 prices, published in *Konjunktura mirovozo khoziaistva (Survey of World Economics)*.

**Appendix II. Table 3 (b).**  
EXPORTS OF ELECTRICAL GOODS.

Country	\$ (000,000's)								As percentage of 1925-1929		
	1925	1926	1927	1928	1929	1930	1931	*1932	1930	1931	1932
<i>America:</i>											
United States . . . . .	84	74	85	90	130	118	85	43	127	93	46
<i>Europe:</i>											
Germany . . . . .	84	93	103	126	149	149	126	82	134	114	74
France . . . . .	19	21	15	16	13	15	14	8	88	82	47
Netherlands . . . . .	13	5	9	15	39	32	23	17	200	144	106
United Kingdom . . . . .	85	94	91	90	96	90	54	34	99	59	37
Sweden . . . . .	10	12	15	27	23	24	12	5	150	75	29
Switzerland . . . . .	10	10	11	14	14	14	10	5	117	83	42
Total . . . . .	305	309	329	378	464	442	324	194	124	91	54

\* Provisional figures.

*Note:* The definition of the term "Electrical Industry" is not uniform in all countries, and the classification of electrical goods in the trade returns varies. But, as far as possible, the above statistics have been compiled on a uniform basis, and embrace electrical machinery (motors, dynamos, transformers, etc.), bulbs, electrical installation materials, boiling apparatus, telephones, radio receivers, electrometers, cables, etc.

Appendix II. Table 4.

ACTIVITY IN THE BUILDING INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932
<i>Africa :</i>								
Union of South Africa <sup>1</sup>								
{ Total plans passed . . . . .	78	95	102	104	122	168	147	123
{ New dwelling-houses completed . . . . .	79	96	101	108	116	108	116	102
<i>America :</i>								
Canada <sup>2</sup>								
{ General index . . . . .	69	83	99	112	137	108	76	36
{ Building permits . . . . .	74	91	110	131	139	101	70	25
{ Total buildings . . . . .	106	100	96	109	89	58	41	18
United States of America <sup>3</sup>								
{ Residential buildings . . . . .	111	103	98	112	77	45	38	15
{ Factory and commercial buildings . . . . .	96	96	89	106	113	62	30	...
{ Public works and utilities . . . . .	130	93	102	81	94	119	54	23
{ Index of volume of construction . . . . .	94	96	100	105	105	88	60	...
Argentina <sup>4</sup>	99	78	87	105	131	117	78	55
Chile <sup>5</sup>	.	.	.	.	(100)	(79)	(35)	(44)
<i>Asia :</i>								
Japan <sup>6</sup>								
{ Dwellings completed . . . . .	66	77	74	126	158	124	...	...
{ Commercial and industrial buildings completed . . . . .	44	61	73	171	151	80	...	...
<i>Europe :</i>								
Germany <sup>7</sup> (a)								
{ Permits { Dwellings . . . . .	55	76	110	113	146	113	52	36
{ Permits { Business buildings . . . . .	.	.	.	(101)	(99)	(75)	(37)	(21)
{ Buildings { Dwellings . . . . .	52	77	107	125	139	158	117	52
{ Buildings { Business buildings . . . . .	.	.	.	(95)	(105)	(101)	(58)	(30)
{ completed { Business buildings . . . . .	.	.	.	.	.	.	.	.
{ (b) Dwellings completed : total Germany . . . . .	69	79	110	119	122	119	91	...
Belgium <sup>8</sup>	.	.	(80)	(116)	(104)	(77)	(88)	(104)
Denmark <sup>9</sup>								
{ Apartments completed . . . . .	89	98	101	98	113	136	159	128
{ Apartments under construction . . . . .	.	.	.	[77]	(100)	(130)	(130)	(86)
Spain : <sup>10</sup> Permits { Dwellings . . . . .	131	80	77	98	113	161	162	68
{ Commercial and industrial buildings . . . . .	120	89	90	104	97	74	84	45
Finland <sup>11</sup>	67	83	110	135	106	28	27	38
France <sup>12</sup>	81	115	81	98	124	139	127	101
Italy <sup>13</sup>	.	.	.	.	(100)	(80)	(49)	(40)
Norway <sup>14</sup>	106	82	76	101	134	141	146	...
Netherlands <sup>15</sup>	.	*(101)	(104)	(98)	(98)	(106)	(104)	(85)
{ Index of building . . . . .	84	71	85	131	128	86	50	27
Poland <sup>16</sup>								
{ Buildings completed { Dwelling-houses . . . . .	66	88	99	103	144	179	*111	*130
{ Buildings completed { Industrial buildings . . . . .	121	77	119	92	91	102	*44	*47
United Kingdom								
{ Board of Trade <sup>17</sup> { Dwelling-houses . . . . .	†(93)	.	(99)	(99)	(109)	(116)	(100)	(116)
{ Board of Trade <sup>17</sup> { Other buildings . . . . .	†(81)	.	(97)	(108)	(114)	(110)	(89)	(77)
{ London and Cambridge Economic Service <sup>18</sup> . . . . .	83	104	128	84	101	86	101	101
{ Dwellings completed . . . . .	85	94	102	112	107	151	150	134
Sweden <sup>19</sup>								
{ Rooms (incl. kitchens) completed . . . . .	92	98	100	106	104	138	137	122
{ Non-speculative buildings . . . . .	111	96	109	109	76	108	123	152
{ Dwellings permits . . . . .	.	.	(88)	(88)	(124)	(128)	(106)	(93)
{ Dwellings permits . . . . .	.	(84)	(95)	(109)	(112)	(128)	(143)	(98)
Switzerland <sup>20</sup>								
{ Dwellings built . . . . .	.	(85)	(93)	(107)	(115)	(129)	(154)	(135)
{ Commercial and industrial bldgs. permits . . . . .	.	(83)	(104)	(104)	(109)	(94)	(87)	(74)
{ Commercial and industrial bldgs. built . . . . .	.	(95)	(96)	(101)	(107)	(100)	(100)	(73)
<i>Oceania :</i>								
New Zealand <sup>21</sup>								
{ Permits : Dwelling-houses . . . . .	112	117	93	85	94	56	25	...
{ Buildings completed { Dwelling-houses . . . . .	96	92	82	115	116	77	32	...
{ Buildings completed { Business premises . . . . .	63	89	92	124	132	77	46	...

For footnotes see pages 136.

NOTES to Appendix II. Table 4.

† 1924. \* Provisional figures.

<sup>1</sup> Urban areas. Absolute figures published by the Office of Census and Statistics. Economic years ending June 30th. Indices for 1931 and 1932 based on less complete monthly series.

<sup>2</sup> General index based on value of contracts adjusted for changes in costs and on building permits. Both indices compiled by the Dominion Bureau of Statistics.

<sup>3</sup> Indices of contracts awarded relating to area of new buildings in 37 States based on figures of the F. W. Dodge Corporation; index of volume of construction published in *Survey of Current Business* is based on consumption of materials.

<sup>4</sup> Ground area of new buildings in Buenos Aires: *Revista de Economia Argentina*.

<sup>5</sup> Basis 1929. Index based on figures published by the Direccion General de Estadistica, representing area of new buildings in nine municipalities.

<sup>6</sup> Indices of ground area of new buildings completed in Tokyo, based on figures published by the Municipal Bureau of Statistics. About 95% of the dwellings and 73% of the business buildings are wooden.

<sup>7</sup> (a) Indices of building permits and buildings completed in 96 towns, number of dwellings, cubic volume of business buildings (basis 1928-1929), based on figures published by the Institut für Konjunkturforschung. (b) Index based on statistics covering whole of Germany published in *Vierteljahrshäfte zur Statistik des Deutschen Reichs*.

<sup>8</sup> Basis 1927-1929. Index of building permits in 111 towns and localities, based on figures published by the Banque Nationale de Belgique.

<sup>9</sup> Index of number of apartments completed in the capital and in 85 provincial towns (since 1930, adjusted to include suburbs). From 1925 up to 1928, economic years ending October. Index of numbers of apartments under construction (basis 1929) in the same towns at January 1st of the following year. Both indices based on figures published by the Statistiske Departement.

<sup>10</sup> Indices of building permits in Barcelona, based on figures published by the Institut d'investigacions econòmiques, Barcelona.

<sup>11</sup> Index of actual number of dwelling-rooms (including kitchen) completed in 38 localities, based on figures published by the Central Statistical Bureau.

<sup>12</sup> Index based on actual number of building permits (when possible, numbers of floors) issued in the principal towns, compiled by the Statistique générale de la France.

<sup>13</sup> Basis 1929. Index of building permits (numbers of apartments) issued in the 17 principal towns, based on figures published by the Istituto Centrale di Statistica.

<sup>14</sup> Index of net increase of number of dwellings in towns of more than 2,000 inhabitants, based on figures published by the Statistiske Centralbyrå.

<sup>15</sup> Basis 1926-1929. Index of number of dwellings completed on newly exploited ground (*i.e.*, excluding rebuilding) based on figures published by the Centraal Bureau voor de Statistiek.

<sup>16</sup> Index of activity compiled by the Institute for Economic Research, based on total number of hours worked and indices of number of buildings completed in towns of more than 25,000 inhabitants, based on figures published by the Central Statistical Office.

<sup>17</sup> Basis: 1924, 1927, 1928, 1929. Indices of estimated cost of plans approved by 146 local authorities. "Other buildings" include additions and alterations to existing buildings.

<sup>18</sup> Index based on estimated number of houses completed in England and Wales.

<sup>19</sup> Indices based on absolute figures published by the K. Socialstyrelsen. Index of dwellings permits (basis 1927-1929) relates to towns of more than 10,000 inhabitants.

<sup>20</sup> Basis 1926-1929. Indices relating to 351 localities based on figures published by the Office fédéral de l'Industrie, des Arts et Métiers et du Travail.

<sup>21</sup> Indices based on figures published by the Census and Statistics Office. Economic years ending March 31st of the following year.

Appendix II. Table 5 (a).

ACTIVITY IN THE TIMBER INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1930   1931	
									as percentage of 1929	
<i>America :</i>										
Canada <sup>1</sup> . . . . .	111	108	104	88	89	77	48	35	87	54
United States of America <sup>2</sup> . . . . .	107	104	97	96	96	68	43	26	70	45
<i>Asia :</i>										
Turkey <sup>3</sup> . . . . .	128	115	83	83	92	94	...	...	103	...
<i>Europe :</i>										
Austria <sup>4</sup> . . . . .	90	81	101	126	102	83	56	41	81	55
Denmark <sup>5</sup> { Activity . . . . .	.	.	(94)	(98)	(109)	(119)	(125)	...	109	115
{ Planks and timber . . . . .	.	(82)	(97)	(100)	(122)	(124)	(112)	...	102	92
Finland <sup>6</sup> { Sawn timber, total . . . . .	85	94	115	111	95	75	63	...	79	67
{ Non-planed . . . . .	86	95	115	110	94	74	62	...	78	66
{ Planed . . . . .	61	77	115	133	113	104	101	...	92	89
Norway <sup>7</sup> . . . . .	.	.	(89)	(105)	(106)	(105)	(80)	...	99	76
Poland <sup>8</sup> { Activity . . . . .	95	88	103	109	105	88	64	50	84	61
{ Sawn timber . . . . .	.	.	.	(107)	(93)	(90)	71	...	97	76
Roumania <sup>9</sup> . . . . .	94	102	97	108	100	76	76	53	76	75
Sweden <sup>10</sup> . . . . .	88	94	101	108	110	104	97	...	95	89
Czechoslovakia <sup>11</sup> . . . . .	94	83	92	119	112	95	74	51	85	66
Yugoslavia <sup>12</sup> . . . . .	82	88	98	118	114	95	63	42	83	55
U.S.S.R. <sup>13</sup> . . . . .	75	66	87	105	167	260	213	195	156	128
<i>Oceania :</i>										
New Zealand <sup>14</sup> { Sawn timber . . . . .	119	103	91	91	95	77	52	...	81	55
{ Planed flooring, etc. . . . .	116	96	97	93	99	86	54	...	87	55

<sup>1</sup> Index of export of boards and planks compiled by the Dominion Bureau of Statistics.  
<sup>2</sup> Index of lumber cut compiled by the Federal Reserve Board.  
<sup>3</sup> Index of production of timber based on figures published by the Central Statistical Office.  
<sup>4</sup> Index based on figures of exports of sawn timber.  
<sup>5</sup> Statistiske Departement: index of activity in the wood industry (basis 1927-1929) and index based on production of planks and timber (basis 1926-1929).  
<sup>6</sup> Indices of production of sawn timber based on figures published by the Central Statistical Bureau.  
<sup>7</sup> Basis 1927-1929. Index of activity in the timber industry compiled by the Statistiske Centralbyrå.  
<sup>8</sup> Index of activity in the timber industry, based on number of hours worked, compiled by the Institute for Economic Research, and index of production of sawn timber based on figures published by the Central Statistical Office (basis 1928-1929).  
<sup>9</sup> Index based on figures of exports of timber.  
<sup>10</sup> Index of the Kommerskollegium covering total production in the timber industry.  
<sup>11</sup> Provisional index of activity in the timber industry compiled by Dr. Karel Maiwald.  
<sup>12</sup> Index of exports of sawn timber.  
<sup>13</sup> Index based on figures of exports of timber. Until 1929, economic years ending September 30th.  
<sup>14</sup> Indices based on surface-area of rough sawn timber and of planed flooring, skirting, moulding, etc. Figures published by the Census and Statistics Office. Economic years ending March 31st of following year.

Appendix II. Table 5 (b).

EXPORTS OF SAWN SOFTWOOD.

Country	In standards <sup>1</sup> (000's omitted)								1925-1929 =100			Percentages of world total		
	1925	1926	1927	1928	1929	1930	1931	1932	1930	1931	1932	1925	1929	1932
<i>North America</i> . . . . .	2,300	2,359	2,422	2,341	2,322	1,654	1,184	*799	70.4	50.4	34.0	34.3	30.8	19.5
Canada . . . . .	1,172	1,117	1,089	950	959	688	501	*340	65.1	47.4	32.2	17.4	12.7	8.3
United States of America . . . . .	1,128	1,242	1,333	1,391	1,363	966	683	459	74.8	52.9	35.5	16.9	18.1	11.2
<i>Europe (excluding U.S.S.R.)</i> . . . . .	3,859	3,985	4,626	4,425	4,284	3,571	2,772	*2,358	84.3	65.4	55.7	57.4	56.8	57.4
Austria . . . . .	385	348	420	432	378	318	254	198	81.0	64.7	50.4	5.7	5.0	4.8
Estonia . . . . .	57	68	64	79	60	46	29	*20	70.1	44.2	30.5	0.8	0.8	0.5
Finland . . . . .	956	1,037	1,180	1,049	1,101	823	735	690	77.3	69.0	64.8	14.2	14.6	16.8
Latvia . . . . .	108	94	184	196	195	196	124	92	126.1	79.8	59.2	1.6	2.6	2.2
Lithuania . . . . .	6	9	17	18	21	17	14	19	119.7	98.6	133.8	0.1	0.3	0.5
Norway . . . . .	130	127	96	109	120	103	65	58	88.5	55.8	49.8	1.9	1.6	1.4
Poland . . . . .	360	497	660	466	296	311	252	148	68.2	55.3	32.5	5.4	3.9	3.6
Roumania . . . . .	410	402	420	465	431	322	318	*200	75.7	74.7	47.0	6.1	5.7	4.9
Sweden . . . . .	942	867	963	995	1,123	939	701	702	96.0	71.7	71.8	14.0	14.9	17.1
Czechoslovakia . . . . .	193	149	288	173	109	100	68	51	54.8	37.3	28.0	2.9	1.4	1.2
Yugoslavia . . . . .	193	194	194	311	309	252	115	*100	104.9	47.9	41.6	2.9	4.1	2.4
Other countries . . . . .	119	193	140	132	141	144	97	*80	99.3	66.9	55.2	1.8	1.9	2.0
<i>U.S.S.R.</i> . . . . .	440	334	434	558	811	950	925	*880	184.3	179.5	170.7	6.6	10.7	21.4
<i>Other countries (South America, Asia and Australia)</i> . . . . .	114	103	126	*130	*130	*100	*80	*70	82.9	66.3	58.0	1.7	1.7	1.7
<b>Total World</b> . . . . .	<b>6,713</b>	<b>6,781</b>	<b>7,608</b>	<b>*7,454</b>	<b>*7,547</b>	<b>*6,275</b>	<b>*4,961</b>	<b>*4,107</b>	<b>86.9</b>	<b>68.7</b>	<b>56.9</b>	<b>100</b>	<b>100</b>	<b>100</b>

\* Provisional figures.

Source: Official trade figures and estimates as compiled by Thorsten Streyffert, Stockholm. (See *Index* (Svenska Handelsbanken, Stockholm), Vol. VII, No. 75, March 1932.)

<sup>1</sup> One standard of sawn wood = 1,980 board feet (United States of America) = 3.3 loads (United Kingdom) = 165 English cubic feet = 4.672 cubic metres (1 cubic metre = 35.32 cubic feet).



**Appendix II. Table 6.**

ACTIVITY IN THE PAPER AND PRINTING INDUSTRIES.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)				
									I	II	III	IV	
<i>America :</i>													
Canada <sup>1</sup>	Paper . . . . .	74	90	98	113	125	115	102	...	.	.	.	.
	Paper-boards . . . . .	80	86	89	107	138	129	112	...	.	.	.	.
	Wood-pulp . . . . .	82	95	97	107	119	107	94	...	.	.	.	.
United States of America <sup>2</sup>	Newsprint . . . . .	72	89	98	113	129	118	103	90	96	95	83	86
	Paper and printing . . . . .	93	99	97	103	108	98	92	79	86	77	75	76
	Wood-pulp, paper and paper-boards . . . . .	95	99	96	103	107	95	87	74	82	72	69	73
Chile <sup>3</sup>	Printing . . . . .	87	98	100	104	111	104	100	85	92	86	82	79
	Paper . . . . .	.	.	(88)	(95)	(120)	(142)	(114)	(210)	(174)	(201)	(236)	(229)
Paper-boards . . . . .	.	.	(36)	(137)	(142)	(173)	(67)	(109)	(53)	(95)	(58)	(208)	
	<i>Asia :</i>												
Japan <sup>4</sup>	Paper-boards . . . . .	87	90	89	106	128	118	103	...	.	.	.	.
	Paper . . . . .	80	89	98	112	121	117	114	112	108	112	113	115
<i>Europe :</i>													
Germany <sup>5</sup>	Paper . . . . .	88	86	105	110	111	104	97	86	84	87	82	93
	Paper-boards . . . . .	92	82	108	110	108	102	88	83	80	88	79	87
	Printing . . . . .	91	88	104	112	106	105	90	77	.	.	.	.
Austria <sup>6</sup>	Paper . . . . .	90	93	100	109	108	99	99	95	94	98	95	91
	Paper-boards . . . . .	92	99	104	103	101	109	55	42	31	55	43	40
Belgium <sup>7</sup>	Paper and paper-boards . . . . .	88	93	98	108	113	103	104	86	90	87	82	...
	Paper . . . . .	90	101	104	103	101	106	103	...	.	.	.	.
Denmark <sup>8</sup>	Paper-boards . . . . .	81	88	97	117	118	127	114	...	.	.	.	.
	Newsprint . . . . .	92	90	99	108	111	112	117	...	.	.	.	.
Finland <sup>9</sup>	Paper-boards . . . . .	100	101	86	96	117	112	121	...	.	.	.	.
	Paper . . . . .	92	100	92	97	118	145	120	114	119	119	109	107
France <sup>10</sup>	Paper and paper-boards . . . . .	117	100	88	95	101	100	96	97	93	98	94	102
Italy <sup>11</sup>	Paper and paper-boards . . . . .	95	85	101	105	114	106	63	102	106	103	96	...
	Printing . . . . .	.	.	(97)	(100)	(103)	(107)	(89)	...	.	.	.	.
Netherlands <sup>13</sup>	Paper . . . . .	83	89	97	110	120	123	125	...	.	.	.	.
	Paper . . . . .	88	86	98	114	113	110	97	92	91	95	90	92
Poland <sup>14</sup>	Printing . . . . .	93	84	98	111	115	112	98	82	85	83	78	81
	Paper . . . . .	.	.	.	.	(100)	(120)	(104)	(131)	(124)	(141)	(125)	(134)
Portugal <sup>15</sup>	Paper . . . . .	88	94	105	94	119	109	102	119	127	90	121	138
United Kingdom <sup>16</sup>	Paper . . . . .	91	97	99	96	116	105	117	...	.	.	.	.
	Paper-boards . . . . .	86	93	96	105	120	117	88	...	.	.	.	.
Sweden <sup>17</sup>	Printing . . . . .	87	94	100	105	114	118	127	...	.	.	.	.
	Paper . . . . .	88	90	105	112	104	99	100	79	77	79	80	80
Czechoslovakia <sup>18</sup>	Printing . . . . .	90	97	99	103	111	108	103	81	82	80	79	82
	Paper . . . . .	70	87	101	114	126	161	158	...	.	.	.	.
<i>U.S.S.R.<sup>19</sup> : Paper . . . . .</i>													
<i>Oceania :</i>													
New Zealand <sup>20</sup> : Printing . . . . .	87	95	103	102	112	109	94	...	.	.	.	.	

For footnotes see page 141.

**Appendix II. Table 7.**  
**ACTIVITY IN THE LEATHER AND BOOT AND SHOE INDUSTRIES.**  
 (1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)			
									I	II	III	IV
<i>Africa:</i>												
Union of . . . . .	88	96	108	102	107	112	...	...	.	.	.	.
South Africa <sup>1</sup> { Leather . . . . .	86	97	104	102	110	115	...	...	.	.	.	.
									.	.	.	.
									.	.	.	.
<i>America:</i>												
Canada <sup>2</sup> . . . . .	100	100	102	100	99	86	89	88	91	94	91	76
Chile <sup>3</sup> . . . . .	.	.	(91)	(94)	(111)	(105)	(57)	(63)	(47)	(62)	(70)	(74)
United States { Leather and products, total	95	97	102	102	104	93	91	91	88	84	84	88
of America <sup>4</sup> { Boots and shoes . . . . .	95	96	101	102	107	89	93	92	92	89	89	97
<i>Asia:</i>												
Japan <sup>5</sup> . . . . .	71	88	122	121	98	107	91	...	.	.	.	.
<i>Europe:</i>												
Germany <sup>6</sup> {	Leather production . . . . .	101	89	117	101	94	87	81	71	.	.	.
	Leather manufactures . . . . .	104	85	121	100	89	77	...	...	.	.	.
	Leather and footwears . . . . .	100	94	111	99	96	91	*79	...	.	.	.
Belgium <sup>7</sup> {	Boots and shoes (monthly) . . . . .	85	74	118	109	113	110	102	93	89	98	84
		83	97	102	120	99	96	97	...	.	.	101
Denmark <sup>8</sup> {	Index of the leather industry . . . . .	.	.	(99)	(97)	(103)	(112)	(93)	...	.	.	.
	Production of leather footwear . . . . .	95	100	100	99	106	123	97	...	.	.	.
Finland <sup>9</sup> . . . . .	91	94	100	115	100	92	64	...	.	.	.	.
France <sup>10</sup> . . . . .	89	110	88	111	102	94	91	81	80	80	80	84
Hungary <sup>11</sup> . . . . .	.	.	(98)	(109)	(93)	(96)	(94)	...	(40)	...	...	...
Netherlands <sup>12</sup> {	Leather industry, workers	.	.	(101)	(99)	(100)	(95)	...	.	.	.	.
	employed . . . . .	84	94	100	111	115	111	...	.	.	.	.
Norway <sup>13</sup> . . . . .	.	.	(92)	(103)	(106)	(127)	(92)	...	.	.	.	.
Poland <sup>14</sup> {	Index of the leather industry . . . . .	97	80	102	117	103	97	84	85	74	86	87
	Production of boots and shoes . . . . .	.	.	(84)	(108)	(108)	(88)	(70)	(97)	.	.	95
Portugal <sup>15</sup> . . . . .	.	.	.	.	.	(100)	(81)	(81)	(71)	(92)	(88)	(73)
United Kingdom <sup>16</sup> : Board of Trade . . . . .	†(98)	.	(106)	(100)	(97)	(99)	(97)	(94)	(98)	(95)	(91)	(94)
Sweden <sup>17</sup> {	Leather . . . . .	95	99	108	103	94	102	105	...	.	.	.
	Boots and shoes . . . . .	102	99	104	102	94	113	102	...	.	.	.
Czechoslovakia <sup>18</sup> . . . . .	94	85	98	105	118	109	112	75	82	66	58	92
<i>U.S.S.R.:</i>												
U.S.S.R. <sup>19</sup> {	Tanning . . . . .	.	.	(77)	(99)	(124)	(145)	(159)	...	.	.	.
	Boots and shoes . . . . .	44	58	91	118	190	295	327	...	.	.	.
<i>Oceania:</i>												
Australia <sup>20</sup> {	Tanning . . . . .	98	101	106	101	94	94	92	...	.	.	.
	Boots, shoes and slippers . . . . .	91	97	106	101	104	101	93	...	.	.	.
New Zealand <sup>21</sup> {	Leather . . . . .	102	94	99	94	111	120	115	...	.	.	.
	Boots, shoes and slippers . . . . .	98	97	100	94	111	115	114	...	.	.	.

For footnotes see page 141.

NOTES to Appendix II. Table 6.

<sup>1</sup> Indices of production of paper, paper-boards and wood-pulp based on figures published by the Dominion Bureau of Statistics; index of newsprint production compiled by the same authority. — <sup>2</sup> Indices of paper and printing (general), of production of wood-pulp, paper and paper-boards, and of printing (newsprint consumption) compiled by the Federal Reserve Board. — <sup>3</sup> Original basis 1927-1929. Indices of production of paper and paper-boards, compiled by the Dirección General de Estadística. — <sup>4</sup> Index of production of paper-boards based on figures published by the Department of Commerce and Industry; index of paper production published by the Mitsubishi Economic Research Bureau. — <sup>5</sup> Indices of production of paper and paper-boards, and of activity in the printing industry, compiled by the Institut für Konjunkturforschung. — <sup>6</sup> Indices of production of paper and paper-boards based on figures published by the Bundesamt für Statistik. — <sup>7</sup> Index of production of paper and paper-boards based on figures published by the Banque Nationale de Belgique. (1932 Average January-September). — <sup>8</sup> Indices of production of paper and paper-boards based on figures published by the Statistiske Departement. — <sup>9</sup> Indices of production of newsprint and paper-boards based on figures published by the Central Statistical Bureau. — <sup>10</sup> Index based on the apparent consumption of chemical and mechanical wood-pulp, compiled by the Statistique générale de la France. — <sup>11</sup> Index of production of paper and paper-boards compiled by the Istituto Centrale di Statistica. — <sup>12</sup> Index of production of paper and paper-boards based on figures published by the Statistiske Centralbyrå (1931, from April to September, labour dispute) (1932 Average January-September); index of activity in the printing industry (basis 1927-1929), compiled by the same authority. — <sup>13</sup> Index of production of paper, based on figures published by the Centraal Bureau voor de Statistiek. — <sup>14</sup> Indices of activity in the paper and the printing industries, based on total numbers of hours worked, compiled by the Polish Institute for Economic Research. — <sup>15</sup> Basis 1929. Index of production of paper based on figures published by the Direcção Geral de Estatística. — <sup>16</sup> Index of estimated production of paper from esparto and pulp, compiled by the London and Cambridge Economic Service. — <sup>17</sup> Indices of production of paper and paper-boards, and of value of output of the printing industry at 1913 prices, based on figures published by the Kommerskollegium. — <sup>18</sup> Provisional indices of production in the paper and the printing industries, compiled by Dr. Karel Maiwald. — <sup>19</sup> Index of production of paper published in *Konjuktura mirovozo khoziaistva (Survey of World Economics)*. — <sup>20</sup> Index of printing (consumption of paper for newspapers and for job-printing) based on figures published by the Census and Statistics Office. Economic years ending March 31st of following year.

NOTES to Appendix II. Table 7.

\* Provisional. — † 1924. — <sup>1</sup> Indices of production of leather (sole and upper) and boots, shoes and slippers, based on figures published by the Office of Census and Statistics. Economic years ending June 30th. — <sup>2</sup> Index of production of boots and shoes compiled by the Dominion Bureau of Statistics. — <sup>3</sup> Basis: 1927-1929. Index of production of footwear compiled by the Dirección General de Estadística. — <sup>4</sup> Indices compiled by the Federal Reserve Board. — <sup>5</sup> Index of production of cow, calf and horse leather based on figures published by the Department of Commerce and Industry. — <sup>6</sup> Annual and monthly indices compiled by the Institut für Konjunkturforschung. — <sup>7</sup> Index of production of tanned leather compiled by the Institut des Sciences économiques, Louvain. — <sup>8</sup> Basis 1927-1929. Index of activity in the leather industry compiled by the Statistiske Departement, and index of production of leather boots and shoes based on figures published by the same authority. — <sup>9</sup> Index of production of leather boots and shoes based on figures published by the Central Statistical Bureau. — <sup>10</sup> Index based on consumption of raw hides compiled by the Statistique générale de la France. — <sup>11</sup> Basis: 1927-1929. Index of production of boots and shoes compiled by the Ungarisches Institut für Wirtschaftsforschung. — <sup>12</sup> Index of number of workers employed at September 15th in the leather industry (basis 1928-1929), and index of production of boots and shoes, based on figures published by the Centraal Bureau voor de Statistiek. — <sup>13</sup> Basis 1927-1929. Index of production of boots and shoes (including slippers) based on figures published by the Statistiske Centralbyrå. — <sup>14</sup> Index of activity in the leather industry based on numbers of hours worked compiled by the Polish Institute for Economic Research, and index of production of boots and shoes (excluding hand-made; basis 1927-1929) based on figures published by the Central Statistical Office. — <sup>15</sup> Basis 1930. Index of production of boots and shoes based on figures published by the Direcção Geral de Estatística. — <sup>16</sup> Index of activity in the leather and boot and shoe industries (basis 1924, 1927, 1928, 1929) compiled by the Board of Trade. — <sup>17</sup> Indices of values of leather and boots and shoes produced at 1913 prices, based on figures published by the Kommerskollegium. — <sup>18</sup> Provisional index of activity in the leather industry compiled by Dr. Karel Maiwald. — <sup>19</sup> Index of tanning based on figures published in *Sowjet-wirtschaft und Aussenhandel* (basis 1927-1929), and index of production of boots and shoes, based on figures published in *Konjuktura mirovozo khoziaistva (Survey of World Economics)*. — <sup>20</sup> Indices of tanning (numbers of hides, pelts and skins treated) and of production of boots and shoes (including slippers) based on figures published by the Commonwealth Bureau of Census and Statistics. Economic years ending June 30th. — <sup>21</sup> Indices of production of leather and boots, shoes and slippers based on figures published by the Census and Statistics Office. Economic years ending March 31st of following year.

Appendix II. Table 8.

COMPOSITE INDICES OF ACTIVITY IN THE TEXTILE INDUSTRIES.

(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)			
									I	II	III	IV
<i>America :</i>												
Canada <sup>1</sup> . . . . .	84	95	103	110	108	101	99	...	.	.	.	.
United States <sup>2</sup> . . . . .	96	96	104	99	106	84	87	76	79	57	81	87
Chile <sup>3</sup> . . . . .	.	.	(97)	(93)	(109)	(110)	(76)	(105)	(90)	(114)	(105)	(110)
<i>Asia :</i>												
Japan <sup>4</sup> . . . . .	95	102	99	96	109	98	100	110	108	111	108	111
<i>Europe :</i>												
Germany <sup>5</sup> { Monthly . . . . .	95	87	115	106	98	95	93	85	87	78	80	93
{ Annual . . . . .	95	85	117	105	98	95	88	80	.	.	.	.
Belgium <sup>6</sup> . . . . .	83	91	107	112	107	88	81	72	69	63	69	70
Denmark <sup>7</sup> . . . . .	.	.	(92)	(96)	(112)	(114)	(116)	...	.	.	.	.
France <sup>8</sup> . . . . .	97	104	95	106	98	91	76	64	57	59	64	74
Hungary <sup>9</sup> . . . . .	95	89	100	108	108	110	111	95	94	92	92	102
Norway <sup>10</sup> . . . . .	.	.	(93)	(96)	(111)	(122)	(103)	...	.	.	.	.
Netherlands <sup>11</sup> . . . . .	91	95	102	105	107	102	93	...	.	.	.	.
Poland <sup>12</sup> . . . . .	82	78	115	118	108	83	79	68	65	70	70	66
United Kingdom <sup>13</sup> { Board of Trade . . . . .	†(100)	.	(102)	(100)	(99)	(80)	(77)	(85)	(91)	(87)	(76)	(86)
{ London & Cambridge: Quarterly . . . . .	106	92	105	98	99	79	78	88	97	94	74	88
{ Annual . . . . .	102	94	104	98	102	87	95	100	.	.	.	.
Sweden <sup>14</sup> { (a) . . . . .	86	96	103	108	108	114	105	...	.	.	.	.
{ (b) . . . . .	89	98	102	107	105	107	94	...	.	.	.	.
Czechoslovakia <sup>15</sup> . . . . .	93	87	111	104	105	98	83	69	79	74	62	62
U.S.S.R. <sup>16</sup> . . . . .	61	83	101	119	136	124	124	...	.	.	.	.

† 1924.  
<sup>1</sup> Annual index compiled by the Dominion Bureau of Statistics.  
<sup>2</sup> Index of the Federal Reserve Board.  
<sup>3</sup> Original basis: 1927-1929. Index of the Direccion General de Estadistica based on cloth production.  
<sup>4</sup> Index compiled by the Japanese Cotton Spinners' Association (production of cotton yarn).  
<sup>5</sup> Indices of the Institut für Konjunkturforschung.  
<sup>6</sup> Index of the Institut des Sciences économiques, Louvain.  
<sup>7</sup> Basis 1927-1929. Annual index compiled by the Statistiske Departement.  
<sup>8</sup> Index of the Statistique générale de la France.  
<sup>9</sup> Index of the Ungarisches Institut für Wirtschaftsforschung based on number of workers employed.  
<sup>10</sup> Basis 1927-1929. Annual index of the Statistiske Centralbyrå.  
<sup>11</sup> Indices based on number of workers employed. Figures published by the Centraal Bureau voor de Statistiek (*Maandschrift*, January 31st, 1931, 1932 and 1933).  
<sup>12</sup> Index of the Polish Institute for Economic Research, based on total number of hours worked.  
<sup>13</sup> Board of Trade, basis 1924, 1927, 1928, 1929. Quarterly and annual indices of the London and Cambridge Economic Service.  
<sup>14</sup> (a) Annual index of the Kommerskollegium, including hosiery and clothing; (b) Index of total production of yarn and tissues, based on figures published by the Kommerskollegium.  
<sup>15</sup> Provisional index compiled by Dr. Karel Maiwald.  
<sup>16</sup> Index published in *Konjunktura mirovozo khoziaistva (Survey of World Economics)*.

**Appendix II. Table 9 (a).**  
ACTIVITY IN THE COTTON-SPINNING INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)			
									I	II	III	IV
<i>America :</i>												
Canada <sup>1</sup> { (a) . . . . .	89	102	104	102	103	77	73	75	62	84	62	93
{ (b) . . . . .	90	99	108	100	103	86	79	...	.	.	.	.
United States of America <sup>2</sup>	94	98	108	97	103	79	79	73	76	59	73	85
<i>Asia :</i>												
China <sup>3</sup> . . . . .	86	91	101	110	113	...	...	...	.	.	.	.
India <sup>4</sup> . . . . .	91	107	107	86	110	115	128	135	132	128	137	141
Japan <sup>5</sup> . . . . .	95	102	99	96	109	98	100	110	108	111	108	111
<i>Europe :</i>												
Germany <sup>6</sup> . . . . .	100	84	116	105	95	95	91	95	98	87	85	110
Austria <sup>7</sup> . . . . .	102	87	108	102	101	94	88	87	100	94	79	76
Belgium <sup>8</sup> . . . . .	86	92	101	115	107	95	80	69	62		76	
Denmark <sup>9</sup> . . . . .	89	87	105	102	116	115	123	...	.	.	.	.
Spain <sup>10</sup> . . . . .	105	93	109	96	97	104	97	103	96	89	83	142
Finland <sup>11</sup> . . . . .	92	99	109	109	90	89	86	...	.	.	.	.
France <sup>12</sup> . . . . .	97	99	98	104	102	94	64	46	44	41	43	57
Hungary <sup>13</sup> . . . . .	59	69	92	113	167	193	194	231	363	94	159	307
Italy <sup>14</sup> { (a) . . . . .	102	103	90	100	105	88	73	82	.	.	.	.
{ (b) . . . . .	.	.	.	.	(100)	(84)	(77)	(80)	(81)	(82)	(72)	(85)
Norway <sup>15</sup> . . . . .	.	.	(87)	(100)	(113)	(127)	(100)	...	.	.	.	.
Poland <sup>16</sup> . . . . .	.	.	[113]	(108)	(92)	(83)	(75)	...	.	.	.	.
Portugal <sup>17</sup> . . . . .	.	.	.	.	.	(100)	(82)	(98)	(85)	(88)	(99)	(121)
United Kingdom <sup>18</sup> { (a) †(94)	112	94	(108)	(100)	(99)	(72)	(75)	(83)	(93)	(86)	(66)	(84)
{ (b) . . . . .	109	94	106	95	96	74	72	79	89	83	65	78
{ (c) . . . . .	84	99	104	110	103	107	95	...	.	.	.	.
Sweden <sup>19</sup> . . . . .	84	99	104	110	103	107	95	...	.	.	.	.
U.S.S.R. <sup>20</sup> . . . . .	.	(81)	(94)	(108)	(116)	(100)	(111)	...	.	.	.	.

† 1924.  
<sup>1</sup> Indices based : (a) on raw cotton imports, (b) on cotton-thread production compiled by the Dominion Bureau of Statistics.  
<sup>2</sup> Index of the Federal Reserve Board, based on mill consumption of raw cotton.  
<sup>3</sup> Index based on figures published by the Cotton Trade Statistical Bureau, Manchester, representing the estimated production of yarn.  
<sup>4</sup> Index based on yarn production ; economic years ending March 31st of following year (1932: calendar year).  
<sup>5</sup> Index based on figures of cotton-yarn production published by the Japanese Cotton Spinners' Association.  
<sup>6</sup> Index of the Institut für Konjunkturforschung, based on cotton-yarn production.  
<sup>7</sup> Index of the Österreichisches Institut für Konjunkturforschung, based on cotton-yarn production.  
<sup>8</sup> Index based on figures of cotton-yarn production published by the Banque Nationale de Belgique ; economic years ending January 31st of following year.  
<sup>9</sup> Index based on figures published by the Statistiske Departement, representing cotton-yarn production.  
<sup>10</sup> Index based on figures of cotton-yarn sold at Barcelona published by the Institut d'investigacions econòmiques, Barcelona.  
<sup>11</sup> Index based on figures of cotton-yarn production published by the Central Statistical Bureau.  
<sup>12</sup> Index based on figures of cotton-yarn production furnished by the Syndicat général de l'Industrie cotonnière française and published by the Statistique générale de la France.  
<sup>13</sup> Index of cotton-yarn production compiled by the Ungarisches Institut für Wirtschaftsforschung.  
<sup>14</sup> (a) Index based on raw-cotton imports, (b) basis 1929, index of cotton-yarn production compiled by the Associazione Nazionale degli Industriali Cotonieri.  
<sup>15</sup> Basis 1927-1929. Index based on figures of cotton-yarn production published by the Statistiske Centralbyrå.  
<sup>16</sup> Basis 1928-1929. Index based on figures of cotton-yarn production published by the Central Statistical Office. Figure for 1927 is not strictly comparable.  
<sup>17</sup> Basis 1930. Index based on figures of cotton-yarn production published by the Direcção Geral de Estatística.  
<sup>18</sup> (a) Board of Trade, based on quantities of raw cotton delivered to mills. Basis 1924, 1927-1929. (b) Annual and (c) quarterly indices of the London and Cambridge Economic Service, based on yarn produced and yarn manufactured.  
<sup>19</sup> Index based on figures of cotton-yarn production published by the Kommerskollegium.  
<sup>20</sup> Basis 1925-26 to 1928-29. Index based on mill consumption of raw cotton published in *Sowjetwirtschaft und Aussenhandel* ; economic years ending September 30th (1931 : calendar year).

Appendix II. Table 9 (b).

ACTIVITY IN THE COTTON-WEAVING INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)				
									I	II	III	IV	
<i>America :</i>													
Canada <sup>1</sup> . . . . .	82	103	106	109	101	89	87	...	(86)	(67)	(67)	(90)	
United States of America <sup>2</sup>	.	.	.	(100)	(100)	(78)	(79)	(78)	(86)	(67)	(67)	(90)	
<i>Asia :</i>													
China <sup>3</sup> . . . . .	34	.	101	.	165	.	.	.	.	.	.	.	.
India <sup>4</sup> . . . . .	90	104	110	86	109	114	130	136	134	127	137	145	
Japan <sup>5</sup> . . . . .	89	93	98	104	116	105	106	116	111	115	115	122	
<i>Europe :</i>													
Germany <sup>6</sup> . . . . .	100	78	117	110	94	102	88	74	.	.	.	.	.
Austria <sup>7</sup> . . . . .	99	89	110	100	101	106	117	114	126	124	110	96	
Denmark <sup>8</sup> . . . . .	106	94	95	92	112	110	111	...	.	.	.	.	.
Finland <sup>9</sup> . . . . .	92	96	111	111	90	87	86	...	.	.	.	.	.
France <sup>10</sup> . . . . .	96	99	100	101	103	104	77	59	50	53	57	79	
Hungary <sup>11</sup> { (a) . . . . .	73	86	117	105	119	116	114	132	203	71	87	167	
{ (b) . . . . .	77	92	120	105	106	105	90	99	154	54	65	124	
Italy <sup>12</sup> . . . . .	.	.	(94)	(97)	(100)	(81)	(71)	(72)	(73)	(74)	(66)	(76)	
Norway <sup>13</sup> . . . . .	.	.	(94)	(97)	(109)	(127)	(97)	...	.	.	.	.	.
Netherlands <sup>14</sup> . . . . .	91	96	102	105	106	98	89	...	.	.	.	.	.
Poland <sup>15</sup> . . . . .	.	.	.	(107)	(93)	(84)	(73)	...	.	.	.	.	.
Sweden <sup>16</sup> . . . . .	83	99	105	106	107	112	101	...	.	.	.	.	.
U.S.S.R. <sup>17</sup> . . . . .	67	91	104	115	123	86	83	...	100	.	.	.	.

<sup>1</sup> Index of production of cotton yarn and cotton-tissues compiled by the Dominion Bureau of Statistics.  
<sup>2</sup> Basis 1928-1929. Index based on figures of cotton textiles production published by the United States Department of Commerce and furnished by the Association of Cotton Textile Merchants of New York.  
<sup>3</sup> Basis : 1925, 1927, 1929. Index based on estimates representing mill output only, published by the Cotton Trade Statistical Bureau, Manchester.  
<sup>4</sup> Index based on figures of production of cotton manufactures published in *Cotton* (Manchester). Economic years ending March 31st of following year (1932 calendar year).  
<sup>5</sup> Index based on figures published by the Japanese Cotton Spinners' Association, representing cotton-cloth produced.  
<sup>6</sup> Annual index of the Institut für Konjunkturforschung.  
<sup>7</sup> Index of the Österreichisches Institut für Konjunkturforschung, based on the consumption of yarn by weavers.  
<sup>8</sup> Index based on figures of cotton-cloth production published by the Statistiske Departement.  
<sup>9</sup> Index based on figures of cotton-cloth production published by the Central Statistical Bureau.  
<sup>10</sup> Index based on figures of cotton-tissues production, furnished by the Syndicat général de l'Industrie cotonnière française and published by the Statistique Générale de la France.  
<sup>11</sup> Indices of (a) output of weaving mills, and (b) output of finished cotton goods, compiled by the Ungarisches Institut für Wirtschaftsforschung.  
<sup>12</sup> Basis : 1929. Index of average daily output, compiled by the Associazione Nazionale degli Industriali Cotonieri.  
<sup>13</sup> Basis 1927-1929. Index based on figures of production of cotton-cloth, published by the Statistiske Centralbyrå.  
<sup>14</sup> Index based on the number of workers employed at September 15th, published by the Centraal Bureau voor de Statistiek.  
<sup>15</sup> Basis : 1928-1929. Index based on figures published by the Central Statistical Office, representing production of cotton-cloth.  
<sup>16</sup> Index based on figures of production of cotton-tissues, published by the Kommerskollegium.  
<sup>17</sup> Index based on figures of production of cotton-cloth published in *Narodnoie khoziaistvo S.S.R.* (*National Economy of the U.S.S.R.*).

**Appendix II. Table 10.**  
ACTIVITY IN THE WOOL INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)				
									I	II	III	IV	
<i>America :</i>													
Canada <sup>1</sup>	(a) . . . . .	93	110	101	112	85	69	75	71	.	.	.	.
	Spinning (b)	84	94	103	107	111	81	85	...	.	.	.	.
	Weaving (c)	96	98	102	111	92	76	94	...	.	.	.	.
Chile <sup>2</sup>			(73)	(101)	(124)	(154)	(228)	(353)	(324)	(432)	(379)	(287)	
United States of America <sup>3</sup>	102	95	100	98	105	75	85	66	66	42	76	77	
<i>Asia :</i>													
Japan <sup>4</sup>	Spinning . . . . .	75	72	106	115	132	140	190	205	189	201	199	230
	Weaving . . . . .	81	104	98	113	105	99	99	105	114	93	99	115
<i>Europe :</i>													
Germany <sup>5</sup>	Spinning . . . . .	93	89	107	107	104	111	107	98	.	.	.	.
	Weaving . . . . .	81	100	124	100	95	86	77	69	.	.	.	.
Belgium <sup>6</sup>		76	84	114	115	111	85	80	66	65	58	78	65
Denmark <sup>7</sup>	Spinning . . . . .	86	92	101	108	113	112	138	...	.	.	.	.
	Weaving . . . . .	100	85	95	107	114	110	97	...	.	.	.	.
Spain <sup>8</sup>		89	102	94	112	104	116	132	140	131	152	143	134
Finland <sup>9</sup>	Spinning . . . . .	97	99	105	108	90	69	72	...	.	.	.	.
	Weaving . . . . .	103	109	109	99	80	81	76	...	.	.	.	.
France <sup>10</sup>		96	103	97	105	100	94	83	73	67	64	74	84
Hungary <sup>11</sup>	Spinning . . . . .	.	.	(92)	(108)	(100)	(80)	(77)	(108)	(108)	(79)	(97)	(149)
	Weaving . . . . .	.	.	(112)	(99)	(89)	(76)	(60)	(77)	(75)	(61)	(67)	(104)
Italy <sup>12</sup>		.	.	(102)	(98)	(90)	(83)	(76)	(75)	(75)	(75)	(74)	(79)
Norway <sup>13</sup>	Spinning . . . . .	.	.	(99)	(98)	(103)	(105)	(96)	...	.	.	.	.
	Weaving . . . . .	.	.	(100)	(95)	(105)	(115)	(99)	...	.	.	.	.
Netherlands <sup>14</sup>		93	95	101	105	107	107	103	...	.	.	.	.
Poland <sup>15</sup>	Spinning . . . . .	.	.	(108)	(99)	(93)	(72)	(82)	...	.	.	.	.
	Weaving . . . . .	.	.	(113)	(104)	(83)	(63)	(58)	...	.	.	.	.
United Kingdom <sup>16</sup>		91	102	102	97	107	111	125	126	.	.	.	.
Sweden <sup>17</sup>	Spinning . . . . .	96	99	97	105	103	102	87	...	.	.	.	.
	Weaving . . . . .	97	97	98	103	105	108	92	...	.	.	.	.
U.S.S.R. <sup>18</sup>		69	89	112	104	126	141	144	...	163	...	...	...
<i>Oceania :</i>													
Australia <sup>19</sup>	Spinning . . . . .	67	85	113	112	123	118	96	...	.	.	.	.
	Weaving . . . . .	67	80	114	130	109	104	113	...	.	.	.	.
New Zealand <sup>20</sup>	Spinning . . . . .	100	84	103	113	99	55	116	...	.	.	.	.
	Weaving . . . . .	91	100	120	106	82	69	79	...	.	.	.	.

<sup>1</sup> Indices of (a) raw wool and woollen yarn imports, (b) woollen yarn production and (c) cloth production compiled by the Dominion Bureau of Statistics. — <sup>2</sup> Basis: 1927-1929. Index of production of wool for weaving compiled by the Direccion General de Estadistica. — <sup>3</sup> Index compiled by the Federal Reserve Board on the basis of wool consumption, machinery activity, carpet- and rug-loom activity. — <sup>4</sup> Indices based on figures of production of woollen yarn and of woollen cloth, flannel, etc., published by the Japanese Department of Commerce and Industry. The index for spinning for 1925-1929 relates to all factories in Japan proper, for 1930 and 1931 only to 12, and for 1932 only to the 10 biggest companies. — <sup>5</sup> Annual indices compiled by the Institut für Konjunkturforschung, based on output of yarn from carded wool and output of woollen tissues. — <sup>6</sup> Index based on figures of wool conditioned at Verviers and Dison, published by the Banque Nationale de Belgique. — <sup>7</sup> Indices based on figures of production of woollen yarn and cloth, published by the Statistische Departement. — <sup>8</sup> Index based on figures of wool conditioned at Sabadell and Terrassa, published by the Institut d'investigacions econòmiques, Barcelona. — <sup>9</sup> Indices based on figures of production of woollen yarn and tissues, published by the Central Statistical Bureau. — <sup>10</sup> Index based on wool conditioned at Roubaix, Tourcoing and Mazamet and on loom activity, compiled by the Statistique générale de la France. — <sup>11</sup> Basis: 1927-1929. Indices based on production of woollen yarn and woollen goods, compiled by the Ungarisches Institut für Wirtschaftsforschung. — <sup>12</sup> Basis: 1928-1929. Index based on the activity of looms (Ministero delle Corporazioni). — <sup>13</sup> Basis: 1927-1929. Indices based on figures of production of woollen yarn and cloth published by the Statistische Centralbyrå. — <sup>14</sup> Indices based on number of workers employed at September 15th. Figures published by the Centraal Bureau voor de Statistiek. — <sup>15</sup> Basis: 1927-1929. Indices based on figures of production of woollen yarn and tissues published by the Central Statistical Office. — <sup>16</sup> Annual index of the London and Cambridge Economic Service, based on wool, mohair, pulled wool, etc., retained. — <sup>17</sup> Indices based on figures of production of woollen yarn and tissues published by the Kommerskollegium. — <sup>18</sup> Index based on figures of production of woollen tissues, published in *Narodnoie khoziaistvo S.S.S.R. (National Economy of the U.S.S.R.)*. — <sup>19</sup> Indices based on figures published by the Commonwealth Bureau of Census and Statistics, representing scoured wool used by mills (Spinning), and tweed, cloth and flannel produced (Weaving). Years ending June 30th. — <sup>20</sup> Indices based on figures of production of woollen yarn (Spinning), and of woollen tweed, cloth and flannel (Weaving), published by the Census and Statistics Office. Economic years ending March 31st of following year.

**Appendix II. Table 11.**  
ACTIVITY IN THE NATURAL SILK INDUSTRY.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)				
									I	II	III	IV	
<i>America :</i>													
Canada <sup>1</sup> . . . . .	51	73	105	122	149	179	223	...	.	.	.	.	.
United States <sup>2</sup> { Deliveries and loom activity.	93	92	99	104	112	104	104	92	97	72	100	99	
	91	92	100	104	113	106	108	100	104	81	112	104	
<i>Asia :</i>													
Japan <sup>3</sup> { Spinning . . . . .	70	82	107	98	141	125	142	...	.	.	.	.	.
	89	97	104	106	104	95	94	106	84	109	115	115	
<i>Europe :</i>													
Germany <sup>4</sup> . . . . .	86	87	115	103	110	82	59	44	.	.	.	.	.
France <sup>5</sup> . . . . .	101	106	88	112	92	75	61	35	28	34	38	41	
Hungary <sup>6</sup> { Spinning . . . . .	.	.	(93)	(100)	(106)	(128)	(154)	(158)	(191)	(138)	(156)	(146)	
	.	.	(86)	(116)	(99)	(136)	(90)	(43)	(62)	(44)	(39)	(27)	
Italy <sup>7</sup> . . . . .	.	.	(97)	(103)	(91)	(85)	(67)	(78)	(69)	(57)	(65)		
Poland <sup>8</sup> . . . . .	.	.	[63]	(92)	(108)	(102)	(116)	...	.	.	.	.	
Portugal <sup>9</sup> . . . . .	.	.	.	(1)	(100)	(181)	(148)	(60)	(133)	(201)	(198)		
United Kingdom <sup>10</sup> { (a) . . . . .	†(78)	.	(92)	(114)	(116)	(114)	(119)	(126)	(114)	(133)	(132)	(128)	
	92	97	90	104	117	103	110	141	.	.	.	.	
	86	77	92	119	127	112	122	163	161	174	165	168	
Sweden <sup>11</sup> . . . . .	37	25	19	112	307	370	216	...	.	.	.	.	
Switzerland <sup>12</sup> . . . . .	95	81	114	121	88	52	41	28	28	26	33	26	

† 1924.

<sup>1</sup> Index of production of silk and silk manufactures compiled by the Dominion Bureau of Statistics.

<sup>2</sup> Indices compiled by the Federal Reserve Board.

<sup>3</sup> Index based on figures of production of silk yarn, published by the Japanese Department of Commerce and Industry, and index based on figures published by the Mitsubishi Economic Research Bureau, representing the "amount of export silk piece-goods inspected by the Prefectural Inspection Bureaus".

<sup>4</sup> Annual index of silk weaving compiled by the Institut für Konjunkturforschung.

<sup>5</sup> Index of the Statistique générale de la France, representing silk conditioned at Lyons.

<sup>6</sup> Basis: 1927-1929. Indices of production of silk yarn and silk tissues compiled by the Ungarisches Institut für Wirtschaftsforschung.

<sup>7</sup> Basis: 1928-1929. Index of activity in weaving based on ratio of loom hours worked to normal (Ministero delle Corporazioni).

<sup>8</sup> Basis: 1928-1929. Index based on figures of production of tissues of silk, half-silk, artificial silk and half-artificial silk published by the Central Statistical Office. Figure for 1927 is not strictly comparable.

<sup>9</sup> Basis: 1930. Index based on figures of production of silk yarn, published by the Direcção Geral de Estatística.

<sup>10</sup> (a) Index of the Board of Trade, based on deliveries of natural silk for home consumption. Basis: 1924, 1927, 1928, 1929. (b) Annual and (c) quarterly indices of the London and Cambridge Economic Service, the former based on silk consumed and the latter on silk consumed and artificial silk produced.

<sup>11</sup> Index of production of tissues wholly or half of natural silk, based on figures published by the Kommerskollegium.

<sup>12</sup> Index based on figures of silk conditioned at Zurich and Basle, published by the Banque Nationale Suisse.



Appendix II. Table 12.

ACTIVITY IN THE LINEN, HEMP AND JUTE INDUSTRIES, ETC.  
(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	
<i>America :</i>									
Canada <sup>1</sup> . . . . .	87	94	101	108	109	93	83	...	
United States of America <sup>2</sup> {	Jute . . . . .	80	85	114	112	109	76	80	36
	Flax . . . . .	95	123	81	100	102	119	56	63
	Hemp . . . . .	156	112	83	82	68	71	50	25
	Sisal and henequen . . . . .	106	92	92	105	105	67	69	131
	Manila . . . . .	103	114	85	78	119	106	51	42
Kapok . . . . .	116	96	111	90	86	98	95	94	
Total . . . . .	99	96	97	100	108	79	69	82	
<i>Asia :</i>									
India <sup>3</sup> : Exports of jute bags and tissues . . . . .	93	96	99	104	107	95	73	76	
Japan <sup>4</sup> : Hemp, jute and flax yarns . . . . .	84	76	59	114	167	143	127	...	
<i>Europe :</i>									
Germany <sup>5</sup> {	Linen industry . . . . .	124	81	133	85	78	69	61	58
	Linen-spinning . . . . .	128	84	133	82	72	68	59	61
	Linen-weaving . . . . .	119	79	133	87	82	58	53	45
	Hemp-spinning . . . . .	87	82	118	107	106	86	73	64
Belgium <sup>6</sup> {	Jute-spinning . . . . .	102	80	102	113	103	73	61	50
	Jute-spinning . . . . .	78	92	99	126	105	84	64	66
Denmark <sup>7</sup> {	Linen-weaving . . . . .	80	83	104	97	136	158	213	...
	Jute-spinning . . . . .	78	68	158	115	81	105	159	...
Finland <sup>8</sup> {	Linen-spinning . . . . .	90	77	114	118	101	87	65	...
	Linen-weaving . . . . .	106	105	102	97	90	68	50	...
	Jute-spinning . . . . .	.	.	(60)	(116)	(123)	(98)	(84)	...
Hungary <sup>9</sup> : Jute-weaving . . . . .	Jute-weaving . . . . .	86	62	105	117	130	120	75	61
	Linen- and hemp-spinning . . . . .	.	.	.	(100)	(100)	(90)	(84)	(92)
Italy <sup>10</sup> {	Linen- and hemp-weaving . . . . .	.	.	.	(97)	(103)	(92)	(81)	(71)
	Jute-weaving . . . . .	.	.	.	(98)	(102)	(87)	(73)	(61)
Norway <sup>11</sup> {	Hemp-spinning . . . . .	.	.	(88)	(105)	(107)	(112)	(94)	...
	Linen- and jute-weaving . . . . .	.	.	(86)	(92)	(122)	(110)	(61)	...
Poland <sup>12</sup> {	Linen-spinning . . . . .	.	.	(82)	(111)	(107)	(84)	(86)	(100)
	Jute-spinning . . . . .	.	.	(80)	(105)	(115)	(82)	(58)	(50)
	Hemp-spinning . . . . .	.	.	(52)	(162)	(86)	(83)	(64)	(57)
	Linen-weaving . . . . .	.	.	(82)	(119)	(100)	(97)	(82)	(89)
United Kingdom <sup>13</sup> : Jute, hemp and linen . . . . .	Jute-weaving . . . . .	.	.	(82)	(104)	(114)	(87)	(58)	(47)
	Hemp-weaving . . . . .	.	.	(10)	(169)	(122)	(196)	(177)	(159)
Sweden <sup>14</sup> {	Linen- and hemp-spinning . . . . .	97	73	121	101	107	78	78	75
	Linen- and hemp-weaving . . . . .	99	101	103	107	90	89	80	...
	Jute-spinning . . . . .	98	93	102	106	102	100	86	...
	Jute-weaving . . . . .	94	91	97	105	113	112	87	...
U.S.S.R. : <sup>15</sup> Linen tissues . . . . .	99	89	98	103	110	110	92	...	
U.S.S.R. : <sup>15</sup> Linen tissues . . . . .	.	.	(97)	(92)	(111)	(115)	(112)	...	

<sup>1</sup> Index of production in the hemp, flax and jute industries, compiled by the Dominion Bureau of Statistics.

<sup>2</sup> Indices based on imports of unmanufactured fibres.

<sup>3</sup> Index based on exports of jute bags and tissues.

<sup>4</sup> Index based on production figures published by the Japanese Department of Commerce and Industry.

<sup>5</sup> Indices of the Institut für Konjunkturforschung.

<sup>6</sup> Index based on imports of flax.

<sup>7</sup> Indices based on production figures published by the Statistiske Departement.

<sup>8</sup> Indices based on production figures published by the Central Statistical Bureau. Jute: basis 1927-1929.

<sup>9</sup> Index of the Ungarisches Institut für Wirtschaftsforschung.

<sup>10</sup> Basis 1928-1929. Indices of ratio of spindle and loom hours worked to normal. Annual averages of figures for last week of each month.

<sup>11</sup> Basis 1927-1929. Indices based on production figures published by the Statistiske Centralbyrå.

<sup>12</sup> Basis 1927-1929. Indices based on production figures published by the Central Statistical Office.

<sup>13</sup> London and Cambridge Economic Service: quantities of raw material retained, plus home crops.

<sup>14</sup> Indices based on production figures published by the Kommerskollegium.

<sup>15</sup> Basis 1927-1929. Index based on figures of production of linen tissues, published in *Sowjetwirtschaft und Aussenhandel* and *Cotton* (Manchester).

Appendix II. Table 13 (a).

CONSUMPTION OF CRUDE RUBBER.

Country	Tons (000's)								1925-1929 =100			Percentage of world total		
	1925	1926	1927	1928	1929	1930	1931	1932	1930	1931	1932	1925	1929	1932
United States of America <sup>1</sup>	385	358	373	442	466	371	347	315	92	86	78	70	59	47
Canada	19	20	26	30	35	28	23	19	108	89	73	3	5	3
Japan	13	18	20	24	34	33	38	53	151	174	243	2	5	8
Germany	35	22	38	35	50	47	36	41	131	100	114	6	6	6
Belgium	3	3	6	7	10	11	10	8	190	172	138	1	1	1
France	36	39	38	41	62	60	61	60	139	141	139	7	8	9
Italy	11	10	11	12	16	18	10	13	150	83	108	2	2	2
United Kingdom	30	41	45	48	72	75	76	79	159	161	167	5	9	12
U. S. S. R.	8	7	14	8	13	18	27	82	180	270	285	2	2	2
Australia	5	9	9	9	15	5	7	82	53	74	285	1	2	12
Other Countries	7	7	10	11	12	19	34	82	202	362	285	1	1	1
World	552	534	590	667	785	685	669	670	109	107	107	100	100	100
World, excluding U.S.A.	167	176	217	225	319	314	322	355	142	146	161	30	41	53

Source: *The World's Rubber Position* (W. H. Rickinson and Son, London).

<sup>1</sup> United States of America: Consumption of reclaimed rubber (tons, 000's) . . . . . 1926 1927 1928 1929 1930 1931 1932  
 As percentage of crude . . . . . 165 178 223 224 159 127 72  
 46 48 50 48 43 37 23

Appendix II. Table 13 (b).

ACTIVITY IN THE RUBBER INDUSTRY.

(1925-1929 = 100.)

Country	1925	1926	1927	1928	1929	1930	1931	1932	1932 (quarters)				
									I	II	III	IV	
<i>America:</i>													
Canada <sup>1</sup>	84	82	103	116	116	87	65	43	59	42	37	34	
United States of America <sup>2</sup>	92	92	95	114	107	79	76	62	66	66	58	55	
<i>Asia:</i>													
Japan <sup>3</sup>	54	70	79	121	175	219	149	...	.	.	.	.	
<i>Europe:</i>													
Germany <sup>4</sup>	106	57	111	105	121	109	53	45	.	.	.	.	
Denmark <sup>5</sup>	Tubes and tyres	122	109	90	77	102	112	90	...	.	.	.	
	Other rubber products	100	89	77	102	132	127	91	...	.	.	.	
	Total	109	97	83	91	120	120	91	...	.	.	.	
Finland <sup>6</sup>	87	89	75	96	152	154	110	...	.	.	.	.	
France <sup>7</sup>	81	97	88	95	139	145	145	107	119	102	99	106	
Netherlands <sup>8</sup>	92	83	97	104	125	142	141	...	.	.	.	.	
Poland <sup>9</sup>	Rubber footwear	.	.	(86)	(114)	(109)	(85)	...	.	.	.	.	
	Other rubber products	.	.	.	(100)	(96)	(80)	...	.	.	.	.	
United Kingdom <sup>10</sup>	Board of Trade	†(49)	.	(95)	(103)	(152)	(158)	(165)	(180)	(125)	(192)	(202)	(201)
	London and Cambridge Economic Service	74	72	100	99	155	159	163	152	.	.	.	.
Sweden <sup>11</sup>	87	82	95	114	122	100	122	...	.	.	.	.	
U.S.S.R. <sup>12</sup>	.	.	(83)	(100)	(116)	(113)	(172)	...	.	.	.	.	

† 1924. — <sup>1</sup> Index of pneumatic casings production compiled by the Dominion Bureau of Statistics. — <sup>2</sup> Index of production of rubber tyres and inner-tubes compiled by the Federal Reserve Board. — <sup>3</sup> Index of production of rubber footwear based on figures published by the Japanese Department of Commerce and Industry. — <sup>4</sup> Annual index of the Institut für Konjunkturforschung. — <sup>5</sup> Index of values of production based on figures published by the Statistiske Departement. — <sup>6</sup> Index of production of rubber footwear, based on figures published by the Central Statistical Bureau. — <sup>7</sup> Index based on consumption of crude rubber compiled by the Statistique générale de la France. — <sup>8</sup> Indices based on figures of production of bicycle tyres and inner-tubes published by the Centraal Bureau voor de Statistiek. — <sup>9</sup> Index of production of rubber footwear, basis 1928-1929, and index of production of other rubber goods, basis 1929, based on figures published by the Central Statistical Office. — <sup>10</sup> Board of Trade: basis 1924, 1927, 1928, 1929. Index of crude rubber available for manufacture. London and Cambridge Economic Service: Index based on quantities of rubber, gutta-percha and balata retained in the United Kingdom. — <sup>11</sup> Index based on figures of values of production of rubber goods at 1913 prices published by the Kommerskollegium. — <sup>12</sup> Basis: 1927-1929. Index of production of rubber shoes, based on figures published in *Sowjetwirtschaft und Aussenhandel* and in *Moskauer Rundschau*.

Appendix III. Table 1.

WHOLESALE PRICE INDICES.

Country:	Austria	British India Calcutta	France	Germany	Great Britain	Hungary	Netherlands	Switzerland	U.S.A.	Yugoslavia
Source:	Bundesamt für Statistik	Dept. of Commercial Intelligence and Statistics	Statistique générale de la France	Statistisches Reichsamt.	Board of Trade	Central Statistical Office	Centraal Bureau voor de Statistiek	Département Fédéral de l'Economie publique	Bureau of Labor Statistics	The National Bank of the Kingdom of Yugoslavia
Base:	I-VI. 1914	VII. 1914	1913	1913	1913	1913	1901-1910	VII. 1914	1926	1926
1929 Average . . .	130	141	627	137	137	121	159	141	95	101
1930										
I . . . . .	125	131	576	132	131	106	146	136	93	94
II . . . . .	123	126	567	129	128	104	142	133	91	92
III . . . . .	121	125	558	126	125	100	137	131	90	91
IV . . . . .	119	123	548	127	124	96	137	129	90	90
V . . . . .	118	121	546	126	122	96	133	128	89	89
VI . . . . .	121	116	540	125	121	94	131	126	87	87
VII . . . . .	119	115	558	125	119	99	129	126	84	89
VIII . . . . .	118	114	560	125	118	93	127	126	84	88
IX . . . . .	115	111	556	123	116	92	125	123	84	83
X . . . . .	112	107	552	120	113	94	124	122	83	81
XI . . . . .	110	103	551	120	112	92	123	120	81	79
XII . . . . .	107	100	541	118	109	90	119	117	80	78
Average . . .	117	116	554	125	120	96	131	127	86	87
1931										
I . . . . .	105	98	541	115	107	91	117	115	78	76
II . . . . .	107	99	538	114	106	92	115	115	77	75
III . . . . .	107	100	539	114	106	94	115	114	76	75
IV . . . . .	108	98	540	114	106	93	113	112	75	76
V . . . . .	107	97	520	113	104	95	113	111	73	75
VI . . . . .	110	93	518	112	103	93	110	110	72	74
VII . . . . .	114	93	500	112	102	95	108	110	72	74
VIII . . . . .	110	92	488	110	100	92	104	108	72	74
IX . . . . .	108	91	473	109	99	96	101	106	71	72
X . . . . .	109	96	457	107	104	97	99	106	70	70
XI . . . . .	112	97	447	107	106	99	99	106	70	69
XII . . . . .	112	98	442	104	106	99	94	103	69	67
Average . . .	109	96	502	111	104	95	108	110	73	73
1932										
I . . . . .	114	97	439	100	106	98	93	101	67	68
II . . . . .	112	97	446	100	105	99	92	100	66	67
III . . . . .	113	94	444	100	105	99	90	99	66	68
IV . . . . .	112	92	439	98	102	97	88	98	66	66
V . . . . .	116	89	438	97	101	97	86	96	64	65
VI . . . . .	115	86	425	96	98	96	86	95	64	65
VII . . . . .	112	87	430	96	98	94	83	94	65	66
VIII . . . . .	112	91	415	95	100	89	83	95	65	63
IX . . . . .	110	91	413	95	102	90	84	95	65	62
X . . . . .	111	91	412	94	101	86	86	95	64	64
XI . . . . .	111	90	413	94	101	82	86	94	64	65
XII . . . . .	108	88	413	92	101	81	84	92	63	65
Average . . .	112	91	427	97	102	92	87	96	65	65
1933										
I . . . . .	108	88	411	91	100	82	83	91	61	63
II . . . . .	106	86	404	91	99	83	82	90	60	63
III . . . . .	107	82	390	91	98	82	79	90	60	67
IV . . . . .	107	84	387	91	97	80	79	91	60	66
V . . . . .	108	88	383	92	99	79	80	92	63	65
VI . . . . .	109	89	403	93	102	79	81	91	65	66

Appendix III. Table 2.

COST-OF-LIVING INDICES.

Country :	Austria	British India	France	Germany	Great Britain	Netherlands	Switzerland	U.S.A.
Source :	Bundesamt für Statistik	Labour Office, Bombay	Statistique générale de la France	Statistisches Reichsamt	Ministry of Labour	Centraal Bureau voor de Statistiek	Département Fédéral de l'Economie publique	National Industrial Conference Board
Base :	VII. 1914	VII. 1914	VII. 1914	X. 1913 I, IV, VII 1914	VII. 1914	1911-1913	VI. 1914	1923
1929 Average . .	111	149	556	154	164	168	161	100
1930								
I . . . . .	113	147		152	164	—	161	99
II . . . . .	112	144	565	150	161	—	160	99
III . . . . .	111	141		149	157	163	159	98
IV . . . . .	111	140		147	155	—	158	98
V . . . . .	111	139	572	147	154	—	158	97
VI . . . . .	113	140		148	155	162	158	97
VII . . . . .	112	139		149	157	—	159	95
VIII . . . . .	113	136	592	149	157	—	159	95
IX . . . . .	110	136		147	156	162	159	95
X . . . . .	110	131		145	157	—	158	95
XI . . . . .	110	127	597	144	155	—	157	94
XII . . . . .	108	121		142	153	157	156	93
Average . . .	111	137	581	147	158	161	158	96
1931								
I . . . . .	106	117		140	152	—	156	91
II . . . . .	105	113	590	139	150	—	155	90
III . . . . .	105	111		138	147	154	153	89
IV . . . . .	104	111		137	147	—	151	88
V . . . . .	104	110	589	137	145	—	150	87
VI . . . . .	106	109		138	147	154	150	86
VII . . . . .	107	108		137	145	—	150	86
VIII . . . . .	107	108	565	135	145	—	149	86
IX . . . . .	107	108		134	145	151	149	86
X . . . . .	108	108		133	146	—	148	85
XI . . . . .	108	108	531	132	148	—	147	84
XII . . . . .	108	109		130	147	145	145	83
Average . . .	106	110	569	136	147	151	150	87
1932								
I . . . . .	109	110		125	147	—	144	81
II . . . . .	108	110	534	122	146	—	142	80
III . . . . .	108	111		122	144	141	142	80
IV . . . . .	107	108		122	143	—	140	79
V . . . . .	107	107	535	121	142	—	139	78
VI . . . . .	109	107		121	143	141	138	77
VII . . . . .	108	109		122	141	—	138	77
VIII . . . . .	107	109	517	120	141	—	137	77
IX . . . . .	108	109		120	143	141	136	77
X . . . . .	108	109		119	143	—	136	76
XI . . . . .	107	110	516	119	143	—	135	76
XII . . . . .	107	110		118	142	140	134	75
Average . . .	108	109	526	121	143	141	138	78
1933								
I . . . . .	106	109		117	141	—	133	74
II . . . . .	105	106	523	117	139	—	133	72
III . . . . .	104	106		117	137	138	132	72
IV . . . . .	104	101		117	136	—	131	72
V . . . . .	105	100	516	118	136	—	130	72
VI . . . . .	106	104		119	138	...	131	...

Appendix III. Table 3.

PRICE INDICES OF IMPORTED, DOMESTIC AND EXPORTED GOODS.

Country :	(a)								(b)					
	Industrialised States								Raw Material Producing States					
	Czechoslovakia		France		Germany		Sweden		Latvia		Netherlands Indies		Yugoslavia	
	Im-ported Goods	Home Goods	Im-ported Products	National Products	Im-ported Ind. Raw Mat.	Do-mestic Ind. Raw Mat.	Im-ported Goods	Do-mestic Goods	Im-ported Goods	Ex-ported Goods	Im-ported Goods	Ex-ported Goods	Im-ported Goods	Ex-ported Goods
Source :	Central Statistical Office		Statistique générale de la France		Institut für Konjunkturforschung		Svenska Handelsbanken		Statistical Office		Central Kantoor voor de Statistiek te Bataviacentrum		Statistical Department of the National Bank	
Base :	VII. 1914		VII. 1914		1913		1913		1913		1913		1926	
1929 Average	134	134	602	635	125	136	126	143	110	158	155	123	91	114
1930														
I.....	125	128	521	606	116	136	116	138	106	149	153	105	85	105
II.....	124	126	514	611	112	136	110	137	105	149	152	100	85	102
III.....	122	123	501	600	109	135	106	134	101	146	150	98	83	102
IV.....	121	123	495	595	108	135	106	133	101	145	149	95	83	100
V.....	118	123	485	590	107	134	104	132	99	142	148	94	81	99
VI.....	116	122	470	585	104	132	102	131	97	140	147	88	80	95
VII.....	114	123	461	598	100	131	99	129	96	139	146	82	80	97
VIII.....	111	122	444	599	98	129	98	129	93	134	145	81	79	93
IX.....	108	119	428	595	95	129	96	128	92	128	143	79	78	86
X.....	107	117	408	581	90	128	94	126	91	122	141	79	77	83
XI.....	105	117	395	565	89	127	93	125	88	120	140	78	75	80
XII.....	104	115	377	565	86	124	93	125	87	113	139	79	73	79
Average.	115	121	458	591	101	131	101	131	97	136	146	88	80	94
1931														
I.....	101	114	364	567	83	122	90	122	86	107	132	73	73	76
II.....	98	114	375	557	82	121	88	120	85	106	126	72	71	75
III.....	99	113	370	560	83	120	89	120	84	108	122	72	71	74
IV.....	99	116	365	566	82	118	87	119	84	107	118	70	72	76
V.....	97	116	350	552	79	118	85	118	83	106	116	68	70	75
VI.....	95	114	365	539	78	117	84	117	81	104	115	67	70	74
VII.....	96	118	347	532	79	117	84	115	81	105	113	66	69	75
VIII.....	94	114	335	521	75	117	81	115	78	105	113	65	68	75
IX.....	92	111	316	504	72	117	80	113	80	102	110	62	67	71
X.....	91	111	314	484	71	116	83	113	79	94	107	61	66	69
XI.....	92	110	313	475	71	116	89	113	81	89	107	60	67	68
XII.....	90	109	477	471	69	113	91	113	81	86	105	57	65	67
Average.	95	113	358	527	77	118	86	117	82	102	115	66	69	73
1932														
I.....	89	107	300	477	68	107	91	111	87	81	104	56	65	66
II.....	88	106	304	486	67	106	92	111	86	88	102	58	64	65
III.....	90	106	308	493	65	105	92	111	86	90	101	57	66	67
IV.....	89	105	301	494	63	104	93	110	87	96	98	53	68	63
V.....	87	104	294	492	61	104	93	110	84	88	96	52	68	62
VI.....	85	102	287	475	59	103	91	110	85	80	94	50	68	63
VII.....	85	103	290	468	59	103	92	110	83	79	92	50	66	61
VIII.....	85	103	304	445	62	103	95	111	86	74	92	51	67	57
IX.....	92	104	309	445	64	103	99	111	86	77	91	51	68	56
X.....	90	104	298	444	63	103	99	109	85	77	91	48	73	56
XI.....	89	104	290	448	62	103	96	109	85	78	88	47	73	57
XII.....	86	103	293	444	61	103	95	108	85	78	87	46	74	58
Average.	88	104	298	468	63	104	94	110	85	82	95	52	68	61
1933														
I.....	88	100	291	446	61	103	93	106	85	75	87	45	74	60
II.....	89	99	286	447	60	103	92	105	85	78	86	45	75	61
III.....	89	99	290	437	60	103	92	105	84	78	85	44	76	58
IV.....	88	97	299	432	61	102	91	106	84	78	83	44	...	...
V.....	90	99	317	418	...	...	94	106	86	81	83	45	...	...
VI.....	93	101	329	433	...	...	95	106	...	...	...	...	...	...

Appendix III. Table 4.

PRICE INDICES OF CARTELLISED AND NON-CARTELLISED INDUSTRIAL RAW MATERIALS AND SEMI-MANUFACTURED GOODS.

Country :	Austria		Germany	
Source :	Österreichisches Institut für Konjunkturforschung		Institut für Konjunkturforschung	
Base :	1923-1931 = 100		1926 = 100	
	Cartellised	Non-cartellised	Cartellised	Non-cartellised
1929 Average . . . . .	99	100	105	97
1930				
I . . . . .	99	94	105	90
II . . . . .	98	92	105	87
III . . . . .	97	90	105	85
IV . . . . .	97	87	105	85
V . . . . .	95	86	105	85
VI . . . . .	95	95	104	83
VII . . . . .	95	94	103	79
VIII . . . . .	96	88	103	77
IX . . . . .	97	82	103	75
X . . . . .	95	80	102	72
XI . . . . .	93	78	101	71
XII . . . . .	93	76	97	68
Average . . . . .	96	87	103	80
1931				
I . . . . .	90	74	95	66
II . . . . .	91	74	95	66
III . . . . .	91	77	95	66
IV . . . . .	90	78	94	65
V . . . . .	90	78	94	63
VI . . . . .	91	79	94	61
VII . . . . .	90	86	94	62
VIII . . . . .	91	73	94	59
IX . . . . .	89	69	94	57
X . . . . .	93	69	94	56
XI . . . . .	94	76	93	56
XII . . . . .	94	76	90	54
Average . . . . .	91	76	94	61
1932				
I . . . . .	94	75	84	51
II . . . . .	92	75	84	51
III . . . . .	93	73	84	50
IV . . . . .	93	73	84	48
V . . . . .	92	73	84	47
VI . . . . .	90	83	84	45
VII . . . . .	91	75	84	45
VIII . . . . .	91	70	84	47
IX . . . . .	94	69	84	48
X . . . . .	94	71	84	47
XI . . . . .	93	70	84	47
XII . . . . .	93	69	84	46
Average . . . . .	93	73	84	48
1933				
I . . . . .	93	69	84	46
II . . . . .	93	69	84	45
III . . . . .	94	70	84	46
IV . . . . .	94	70	84	46
V . . . . .	94	70	84	48
VI . . . . .	96	82	84	51

Appendix III. Table 5.

PRICE INDICES OF RAW MATERIALS, SEMI-MANUFACTURED GOODS AND FINISHED PRODUCTS.

Country :	Canada		Germany		Italy			Sweden			U.S.A.		
	Raw and Partly Manufactur. Goods	Fully and Chiefly Manufactur. Goods	Ind. Raw Mat. and Semi-Manufactur. Goods	Fin-ished Products	Ind. Raw Materials	Semi-manu-factur-ed Goods	Fin-ished Products	Raw Materials	Semi-Manu-factur. Goods	Fin-ished Products	Raw Materials	Semi-Manu-factur. Goods	Fin-ished Products
Source :	Dominion Bureau of Statistics		Statistisches Reichsamt		Chambre de Commerce, Milan			Kommerskollegium			Bureau of Labor Statistics		
Base :	1926		1913		1913			1913			1926		
1929 Average	98	93	132	157	464	450	514	135	141	142	98	97	96
1930													
I.....	98	93	128	156	435	438	466	125	136	132	94	93	93
II.....	94	92	127	155	424	434	461	122	134	129	92	92	93
III.....	90	91	126	153	410	430	453	118	130	127	89	91	92
IV.....	90	90	125	152	404	422	450	118	130	125	90	88	92
V.....	89	89	124	152	398	412	438	117	128	124	88	84	91
VI.....	85	87	122	151	390	402	429	116	128	123	85	82	89
VII.....	80	86	119	151	376	392	423	115	128	122	81	80	87
VIII.....	77	85	118	149	371	395	431	114	128	121	82	78	86
IX.....	74	85	116	148	365	390	437	114	126	119	82	77	87
X.....	73	84	114	147	349	382	442	114	123	117	80	76	86
XI.....	70	83	113	145	343	378	433	114	122	116	77	76	84
XII.....	67	82	110	143	336	372	415	114	122	116	74	74	82
Average.	82	87	120	150	384	404	440	117	128	123	84	82	88
1931													
I.....	66	79	108	142	332	365	408	111	120	114	73	73	81
II.....	66	79	106	140	329	361	407	111	118	114	71	72	79
III.....	64	78	106	139	329	357	406	110	117	113	69	72	78
IV.....	64	77	105	138	318	353	404	110	116	112	68	71	77
V.....	63	75	103	137	307	345	403	109	116	111	67	69	75
VI.....	61	74	103	137	298	338	396	107	115	109	65	69	74
VII.....	60	74	103	136	302	341	386	106	114	109	64	70	74
VIII.....	60	73	102	136	291	337	384	106	113	108	64	68	75
IX.....	59	72	100	135	287	334	388	101	112	108	63	66	74
X.....	60	72	99	133	281	333	389	102	111	109	62	65	74
XI.....	61	73	99	132	281	331	387	107	112	110	62	64	73
XII.....	60	73	97	130	274	328	379	108	114	111	60	62	71
Average.	62	75	103	136	302	344	395	107	115	111	66	68	75
1932													
I.....	59	72	92	125	274	327	372	107	111	110	58	63	72
II.....	59	71	91	122	272	323	366	107	109	111	57	62	71
III.....	58	72	90	121	270	320	373	108	109	110	56	61	72
IV.....	57	72	89	120	262	313	372	109	108	110	56	60	71
V.....	55	71	88	119	252	306	363	110	108	109	54	58	70
VI.....	54	70	87	118	243	302	353	109	107	108	53	58	70
VII.....	54	70	87	117	243	337	352	109	106	109	55	56	71
VIII.....	55	71	88	116	253	296	352	109	107	108	56	58	71
IX.....	54	71	89	115	266	298	355	110	107	111	56	61	70
X.....	53	69	88	115	259	297	360	112	105	111	55	61	70
XI.....	52	69	88	114	252	297	362	112	105	111	54	59	69
XII.....	51	68	87	114	247	296	361	110	104	110	52	58	68
Average.	55	70	89	118	258	309	362	109	107	110	55	59	70
1933													
I.....	51	68	87	113	249	295	355	107	103	107	50	57	67
II.....	51	67	87	112	248	292	352	107	103	106	48	56	66
III.....	52	68	87	112	247	289	342	107	103	106	49	57	66
IV.....	53	70	87	111	246	287	335	106	103	106	50	57	66
V.....	56	71	88	112	249	287	332	107	104	106	54	61	67
VI.....	...	...	89	112	257	292	330	107	104	107	56	65	69

Appendix III. Table 6.

PRICE INDICES RELATING TO AGRICULTURE.

Country :	Canada			Germany			Poland		U.S.A.	
	Canadian Farm Products			Agri- cultural Pro- ducts	Chemi- cal Per- tilisers	Agri- cultural Dead Stock	Agri- cultural Pro- ducts	Indus- trial Pro- ducts	Farm Pro- ducts	Non- Agri- cultural Commo- dities
	Field	Animal	Total							
Source :	Dominion Bureau of Statistics			Statistisches Reichsamt			Office central de Statistique		Bureau of Labor Statistics	
Base :	1926			1913			1927		1926	
1929 Average . .	94	113	101	130	85	141	86	103	105	94
1930										
I . . . . .	92	121	103	122	85	141	75	99	101	91
II . . . . .	85	118	98	116	86	141	69	98	98	91
III . . . . .	78	112	91	110	86	141	70	98	95	90
IV . . . . .	82	112	93	112	86	140	71	97	96	89
V . . . . .	81	110	92	111	83	140	68	96	93	88
VI . . . . .	79	98	86	110	84	140	69	95	89	86
VII . . . . .	72	93	80	115	78	140	71	94	83	84
VIII . . . . .	67	90	76	117	79	139	68	93	85	84
IX . . . . .	58	93	71	114	80	139	66	92	85	84
X . . . . .	54	98	70	109	80	139	64	91	83	83
XI . . . . .	49	96	66	112	80	137	66	89	79	81
XII . . . . .	43	93	62	110	81	136	63	87	75	79
Average . . . .	70	103	82	113	82	139	69	94	88	86
1931										
I . . . . .	42	92	61	107	82	135	57	84	73	78
II . . . . .	45	88	61	106	83	133	58	84	70	77
III . . . . .	44	85	59	107	83	132	60	83	71	76
IV . . . . .	46	82	59	108	80	131	65	82	70	74
V . . . . .	46	77	58	109	77	131	67	81	67	73
VI . . . . .	46	73	56	107	78	130	64	81	65	71
VII . . . . .	44	73	55	105	73	130	59	80	65	72
VIII . . . . .	42	74	54	103	73	130	58	78	64	72
IX . . . . .	41	73	53	101	74	130	56	76	61	72
X . . . . .	42	72	53	99	74	130	56	75	59	71
XI . . . . .	47	72	56	99	72	129	60	75	59	71
XII . . . . .	43	71	54	95	70	128	57	74	56	69
Average . . . .	44	78	56	104	77	131	60	79	65	73
1932										
I . . . . .	42	69	52	92	71	123	52	74	53	70
II . . . . .	44	66	52	95	72	119	55	73	51	70
III . . . . .	44	65	52	97	72	117	54	72	50	69
IV . . . . .	45	62	51	95	72	117	59	70	49	69
V . . . . .	45	59	50	93	71	116	61	69	47	68
VI . . . . .	41	59	48	92	72	116	54	68	46	68
VII . . . . .	42	58	48	93	68	116	51	68	48	68
VIII . . . . .	42	59	48	91	69	115	49	70	49	69
IX . . . . .	39	60	47	89	69	114	49	70	49	69
X . . . . .	37	58	45	88	69	114	47	69	47	68
XI . . . . .	37	57	44	88	70	114	48	67	47	68
XII . . . . .	34	58	43	84	70	113	45	66	44	67
Average . . . .	41	61	48	91	70	116	52	70	48	68
1933										
I . . . . .	35	58	44	81	73	113	46	65	43	65
II . . . . .	36	55	43	82	73	112	50	64	41	64
III . . . . .	38	56	45	83	73	111	51	63	43	64
IV . . . . .	41	56	47	82	72	111	51	63	45	64
V . . . . .	47	58	51	84	71	111	49	63	50	65
VI . . . . .	...	...	...	85	72	...	51	64	53	67



Appendix III. Table 7.

PRICE INDICES OF INVESTMENT AND CONSUMERS' GOODS.

Country :	Canada					Germany				U.S.A.			
	Consumers' Goods			Pro-ducers' Equip-ment	Build-ing Ma-terials	Consumers' Goods		Producers' Goods		Consumers' Goods, Processed			Pro-ducers' Goods destin-ed for Capital Equip-ment
	Food	Other	All			Raw	Finish-ed	Raw	Finish-ed	Foods	Non-Foods	Total	
Source :	Dominion Bureau of Statistics					Institut für Konjunktur-forschung				National Bureau of Economic Research			
Base :	1926					1913				1913			
1929 Average	100	91	95	95	99	145	172	138	139	150	166	157	154
1930													
I.....	104	90	95	96	97	129	168	137	140	144	162	152	159
II.....	103	89	95	96	97	122	166	136	139	142	160	151	149
III.....	100	89	94	96	96	120	163	135	139	142	159	149	148
IV.....	100	88	93	96	95	123	162	135	139	141	158	149	147
V.....	98	87	91	92	93	122	161	134	139	137	158	147	144
VI.....	94	86	90	91	92	119	161	132	138	135	157	145	141
VII.....	91	86	88	91	90	114	160	131	138	131	156	142	139
VIII.....	87	86	86	91	88	110	158	130	138	133	154	142	138
IX.....	87	86	86	91	87	105	157	129	138	133	153	142	137
X.....	87	85	86	91	86	101	154	129	137	130	151	140	136
XI.....	84	85	85	91	86	100	152	128	136	123	150	135	135
XII.....	81	85	83	92	85	96	149	128	135	121	147	132	134
Average.	93	87	89	93	91	113	159	132	138	134	155	144	141
1931													
I.....	80	83	82	92	84	93	147	123	134	118	144	130	132
II.....	78	82	81	91	84	95	145	122	133	116	142	128	130
III.....	76	81	79	91	84	95	144	120	132	115	141	126	130
IV.....	75	80	78	91	84	94	142	120	132	112	139	124	130
V.....	70	79	76	90	83	90	142	119	131	107	138	120	128
VI.....	69	80	75	89	83	88	141	119	131	104	137	119	126
VII.....	69	80	75	89	82	89	141	118	131	105	137	119	125
VIII.....	69	79	75	89	81	83	140	118	131	104	135	118	124
IX.....	67	79	74	89	80	79	138	118	131	104	133	117	123
X.....	66	79	74	89	80	77	136	117	130	103	132	115	122
XI.....	66	79	74	89	79	78	134	117	129	100	133	114	122
XII.....	65	79	74	91	79	76	132	110	128	96	130	111	120
Average.	70	80	76	90	82	86	140	118	131	108	137	121	126
1932													
I.....	64	80	73	91	80	74	127	105	123	—	—	—	—
II.....	63	80	73	91	79	74	124	104	120	—	—	—	—
III.....	64	79	73	91	79	73	122	103	120	—	—	—	—
IV.....	62	78	72	91	79	70	120	103	120	—	—	—	—
V.....	61	79	72	88	78	68	119	103	119	—	—	—	—
VI.....	60	79	71	88	77	66	117	102	118	—	—	—	—
VII.....	61	79	72	88	76	67	116	102	118	—	—	—	—
VIII.....	61	79	72	88	76	70	114	102	118	—	—	—	—
IX.....	62	79	72	88	77	73	114	102	117	—	—	—	—
X.....	61	79	71	87	77	70	113	102	117	83	118	98	112
XI.....	60	78	71	86	77	68	113	102	116	—	—	—	—
XII.....	59	78	71	88	76	67	112	102	116	80	116	96	111
Average.	61	79	72	89	78	70	118	103	118	86	119	101	113
1933													
I.....	60	77	70	88	76	68	111	102	115	—	—	—	—
II.....	58	76	69	87	75	66	111	101	115	—	—	—	—
III.....	60	76	70	87	75	67	110	100	114	—	—	—	—
IV.....	64	75	71	87	75	68	109	101	114	—	—	—	—
V.....	64	76	71	87	76	...	110	...	114	—	—	—	—
VI.....	...	...	...	...	...	...	111	...	114	—	—	—	—