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AND PRICES**

1925-1934

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PREFACE.

This survey of world production and prices during the period 1925 to 1934 (1934-35) is similar in scope to the volume on production published last year, although it differs somewhat in form of presentation. The first section of Chapter I is concerned with the production and stocks of primary products, the second with industrial activity in general, the third with the activity of individual industries and the production of the raw materials of those industries considered severally.

In Chapter II, a comparison is made of the quantitative changes in recent years in production and in trade, and in Chapter III an analysis of price tendencies is made. This study of prices is complementary to that contained in the introduction to the volume published in June last, entitled *Commercial Banks, 1929-1934*.

The detailed statistics on which the indices relating to primary production are based, as well as statistics and indices relating to industrial production, have been published in the *Statistical Year-Book of the League of Nations, 1934/35*.

A summary of the principal facts which emerge from the present study will be found at the beginning of the volume (pages 7-9).

League of Nations,
Geneva, July, 1935.

A. LOVEDAY,
*Director of the Financial Section
and Economic Intelligence Service.*

LEAGUE OF NATIONS

WORLD PRODUCTION AND PRICES, 1925-1934

Corrigenda

Page 25, footnote¹, 5th line :

for " that in the European countries . . . "
read " than in the European countries . . . "

Page 30, second paragraph, 2nd line :

for " exercise a preponderating influence . . . "
read " exercises a preponderating influence . . . "

Page 33, third paragraph, 16th line :

for " about 11% above . . . "
read " about 11% below . . . "

NOTE. — According to the new production index for Germany, which was not available when this volume was written, the figures for June and July 1934 were about 20% below the average level for 1929 and those for January and February 1935 about 16% below that level. The index rose further in subsequent months, partly on account of the addition, in March 1935, of Saar production data to those previously covered by the index.

Page 107, third paragraph, 4th line :

for " nearly 29% "
read " nearly 24% "

Page 109, third paragraph, 9th line :

for " members employed . . . "
read " numbers employed . . . "

Page 110, fourth paragraph, 1st and 2nd lines :

for " 10.8% . . . 16.3% . . . 4.7% "
read " 14.9% . . . 23.6% . . . 5.2% "

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

The most important world indices relating to the production of primary commodities, the changes in industrial activity and the quantum of international trade during the period 1925-1934 are shown in the summary table and diagram below. The exact nature and the methods of calculation of the various indices are described later.

SUMMARY OF WORLD INDICES.
(Average 1925-1929 = 100.)

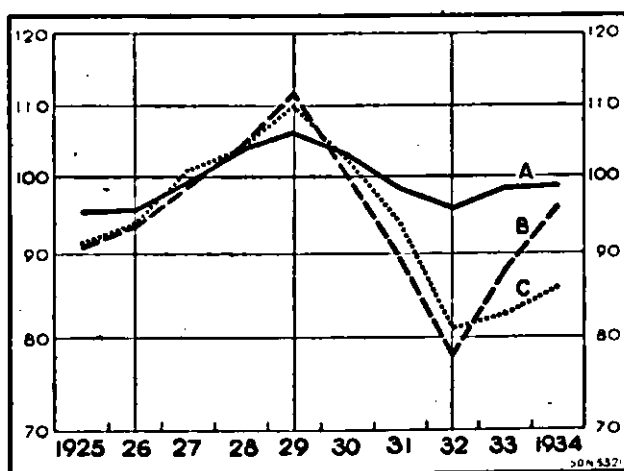
Nature of Indices	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
A. Primary production (total) . .	95	96	99	104	106	103	98	96	99	99
Thereof :										
{ Agricultural production . . .	97	97	99	103	103	104	103	104	104	101
{ Non-agricultural production . .	90	92	100	105	114	101	86	73	83	93
{ Crude foodstuffs	97	97	99	104	103	104	102	105	104	102
{ Industrial raw materials . . .	92	94	99	103	111	102	92	81	89	94
B. Industrial activity :										
World, excluding U.S.S.R. . . .	92	94	99	104	110	96	82	69	78	84
World, including U.S.S.R. . . .	91	94	99	104	112	100	89	78	88	96
C. Quantum of international trade	91	94	101	104	110	102	94	81	82	85

* Provisional indices, subject to revision.

The evidence afforded by the statistical material, which is analysed below, points to the following main conclusions, certain of which will require subsequent qualification :

DEVELOPMENT OF WORLD PRIMARY PRODUCTION,
INDUSTRIAL ACTIVITY AND WORLD TRADE.
(Average 1925-1929=100.)

- A. World primary production.
- B. World industrial activity.
- C. World trade (quantum).



(1) The recovery in productive activity which began in the middle of 1932 continued throughout 1933 and 1934.

In 1934, commodity prices in terms of national currency rose in a number of countries (though moderately in most cases); gold prices on world markets continued to fall, though at a much slower rate than previously. Employment and industrial activity improved in most countries. Visible stocks of primary products were considerably reduced. The quantum of world trade increased by 3 to 4%.

(2) Agricultural production, which had previously remained remarkably stable at about the level reached in 1928-29, shrank in 1934 by 3% partly as a result of widespread drought and partly owing to deliberate restriction in certain countries.

But, in response to the increased industrial activity, the world output of non-agricultural raw materials rose by 12% in 1934 (in 1933 it had risen by 13%). As a result of these divergent tendencies, primary production in the aggregate maintained the level it had reached in 1933, which was practically the same as the average for 1925-1929.

(3) Industrial production in the world, apart from the U.S.S.R., increased by 8% (in 1933 by 13%) to a level some 16% below the average for 1925-1929. By the first quarter of 1935, it had risen further to about 10% below that average or, if the U.S.S.R. be included, to 5% above it. But the quantum of world trade still remained some 15% below the 1925-1929 average.

(4) While world production of foodstuffs was almost as large in 1934 as it had been in 1929, the quantum of international trade in foodstuffs had shrunk by 15%, mainly as a result of the increased self-sufficiency of numerous food-importing countries. The trade in foodstuffs was indeed considerably smaller in 1934 than in 1932, the year in which the low point in this depression was touched.

(5) The quantum of international trade in industrial raw materials shrank less than the world production of these commodities between 1929 and 1932 (19% compared with 27%). Both trade and production rose rapidly in 1933, but, in 1934, trade expansion was checked by clearing agreements concluded between a number of European countries and the rate of increase in production slowed down. In that year, raw-material production and trade fell short of the 1929 volume by 15 and 12% respectively.

(6) The quantum of international trade in manufactured articles shrank more than manufacturing production between 1929 and 1932 (by 42% compared with 38%).¹ Export industries suffered more from the depression than industries producing for home markets, and have benefited less from the subsequent revival. In 1934, manufacturing production was about 24% and trade in manufactured products 36% below the 1929 average.

(7) The industrial recovery which took place between the summers of 1932 and 1933 was common to almost all countries. Subsequent experience has been varied. In the countries of the European gold *bloc*, industrial activity has either declined or stagnated under the influence of deflationary pressure. In the United States, industrial activity has been extremely erratic; there has been a considerable improvement since 1932, but industrial production in the early part of 1935 still remained below the point reached in the summer of 1933. Canada, although largely influenced by the United States, had recovered substantially more by the first quarter of 1935. In Germany and Italy, industrial production has increased rapidly — largely as a result of Government action, but it had not reached the 1929 level by the first quarter of 1935 when that level was considerably exceeded in the United Kingdom, the Scandinavian countries and Finland.

In most of the countries in which industry is still in a comparatively early stage of development, the pre-depression rate of growth would appear to have been restored. The most rapid development in recent years, however, has taken place in Japan and the U.S.S.R.

(8) The expansion, particularly of the heavy industries, which was rapidly pushed forward in the U.S.S.R. throughout the years of depression in conformity with the first Five-year Plan, continued in 1933 and 1934, the first two years of the second Five-year Plan. The rate of growth which slowed down in 1933, rose again very rapidly in 1934.

(9) The rapid decline in commodity prices which began in 1929 was stopped in many parts of the world in 1933. Though the changes in the general price levels were on the whole comparatively slight in 1934, wholesale prices tended to rise in most countries with depreciated currencies, and to rise more than the cost of living or retail prices. On the other

¹ Excluding manufacturing production in the U.S.S.R.

hand, in the full gold-standard countries, the deflationary pressure on prices persisted in 1934 and the early part of 1935.

(10) Some of the major discrepancies in the price structure which had developed in the course of the depression began to be mitigated in 1933 and were further adjusted during 1934 and the spring of 1935. Raw-material prices rose relatively to those of manufactured articles in most countries. Thus an improvement occurred in the terms of trade of countries producing primary products. The total value of agricultural production and farm income rose in many countries and even where they did not rise in nominal amount, the dispersion between agricultural and non-agricultural prices narrowed as a rule to the advantage of the farmer.

I. WORLD PRODUCTION.

In order to measure changes in world production, the first step is to examine the output of primary products of farm, forest or mineral origin, which are used either as crude foodstuffs or as industrial raw materials, and the physical volume of which can be measured directly and is so measured by the world index analysed in Section A below. Owing to the nature and diversity of the products, the physical volume of "secondary production" — *i.e.*, manufacturing and construction — can be measured only indirectly. The national indices constructed for that purpose are considered in Section B, where, moreover, an attempt has been made to combine these indices into aggregate international indices of industrial activity. Recent developments in the production and consumption of important individual commodities or groups of commodities and in the activity of relevant branches of manufacturing industry are reviewed in Section C.

A. PRIMARY PRODUCTION.

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

The world index of primary production given below covers sixty-six commodities, the list of which (given in Appendix I) is the same as that used previously. Owing to the absence of comprehensive or sufficiently representative data, certain classes of commodities have had to be omitted, the most important of which are vegetables, fruit, dairy produce, hides and skins, and timber. No comprehensive periodical statistics exist for the production of foodstuffs in China. Gold has been omitted, as so large a proportion of the production is used for monetary purposes. In certain cases where satisfactory information regarding the output of a given raw material is lacking, the first "partly manufactured" product derived directly from that raw material has been taken into account. As the basic statistics relate to gross output, there is some overlapping between different commodity groups.

The index has been calculated according to the aggregative method explained in Appendix I. It is weighted according to the relative importance of the various commodities as measured by the aggregate value at unchanged prices of the quantities produced. The variations in the index therefore represent changes in quantity, and not in value. The average annual production in the period 1925-1929 — called hereinafter "average pre-depression level" — has been taken as base, and the prices ruling in 1930 have been used in the calculation of the value aggregates, as in the last three issues of the volume.¹

For the purpose of analysis of the general changes in world primary production, the commodities considered may be broadly classified according to two main criteria: (*a*) their natural origin and (*b*) the use for which they are intended. According to the former criterion, the principal division is between agricultural and non-agricultural production; according to the latter, between foodstuffs and industrial raw materials.²

¹ Although great changes have taken place in relative values during recent years, the difference in results obtained by calculating the index on the basis of prices ruling in any other of the years covered are small, as has been ascertained by means of repeated tests. Much greater changes have, in fact, been caused by the frequent modifications in the basic data — particularly in those relating to agricultural production — and these have made revisions of the indices for back years necessary.

² Any classification of the sixty-six commodities considered is necessarily somewhat arbitrary. An examination of the list given in Appendix I, Table 2, will show that, in arranging the commodities in thirteen groups, both origin and purpose have been considered. Some of the commodities classed as industrial raw materials, such as salt and some of the vegetable oils, are used mainly for food. Some of the crude foodstuffs are used as raw materials for "food industries" as defined in the industrial statistics — *e.g.*, flour and grist mills, sugar refining, brewing and distilling.

These two classifications may be combined and subdivided as follows :

- | | | | |
|---------------------|-------------------------|---|---------------------------------|
| I. Foodstuffs : | (1) of vegetable origin | } | A. Agricultural production. |
| | (2) of animal origin | | |
| II. Raw materials : | (1) of farm origin | } | B. Non-agricultural production. |
| | (2) of forest origin | | |
| | (3) of mineral origin | | |

All indices for 1934 (1934/35 for the southern hemisphere) are based in part on estimates and should be considered as provisional.

TOTAL PRIMARY PRODUCTION.

The general index of total production of the sixty-six primary commodities considered is given below for the world and its main continental groups.¹

Table 1. — GENERAL INDICES OF PRIMARY PRODUCTION, WEIGHTED BY 1930 VALUES.
(Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Europe, excluding U.S.S.R.	95	89	100	104	112	104	100	100	103	106
U.S.S.R.	90	100	101	104	106	122	107	103	119	127
Europe, including U.S.S.R.	94	92	100	104	111	108	102	101	107	111
North America	97	100	98	103	102	94	90	83	81	76
Latin America	95	96	99	107	103	106	100	97	101	105
Africa	96	95	97	103	108	107	104	106	111	118
Asia, excluding Asiatic Russia *	97	97	100	103	104	106	102	103	107	105
Oceania	93	101	98	105	102	111	111	120	116	115
World { Total Primary Production	95	96	99	104	106	103	98	96	99	99
World { Thereof: Agricultur. Prod.	97	97	99	103	103	104	103	104	104	101
World { Non-agricultur. Prod.	90	92	100	105	114	101	86	73	83	93

* Excluding also production of foodstuffs in China (apart from Manchuria).
* Provisional indices subject to revision.

The average annual output of crude foodstuffs and industrial raw materials during the five years of depression (1930-1934) was only about 1% less than the average annual output during the period of expansion (1925-1929). It fell, however, from a maximum of 106 in 1929 to a minimum of 96 in 1932 and the subsequent recovery did not carry it beyond the level it had reached in 1927.

Diagram 1 illustrates the annual movement of (a) total primary production in different parts of the world and (b) world production of the chief classes of primary commodities distinguished above.

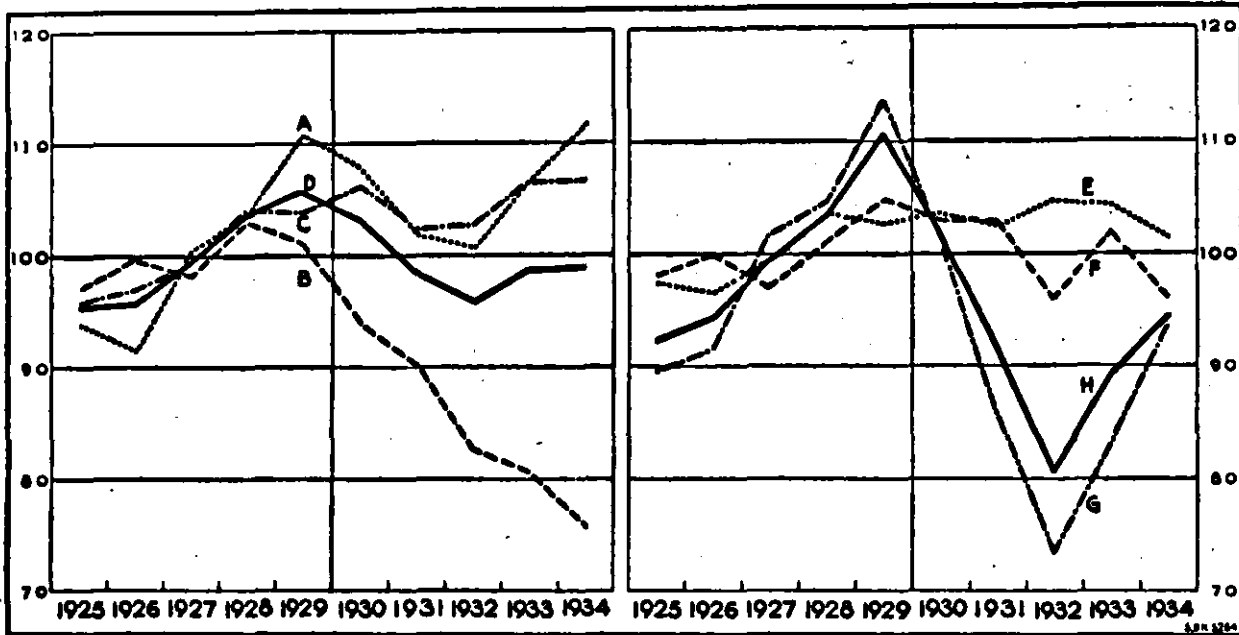
As will be seen from the left-hand part of the diagram, primary production began to fall in North America one year earlier than in Europe and two years earlier than in Africa, Asia, Latin America and Oceania taken together, while the aggregate production of the four last-mentioned continents has again shown an upward trend since 1932. Indeed, in 1933 and 1934, it even exceeded its previous record level; and, while production in Europe (including the U.S.S.R.) had by 1934 regained the ground it had lost up to 1932, that of North America continued its rapid downward course. These widely divergent movements

¹ The continental grouping of countries has been slightly modified, inasmuch as Turkey has been included in Europe. As before, Latin America includes Mexico, the whole of Central and South America and the islands in the Caribbean Sea; Asia does not include Asiatic Russia.

Diagram 1. — WORLD PRIMARY PRODUCTION BY :

- | | |
|---|--|
| <p><i>Main Territorial Divisions.</i></p> <p>A. Europe (including the U.S.S.R.)
 B. North America.
 C. All other continental groups.
 D. World.</p> | <p><i>Chief Classes of Commodities.</i></p> <p>E. Foodstuffs.
 F. Raw materials of farm origin.
 G. Raw materials of forest and mineral origin.
 H. All raw materials.</p> |
|---|--|

(Average 1925-1929 = 100.)



have greatly changed the relative shares of the various continents in the total primary production of the world. The changes may be roughly summarised as follows :

Relative Distribution of World Primary Production.

	Europe, excl. U.S.S.R.	U.S.S.R.	Europe, incl. U.S.S.R.	North America	Rest of world	World
Average 1925-1929	30.1	9.3	39.4	31.1	29.5	100
Average 1930-1934	31.2	10.8	42.0	26.6	31.4	100
Year 1934	32.2	11.9	44.1	23.9	32.0	100

In 1934, North America's share in world primary production shrank to less than a quarter. Europe's share increased more than that of Africa, Asia, Latin America and Oceania taken together.¹ This is mainly due, however, to the rapid expansion of production in the U.S.S.R., but the share of Europe excluding the U.S.S.R. also increased considerably.

The right-hand part of the diagram shows that, as regards production, the main classes of primary products covered by the world index have, in fact, followed widely divergent courses during the period of depression. While world production of foodstuffs has remained almost stationary somewhat above the pre-depression level, that of industrial raw materials of agricultural origin dropped below that level only in 1932 and 1934. The output of non-agricultural primary products constituting in the main raw materials for investment goods shrank drastically until 1932, to recover rapidly in 1933 and 1934. The changes in the composition of the total production brought about by these divergent movements are summarised in the following statement, in which the principal commodity groups have been cross-classified according to the two main criteria referred to above — use and natural origin.

¹ The annual figures for each continental group are given in Appendix I, Table 4.

Composition of World Primary Production by Main Classes of Products.

Classes of products	Average 1925-1929		Average 1930-1934		Year 1934		Classes of products
	Classif. by use	Classif. by origin	Classif. by use	Classif. by origin	Classif. by use	Classif. by origin	
	%	%	%	%	%	%	
Foodstuffs.....	62.3	62.3	65.1	65.1	64.0	64.0	
Raw materials	37.7		34.9		36.0		
of farm origin ...		12.2		12.3		12.2	
		<u>74.5</u>		<u>77.4</u>		<u>76.2</u>	Agricultural products.
of forest and mineral origin.		25.5		22.6		23.8	Non-agricultural products.
Total	100.0	100.0	100.0	100.0	100.0	100.0	Total

The preponderance of agricultural over non-agricultural production increased considerably during the depression; a tendency towards the restoration of the pre-depression relationship is, however, noticeable from the figures given for 1934. Before the depression, agricultural production accounted for roughly nine-tenths of the total primary production in Africa, Asia, Latin America and Oceania.¹ This fact largely explains why total production has on the whole been so much better maintained since 1929 in those continents than in North America or in Europe (excluding the U.S.S.R.), where non-agricultural production — more sensitive to depression — accounted for about two-fifths and one-third respectively of their total output of primary commodities. However, as shown in Table 2 below, agricultural production in North America declined heavily in 1933 and even more so in 1934.

AGRICULTURAL PRODUCTION.

Agriculture is not only the principal source of the world's basic products, but also the most stable element in the world's economic organisation. Agricultural production in the world as a whole, during the quinquennium 1930-1934, was about 3% higher than in the preceding five-year period. For six years in succession, 1928-1933, it remained practically stationary, but in 1934 it dropped to about the pre-depression average. This drop, though small in proportion to total output, was of great importance in view of the excess supplies accumulated during the preceding period.

The reduction in the supply of agricultural produce in 1934 took place chiefly in countries producing a surplus of foodstuffs or raw materials of farm origin. The shrinkage of supplies in these countries, again, was mainly due to the coincidence of deliberate restriction of cultivated areas and live-stock with a widespread and severe drought. International schemes designed to regulate production or exports were in operation in respect to wheat, sugar, tea and rubber.² Of the national restriction or adjustment schemes, the most important was that applied in the United States. As a result, both of the drought and of the efforts of the Agricultural Adjustment Administration, the surpluses of farm products were heavily reduced. The restriction of live-stock in certain European countries which import fodder and export animal products (Denmark and the Netherlands), valorisation of coffee in Brazil, etc., have also contributed in an appreciable degree to the reduction of agricultural output. Unfavourable weather conditions were responsible for the greater part of the decline recorded in South-Eastern Europe. On the other hand, "industrial" Europe continued its efforts towards self-sufficiency and either maintained or further increased its production. A glance at the continental indices given in Table 2 reveals the broad results of the above developments. The decline in agricultural production in Europe (excluding the U.S.S.R.), in Asia and Oceania would

¹ The composition by groups of commodities of the total annual production of each continent is shown in detail in Appendix I, Table 5.

² More detailed reference to these schemes is made in Section C below.

not appear to have been fully offset by the increase in the U.S.S.R., Latin America and Africa, But the major part of the decrease in the world's agricultural production in 1934 was attributable to North America.

*Table 2. — INDICES OF AGRICULTURAL PRODUCTION, WEIGHTED BY 1930 VALUES.
(Average 1925-1929 = 100.)*

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932	1933	* 1934
Europe, excluding U.S.S.R.	98	92	98	102	110	103	106	110	110	109
U.S.S.R.	92	101	100	102	104	119	100	96	109	113
Europe, including U.S.S.R.	96	94	99	102	108	108	104	106	110	110
North America	100	100	99	104	97	95	100	100	90	79
Latin America	96	98	101	105	100	105	101	100	105	106
Africa	97	96	97	103	107	106	104	108	112	116
Asia, excluding Asiatic Russia*	98	97	100	103	103	105	102	102	106	102
Oceania	92	101	98	106	103	113	116	126	119	117
World	97	97	99	103	103	104	103	104	104	101
World, excluding U.S.S.R.	98	97	99	103	103	102	103	105	103	99

* Excluding production of foodstuffs in China (apart from Manchuria).

* Provisional indices subject to revision.

The agricultural situation in the world as a whole improved in several respects in 1934, not only on account of reduced supply, but also owing to increased demand. The chief factor in this increase was the rise in industrial activity in most parts of the world. In particular, the demand for industrial raw materials of farm origin experienced a considerable — though erratic — revival. In these circumstances, considerable progress was made towards an adjustment of the markets of agricultural commodities.

Table 3 illustrates recent changes in the value of agricultural production or in farm income in a number of individual countries. It should be noted that these indices are based on 1929 — a year during which the collapse of farm product prices was already in process in most countries — and that, moreover, the value indices include dairy production, etc., which is not covered by the quantum indices.

The table affords striking evidence of the severity of the agricultural depression, and some indications of the recovery during the last years under review. Unfortunately, figures for 1934 (1934/35) and even earlier years are lacking for a number of countries. From general information available, it would appear, however, that there was, in 1934, a widespread improvement in farm income. This improvement mainly results from a more or less marked rise in agricultural prices which has been proceeding in a large number of countries since 1933 or the beginning of 1934, while the prices of manufactured goods have either risen much less or have continued to fall in those countries. Thus, even where the nominal farm income has not risen, a narrowing of the price disparity between agricultural and non-agricultural (mainly industrial) products has generally taken place in favour of the farmer.¹ While the agricultural-exporting countries overseas would appear to have profited more from these developments, certain European countries with exportable surpluses of foodstuffs — such as Denmark, the Netherlands, Poland and the Danubian States — have shared but little in the improvement in the agricultural situation. Direct subsidies and other Government measures taken particularly in industrial countries, with a view to relieving the distress of their agricultural population, have contributed to the maintenance of or the rise in the recorded farm income.

¹ Cf. Chapter III, page 110.

Table 3. — INDICES OF VALUE OF AGRICULTURAL PRODUCTION.*
(Value in national currency in 1929 = 100.)

Country	Nature of basic data	1930	1931	1932	1933	1934
<i>Europe:</i>						
Germany ^a	Agricultural net revenue	87	74	66	73	...
"	Value of produce sold	88	75	66	73	81
England and Wales ^a	" " "	91	85	82	...	...
Denmark	Value of agricultural exports	95	80	68	72	68
Finland	Agricultural net revenue	109	113	124	121	128
France	" " "	84	77	69	...	...
Greece	" " "	92	90	111	...	...
Hungary	" " "	72	63	61	45	63
"	Value of produce sold	79	57	47	46	...
Irish Free State	" " "	.	.	.	59	53
Poland	Agricultural net revenue	.	59	41	...	...
Roumania	" " "	53	43	43	40	...
Sweden	" " "	90	80	87	89	..
Switzerland	" " "	93	95	85	82	83
<i>North America:</i>						
Canada	Agricultural net revenue	79	53	47	49	55
United States	" " "	79	58	43	52	60
<i>Latin America:</i>						
Argentina	Value of exports ^b	64	67	59	52	66
<i>Oceania:</i>						
Australia ^a	Net value of agricultural production plus gross value of pastoral and dairy production	83	85	86	92	...
New Zealand ^a	Gross value of farm production	77	68	69	89	...

* Original figures in national currencies, together with sources, are given in League of Nations, *World Economic Survey, Fourth Year, 1934-35, Ch. III.*

^a Twelve months ending June 30th of following year.

^b Total exports, 95% of which are agricultural products.

The development of agriculture in the U.S.S.R. follows lines quite different from that of the rest of the world and deserves special mention.¹ The collectivisation of agriculture continued at a rapid rate during 1933 and 1934, the first two years of the Second Five-Year Plan. By the end of 1934, about 15,800,000 peasant households, representing 74% of all peasant households, had been merged in collective and Soviet farms, covering 85% of the total sowings and plantings of the country. Increased quantities of agricultural machines and fertilisers were supplied to these farms. Weather conditions being favourable, record crops were reaped in 1933 and, while the "gross crops" of cereals, owing to drought in certain regions, shrank in 1934, "real crops" are stated to have increased, owing to smaller harvesting losses. The decline in live-stock was checked in 1934, and the rise in the general agricultural index shown in Table 2 above is chiefly attributable to an estimated increase in the output of meat.² An important step taken in conjunction with these developments was the abolition of the bread-card system as from January 1st, 1935.

PRODUCTION OF FOODSTUFFS.

World production of foodstuffs (excluding China) has changed but little over the period 1928-1934.³ It shrank, however, by somewhat over 3% between 1932, the peak year, and 1934. The world population (excluding China) is estimated in recent years to have increased at an average rate of about 1.2% per annum. This would suggest at first sight that the world supply of basic foodstuffs per head of population has to some extent decreased.

¹ Cf. Chambre de Commerce de l'U.R.S.S., *L'Economie nationale de l'U.R.S.S. au 1^{er} janvier 1935; faits et chiffres (1935).*

² The Plan provides for an increase of 16.3% in agricultural production for 1935.

³ The aggregates given in Appendix I, Table 1, show that, during the period 1928-1934, the largest deviations from the average of this period were +1.6% in 1932 and -1.8% in 1934.

Table 4. — FOODSTUFFS PRODUCTION INDICES, WEIGHTED BY 1930 VALUES.
(Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Europe, excluding U.S.S.R.	98	92	97	103	109	104	106	111	112	111
U.S.S.R.	92	102	101	102	103	119	98	94	108	112
Europe, including U.S.S.R.	96	95	98	103	108	109	104	106	111	111
North America	100	98	101	106	96	94	98	102	90	81
Latin America	96	98	101	106	100	105	100	101	105	104
Africa	96	95	99	103	106	105	110	112	112	119
Asia, excluding Asiatic Russia*	99	98	99	102	102	103	105	104	106	101
Oceania	93	102	97	106	102	119	118	131	123	120
World	97	97	99	104	103	104	102	105	104	102
World, excluding U.S.S.R.	98	96	99	104	103	102	103	107	104	100

* Excluding production in China (apart from Manchuria).
* Provisional indices subject to revision.

It is beyond doubt, however, that the above index understates the development of total net production of foodstuffs during recent years. It does not comprise vegetables, fruit, dairy produce, poultry and eggs, relatively more of which are tending to be consumed. On the other hand, it includes those cereals which are chiefly used for feed rather than for direct human consumption; it is precisely these cereals which have decreased the most. The average annual crops of "fodder cereals" (oats, barley, maize) during the period 1930-1934 were 6% below, and the crops of 1934 no less than 20% below, the average for 1925-1929. The reduction in the use of these cereals has been largely counterbalanced by an increased utilisation of feed derived from vegetable-oil materials, which are included in the index for raw materials. Thus, if fodder cereals be excluded, the above index of world production of foodstuffs is raised to an average of 105 for 1930-1934 and 106 for 1934.

The agricultural depression has compelled most countries to proceed to an adjustment of the different branches of farm production to the changed market requirements. The principal wheat-exporting countries have endeavoured to reduce the areas under cultivation and to increase dairy and meat production. The opposite line has been followed in several of the European countries exporting animal foodstuffs. It is difficult to gauge accurately the net result of these shifts in production. A rough idea may be conveyed, however, by the following indices showing world production (excluding the U.S.S.R.) of (a) "bread cereals" (wheat and rye) and rice, (b) meat and (c) milk. The index for milk is only tentative in character and is not as comprehensive in scope as the other indices, but may be taken as sufficiently representative of the general tendency prevailing.¹

	Average 1925-1929	1930	1931	1932	1933	1934	Average 1930-1934
<i>World excluding U.S.S.R.</i>							
Bread crops and rice	100	106	105	107	108	99	105
Meat	100	103	106	107	108	112	107
Milk	100	106	109	111	113	...	...

The significance of the shift from vegetable to animal food production suggested by these figures is enhanced by the fact that a considerable part of the cereals produced has

¹ C/. Section C, "Dairy Produce", below.

been accumulated in stocks and, further, that the use of wheat for feeding purposes has much increased during recent years. Stocks of meat and dairy produce are, of course, insignificant in relation to total production. However, the wide spread in 1934 between the index for bread crops and rice and that for meat is in part due to an exceptional cause — viz., the drought in the United States, which reduced the crops and, indeed, on account of the shortage of fodder and pasture, increased the slaughtering.

The decline in world food supplies in 1934 shown by the index given in Table 4 was chiefly due to lighter cereal and rice crops. The increase in meat production was not sufficient to offset this decrease. The output of sugar changed but little, while that of potatoes went up considerably. The two remaining groups (beverages) are of minor importance in the index. A heavy drop in the production of coffee, tea and cocoa was broadly counterbalanced by an equally sharp rise in the production of wine and hops.

The main factors that have determined the movements of the continental indices are dealt with in the reviews of individual branches of production given in Section C below.

PRODUCTION OF INDUSTRIAL RAW MATERIALS.

(a) *Raw Materials of Agricultural Origin.*

World production of the second class of agricultural produce, industrial raw materials of farm origin, has varied since 1929 more than that of foodstuffs. In 1932 and 1934, it dropped below the pre-depression average. The drop of 1932 was caused by unfavourable natural conditions in North and Latin America. That of 1934 was chiefly due to the combined effect of intensified restriction of acreage and severe drought in the United States. This resulted in an unprecedented shrinkage of the crops of cotton, cotton-seed and tobacco. But there were, in 1934, minor decreases in other parts of the world too. Thus, the tobacco and vegetable-oil output in Europe, the production of textile and vegetable-oil materials in Asia (particularly India) and textiles in Africa decreased. The increases in the production of linseed (particularly in Latin America), of wool (in Oceania) and of rubber (in Asia) were not enough to prevent the general downward trend in the supply of raw materials of agricultural origin. As has been pointed out above, reduced supply coincided in 1934 with increased industrial demand for the raw materials concerned.

Table 5. — INDICES OF PRODUCTION OF INDUSTRIAL RAW MATERIALS OF AGRICULTURAL ORIGIN, WEIGHTED BY 1930 VALUES.

(Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Europe, excluding U.S.S.R.	94	89	108	89	119	85	92	87	87	84
U.S.S.R.	96	93	96	106	108	115	127	113	118	118
Europe, including U.S.S.R.	95	91	104	96	115	97	106	98	100	98
North America	104	112	88	97	100	98	113	86	90	70
Latin America	97	103	103	101	96	103	108	95	109	123
Africa	98	97	93	103	110	108	94	99	110	109
Asia, excluding Asiatic Russia	95	95	100	105	105	109	95	99	106	103
Oceania	91	100	98	106	104	102	110	115	110	112
World	98	100	97	101	105	103	103	96	102	96

* Provisional indices subject to revision.

(b) *Raw Materials of Non-agricultural Origin.*

In contrast to the drop in agricultural production, the production of non-agricultural raw materials continued in 1934 the vigorous advance it began in 1933, although at a slightly slower rate. During these two years, about half of the ground lost since 1929 was regained.

The course of the index for this group of commodities is mainly determined by the changes in the output of metals and fuels. In view of its limitations as an index of purely industrial raw materials¹ it shows a fairly close correspondence with the index of world industrial activity, analysed in Section B of the present chapter.

Table 6. — INDICES OF PRODUCTION OF INDUSTRIAL RAW MATERIALS OF NON-AGRICULTURAL ORIGIN, WEIGHTED BY 1930 VALUES.

(Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Europe, excluding U.S.S.R.	89	84	105	106	116	104	90	81	87	98
U.S.S.R.	60	84	102	116	138	166	181	193	234	292
Europe, including U.S.S.R.	87	84	105	107	117	109	96	88	97	111
North America	92	99	97	102	110	92	73	55	66	71
Latin America	87	86	89	114	125	111	91	75	77	94
Africa	88	92	98	106	115	117	98	89	105	135
Asia, excluding Asiatic Russia.	88	92	99	106	115	116	109	108	121	139
Oceania	98	98	104	101	100	93	77	81	92	98
World	90	92	100	105	114	101	86	73	83	93

* Provisional indices subject to revision.

While the output up to 1932 had fallen more heavily in North America than in Europe (even excluding the U.S.S.R.), the rate of recovery in 1933 was more rapid in the former than in the latter continent. In 1934, however, the European output rose more rapidly than the North-American. In the U.S.S.R., the growth of industry during the two first years (1933 and 1934) of the Second Five-year Plan has resulted in a rise in the production of the raw materials here considered amounting to 50% above the level reached in the last year of the preceding period. In 1933 and 1934, the output of the raw materials here considered rose very rapidly also in Africa and Asia. The indices for these continents, however, like those for Latin America and Oceania, are determined by a few commodities only and affect the world index in a lesser degree.

(c) *Total Raw-material Production.*

The world index given in Table 7 provides a rough illustration of the fluctuations in the total supply of raw materials to industry. It thus affords an indirect measure of general industrial activity — subject, however, to certain qualifications. First, as stated above, the scope of the index is limited. Secondly, owing to technical progress, equal services are, in the course of time, rendered with smaller quantities of raw materials. Thirdly, a varying part of the total annual production may be added to stocks or, conversely, industry may in a given year draw from stocks carried over from previous years. Lastly, industry derives a further supply of raw materials from scrap and waste, which may be employed to a greater relative extent in certain years than in others.

¹ A large part of fuel is not consumed by industry, but is employed in transport and for household use. Moreover, most wood is excluded from the index, as only wood pulp is included. Further, the chemicals included are mainly fertilisers for use in agriculture.

Table 7. — INDICES OF TOTAL RAW-MATERIAL PRODUCTION, WEIGHTED BY 1930 VALUES.
(Average 1925-1929 = 100.)

Continental groups	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Europe, excluding U.S.S.R.	90	84	105	105	116	102	90	81	87	97
U.S.S.R.	79	89	99	111	122	139	152	150	171	198
Europe, including U.S.S.R.	89	85	104	105	117	107	98	90	97	109
North America	94	102	95	101	108	93	82	62	71	71
Latin America	92	93	95	108	112	107	99	84	91	107
Africa	96	96	94	104	111	110	94	97	109	115
Asia, excluding Asiatic Russia	94	94	100	105	107	110	99	101	110	111
Oceania	93	100	100	104	103	99	100	105	105	108
World	92	94	99	103	111	102	92	81	89	94
World, excluding U.S.S.R.	93	94	99	103	110	100	89	78	85	90

*Provisional indices subject to revision.

There is evidence of considerable technical progress in industry during the depression. The movement of stocks, briefly referred to in the subsequent discussion, shows a distinctly downward trend in 1933 and especially in 1934. The general tendencies in the use of raw materials derived from the regeneration of scrap or waste during the most recent years are more difficult to judge. This use varies, not only according to the relative prices of old and new raw materials, but also according to the commercial policies of the individual countries. On the one hand, the low prices for new materials during the depression have made regeneration less profitable than in earlier years, but, on the other hand, the efforts of many industrial countries to decrease their dependence on foreign raw-material supplies have tended to stimulate the use of old material available in the home market. It would appear that the proportion of steel made from scrap in the total steel output of the world steadily increased between 1925 and 1933, while in 1934 the converse tendency was noticeable. In the United States, where the use of regenerated materials has become extensive, the proportion of non-ferrous metals refined from scrap in the total output has tended to increase during recent years, including 1934, while the proportion of reclaimed rubber used in the total output of rubber products decreased from 1928 to 1933, but rose somewhat in 1934.¹ The extent to which old clothing and old paper are used by industry is less well known. Germany, when imports of raw materials were restricted in a period of expanding industrial activity, has organised the use of regenerated materials of domestic origin on a large scale.²

The changes in the total contributions made by each continental group to the world supply of raw materials have been striking :

	Europe (excl. U.S.S.R.)	U.S.S.R.	North America	Latin America	Africa	Asia	Oceania	World
Average 1925-1929	29.6	4.2	39.8	5.3	3.0	15.9	2.2	100
Average 1930-1934	29.7	7.5	32.8	5.6	3.4	18.5	2.5	100
Year 1934	30.2	8.9	29.8	6.0	3.6	18.8	2.5	100

North America's share, reduced by a quarter since before the depression, was smaller in 1934 than that of Europe (excluding the U.S.S.R.), which was a little larger than in 1925-1929. The shares of all the other groups increased more ; that of the U.S.S.R. more than doubled. The special factors which have affected the indices and percentage shares shown above are dealt with in sections B and C below.

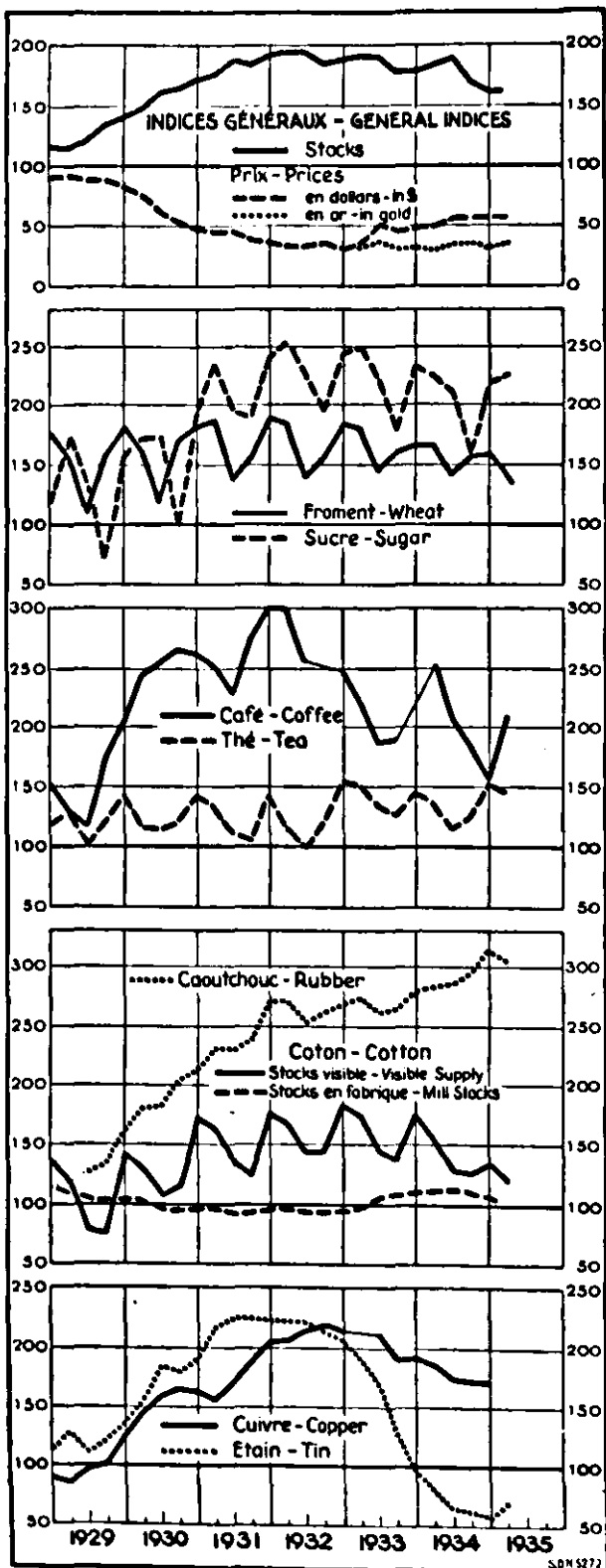
¹ Cf. Section C, "Metals", below.

² Cf. *Wirtschaftsdienst* (Hamburg), XIX:51/52 (December 21st, 1934).

STOCKS OF PRIMARY COMMODITIES.

Diagram 2. — MOVEMENT OF STOCKS OF PRIMARY COMMODITIES.

(Average 1925-1929 = 100.)



Statistics of stocks are restricted. Data referring to visible stocks — i.e., stocks held by producers or in public warehouses — are available for a number of commodities, but they vary considerably in scope; information concerning stocks of raw materials held by manufacturers or wholesale traders is even more scarce.

The general movement since 1929 of visible stocks of primary commodities, adjusted for seasonal variations, may be roughly gauged from the composite world index compiled by the United States Department of Commerce and illustrated at the top of Diagram 2. Although this index is not directly comparable with the world index of primary production given in Table 1 and Diagram 1, as its scope is much more limited, it nevertheless constitutes a useful corrective to any inference that may be drawn from the latter as regards changes in consumption. A curve showing the corresponding composite world index of prices (compiled by the same authority) has been added in order to bring out the close inverse correlation that has existed between the movements of stocks and of prices.

The diagram further shows the movement of stocks of certain important individual commodities (not corrected for seasonal variations); the absolute figures for these and a number of other commodities will be found in Table 6 of Appendix I. During the depression, the stocks of most vegetable foodstuffs increased rather less than those of industrial raw materials and represented a smaller proportion of annual consumption, except in the case of coffee. But, owing to the inelasticity of the demand for and the special conditions governing the production of foodstuffs,

Note to Diagram 2. — The general stock index is based on the following nine commodities (weights 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. Copper has been omitted since 1931.

The basic series for the other curves shown above relate to visible world stocks in all cases except as regards tea (United Kingdom stocks only) and cotton mill stocks ("invisible" stocks).

the efforts made to reduce the surplus stocks of these commodities were crowned with only moderate success. By 1934 or the early part of 1935, however, practically all the data available for stocks of both foodstuffs and raw materials point in a downward direction; but rubber stocks reached their maximum at the beginning of January 1935, and tea stocks stood in the first quarter of 1935 only a little below the peak they reached in the corresponding months of 1933. It would appear that since 1933 or 1934 there has been a shift in the location of stocks, at least in the case of some important commodities, from producing to consuming centres.

While a decline in the stocks of raw materials held by producers or in public warehouses is an indication of industrial revival, stocks held by manufacturers or wholesale merchants tend to increase when business improves. The amount of raw cotton stocks held by mills is shown in Diagram 2, and further statistical series illustrative of the changes in this type of stocks are given in Appendix I, Table 6.

B. INDUSTRIAL PRODUCTION.

NATURE OF THE INDICES OF INDUSTRIAL ACTIVITY.

The index of raw-material production considered above affords an indirect measure of the changes in the industrial activity of the world, though, for the reasons there indicated, it is far from satisfactory for this purpose, particularly as regards the period of depression under review. In the present chapter, an attempt is made to analyse these changes on the basis of national indices and of such other information as is available regarding the most important branches of industry (see Appendix II).

By "industrial production" is normally understood both mining and manufacturing and, in certain countries, also building. The line of demarcation normally applied in national statistics lies, not between primary and manufacturing production, but between agricultural and industrial. Consequently, the scope of the preceding and of the present section overlap in so far as the production of fuels, pig-iron and crude steel, non-ferrous metals (smelter production), wood pulp, artificial silk and certain synthetic chemicals is covered in both.

Owing to the great diversity of the products of manufacture and the frequent lack of comprehensive information, 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 national indices vary widely in composition and scope; 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, labour employed, hours worked, plant utilised, 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. 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 alike past, present and prospective activity in varying degrees. Again, information regarding stocks of finished goods is very scanty and it is therefore difficult to tell how far any given movement in an index faithfully reflects a change in effective demand. Thus, no close comparisons between the various national series can be attempted.¹

¹ For information on the composition of and the methods employed in compiling the different national indices of production, see relevant tables and notes given in the *Statistical Year-Book of the League of Nations*, editions 1932/33-1934/35, and for notes on certain special indices relating to individual industries, see Appendix II below.

Notwithstanding these limitations, which indeed are inherent in the nature of the production indices, attempts have been made to construct, on the basis of the national indices available, at least an approximate measure of the changes in industrial activity of the world as a whole and some of its main parts. The German Institut für Konjunkturforschung currently calculate such international indices, which have been utilised in several editions of this publication in order to give a general review of the changes in world industrial activity. This is done also this year inasmuch as the schedule of weights drawn up by the Institute for the purpose of its international annual index¹ has been used in aggregating, by continental groups or otherwise, the various national indices of industrial activity considered below.

The production indices recorded for twenty-one countries in the *Monthly Bulletin of Statistics* of the League of Nations have been multiplied by the weights established by the Konjunkturinstitut and the results aggregated. From these aggregates the indices for the world—in fact, only for the twenty-one countries referred to above, which, however, according to the estimates of the German Institute, accounted for some 93% of industrial world production in 1928—and for the various continental and other groups distinguished below have been calculated.²

GENERAL INDUSTRIAL ACTIVITY.

The general course of the world's industrial activity during the ten years 1925-1934 may be judged from Table 8 below. In addition to indices of general industrial activity comprising both manufacturing and mining and in the case of many of the countries considered, also building and generation of electric power, indices relating as far as possible to manufacturing alone are given. For purposes of comparison, the revised world-production index of the Institut für Konjunkturforschung and the index of world production of industrial raw materials considered in the preceding section are also given. The world indices are shown both including and excluding³ the U.S.S.R. This distinction is of interest, as the U.S.S.R., whose relative importance in any international index of production is considerable, constitutes an almost self-contained economic system, which has followed a course quite different from that of other countries. For the same reason, the sub-indices for Europe are shown exclusive of that country.

The rise in world industrial production up to 1929 and the drastic contraction in subsequent years have been considered in previous editions of this publication. The following analysis is chiefly concerned with the recovery which began in the third quarter of 1932 and continued, though erratically, throughout 1933 and 1934 up to the first quarter of 1935.

In so far as the international indices shown below may be taken as roughly representative of the changes in the volume of industrial output, it would appear that, in the world as a whole, there was nearly as much industrial production in 1934 as in 1927, a year whose results were close to the average for the quinquennium preceding the depression. According to the revised index of the Konjunkturinstitut, world industrial production in 1934, while still falling short of the 1929 record by some 10%, had fully recovered to the level of 1930, which was equal to the 1925-1929 average.

¹ See "Vierteljahrshefte zur Konjunkturforschung", Sonderheft 31, Institut für Konjunkturforschung, Berlin 1933.

² The Institut für Konjunkturforschung has recently revised and enlarged its monthly world index (see *Wochenbericht*, Berlin, 27.III.1935). This revised index does not cover, however, exactly the same countries as that computed for the purpose of the present volume—the Netherlands, for instance, is not covered by the former—nor, it appears, are exactly the same basic series used in the case of certain countries covered by both indices. It is not stated whether any adjustments have been made in the scale of weights as applied to the revised index the general level of which, in the years 1930-1934, is from 3 to 6% higher than that of the old (and less comprehensive) monthly world index of the Institute. The world index computed for the purpose of the present volume follows in those years a middle course between the old and the new world indices of the Konjunkturinstitut.

³ Except in the case of the revised world index of Konjunkturinstitut, which does not make this distinction.

Table 8. — INTERNATIONAL INDICES OF INDUSTRIAL ACTIVITY AND INDICES OF WORLD PRODUCTION OF INDUSTRIAL RAW MATERIALS.
(Average 1925-1929 = 100.)

Nature of indices	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
I. General Industrial Activity.										
(a) World including U.S.S.R. (Revised World Index of I.f.K.)	91 (91)	94 (94)	99 (100)	104 (104)	112 (111)	100 (100)	89 (90)	78 (80)	88 (90)	96 (100)
(b) World excluding U.S.S.R.	92	94	99	104	110	96	82	69	78	84
(c) Europe excluding U.S.S.R.	90	89	103	107	112	104	91	79	86	95
(d) North America	94	98	97	102	109	88	74	59	70	73
II. Manufacturing Activity.										
(a) World including U.S.S.R.	91	94	99	105	112	99	89	78	89	97
(b) World excluding U.S.S.R.	92	94	99	104	110	94	81	68	78	83
(c) Europe excluding U.S.S.R.	89	89	103	107	111	103	91	79	87	95
(d) North America	95	98	96	102	108	87	73	58	68	72
III. Production of Industrial Raw Materials.										
(a) World including U.S.S.R.	92	94	99	103	111	102	92	81	89	94
(b) World excluding U.S.S.R.	93	94	99	103	110	100	89	78	85	90

Note. — The countries included under I and II and the weights allocated to them according to their estimated relative importance in world industry in 1928 or thereabout are as follows:

Weights		Weights		Weights				
I	II	I	II	I	II			
Austria	0.60	0.50	Italy	3.15	2.39	Canada	2.22	1.50
Belgium	1.10	0.88	Netherlands	1.00	0.90	United States	44.80	38.48
Czechoslovakia	1.60	1.39	Norway	0.25	0.24	North America	47.02	39.94
Denmark	0.35	0.35	Poland	0.75	0.57	Chile	0.30	0.27
Finland	0.25	0.25	Roumania	0.30	0.24	Japan	2.35	1.85
France	7.00	5.25	United Kingdom	9.26	6.97	U.S.S.R.	4.05	4.32
Germany	11.55	8.27	Sweden	0.85	0.82			
Greece	0.15	0.13	Europe			Grand Total	92.84	75.87
Hungary	0.36	0.32	excl. U.S.S.R.	38.52	29.47			

The difference between Grand Total I and 100.00 represents the estimated relative importance in total world industry in 1928 of the countries which are not covered by the international index. (The revised world index of the Institut für Konjunkturforschung given in parentheses in the Table would appear to be only slightly less comprehensive — cf. page 22, footnote 2 — than that shown under I (a).) The difference between the figures given under I and II represents the relative weight with which the branches excluded under II enter into the general indices of industrial activity aggregated under I. It will be observed that, for the total of the countries considered, the relative weight of the branches excluded under II equals $\frac{92.84 - 75.87}{92.84} \times 100 = 18.3\%$.

It will be observed that, during the period 1925-1929, the international indices of manufacturing activity were practically identical — as regards their level and year-to-year movements — with the corresponding general indices of industrial activity. This is true also of the depression period as far as Europe is concerned, while in North America the manufacturing index stood one point below the general index throughout that period.¹ On the other hand, as a result of the more rapid expansion of manufacturing production than of mining in the U.S.S.R., the world index of manufacturing activity stood slightly above that of general industrial activity in 1933 and 1934. The divergencies of the two sets of indices are thus very slight, and it follows that the general indices of industrial activity may also be taken as indicative of the changes in manufacturing activity alone during the comparatively short period here considered.

World production of industrial raw materials which had contracted less than industrial activity in general and manufacturing in particular during the first three years of depression

¹ Had building been included in the index for the United States and not only in the index for Canada, as is actually the case, the North-American index of general industrial activity would probably have stood lower than the corresponding manufacturing index during that period.

had recovered somewhat less by 1934. The difference in amplitude of the downward swing and the subsequent rise of the world indices here considered accounts for the large increase in world stocks of raw materials up to 1932 and their subsequent reduction, which, as shown in the preceding section, was specially marked in 1934. Thus the recovery in manufacturing production was based to a larger extent during that year than in 1933 on the utilisation of excess stocks — an encouraging sign of return towards a more satisfactory balance between primary and manufacturing production. The world output of industrial raw materials recovered nevertheless in 1934 to the level of 1926.

The comparatively favourable level shown by the world indices in 1934 is, however, considerably influenced by the figures for the U.S.S.R., whose industrial output, having increased uninterruptedly at a rapid rate throughout the whole ten-year period covered by Table 8, was nearly three times greater in 1934 than it had been in 1927. In the world, apart from the U.S.S.R., despite the marked recovery which had taken place since 1932, the average level of industrial activity in 1934 still remained considerably below even that of 1925. It should be noted, however, that the indices for Europe excluding U.S.S.R. (Series I (c) and II (c) of Table 8) stood much higher than those for North America, where the contraction of industrial output has been more severe ever since the onset of depression. Moreover, while in Europe the rate of recovery was more rapid in 1934 than in 1933, in North America it slowed down quite markedly.

The statistics of employment and unemployment afford additional evidence of the industrial recovery in recent years. For the purpose of the present publication, an attempt has been made to calculate an international index of employment on the basis of the national employment indices (relating chiefly to industry) which are available for sixteen¹ of the countries covered by the international index of industrial activity. The annual movement of these two indices since 1929 is compared in Table 9 below. The employment index relates to the number of workmen employed as recorded in the different countries and is weighted according to their industrial population in 1930/31 — the years to which most of the latest population censuses refer.²

Table 9. — INTERNATIONAL INDICES OF EMPLOYMENT AND OF INDUSTRIAL ACTIVITY.
(1929=100.)

Nature of Indices	1930	1931	1932	1933	1934
World excluding U.S.S.R. :					
Employment.	93	84	75	78	84
Industrial activity.	87	75	63	71	76
Europe excluding U.S.S.R. :					
Employment.	96	88	80	81	85
Industrial activity	93	81	71	77	85
North America :					
Employment.	88	75	62	66	75
Industrial activity	81	68	54	64	67

For lack of comprehensive employment data prior to 1929, that year has had to be taken as base year in the above table. The basic series for the employment indices generally include short-time workers in addition to those working full hours. During

¹ Europe: Austria, Belgium, Czechoslovakia, Denmark, Finland, France, Germany, Hungary, Italy, Netherlands, Poland, Sweden, United Kingdom;

North America: Canada, United States;

Asia: Japan.

² The occupational distribution of the population of these countries may be presumed to have been very similar in 1928 — the year of weighting of the industrial index — to what it was in 1930/31.

the depression, employers have generally endeavoured both for humanitarian and technical reasons not to reduce the number of their staff in full proportion to the limitation of their total output — mainly by having extensive recourse to the device of short-time work. Up to 1932, as shown in the table, the employment indices fell considerably less than those representative of industrial output.¹ On the other hand, between 1932 and 1934 the former rose more slowly than the latter, particularly in Europe, where the decline in employment, though very considerable, had never assumed such proportions as in North America. The slower rise in the number of employed than in industrial activity during the period of recovery reflects in the main the fact that employers are anxious to utilise their short-time staff to full capacity before taking on additional staff. Had it proved possible to construct an international index of the hours actually worked, this would presumably have moved in closer agreement with that of industrial production than does the index of employment shown above.

It will be noted that the indices for employment and industrial activity in Europe (excluding the U.S.S.R.) for 1934 stood at roughly the same level — some 15% short of the record level of 1929. But, whereas the average number of workers employed had only increased by some 6-7% since 1932, industrial activity had risen by some 20%. Even though part of the discrepancy between these two rates of increase may be accounted for by the extension of the effective working hours of those employed on short-time work, it undoubtedly reflects to some extent an increase in the average output per man-hour resulting from rationalisation effected by various industries in the course of the depression. Direct evidence of such an increase is available for certain industries in several countries. Whatever may have been the chief technical reason for the improvement since 1932 in the effective utilisation of the labour factor in European industry, the change between that year and 1934 in the ratio of the employment of the production index suggests that the average output per worker employed in the European countries considered increased by some 13%.

A comparison of the corresponding North-American indices for 1932 and 1933 will show that the same tendency towards a considerable increase in the average output per worker employed was apparent during the early part of the industrial recovery in that continent. Subsequently, however, as is demonstrated by the relative changes between 1933 and 1934, the tendency was reversed — *i.e.*, the number of workers employed in industry rose much more rapidly than industrial output. This phenomenon was a direct result of the system of industrial codes, put into practice in the United States during the latter part of 1933, one of the main purposes of which was, by means of obligatory shortening of the average working-day, to favour the absorption by industry of an increased number of workers and by thus spreading work to reduce the number of the totally unemployed. The degree of success of this policy may be judged from the following comparison of the changes in the annual averages of the indices of pay-rolls, industrial workers employed and industrial production in the United States :

	Relative increase between		
	1932 and 1933	1933 and 1934	1932 and 1934
Pay-rolls.	5.2%	27.6%	34.2%
Workers employed . . .	7.5%	14.2%	22.8%
Production.	18.7%	3.9%	- 23.4%

¹ Had North America and Europe entered with the same relative weights in the world index of employment as in that of industrial activity, the difference in level between the two world indices would have been somewhat smaller throughout than that shown in the table. The industrial activity index is weighted mainly according to the estimated net value of industrial output in 1928, which was considerably larger in North America than in the European countries considered, while the employment index, as already mentioned, is weighted according to the industrial population which was less than half as great in North America as in those European countries taken together.

Pay-rolls have increased most since 1932. It should be mentioned, however, that in 1934 they still amounted on an average to only little over half in nominal value, but in real purchasing power to nearly three-quarters of what they were in 1929, while industrial output amounted to about two-thirds and the number of workers employed to fully three-quarters of the 1929 figures.

In 1934, the number of industrial workers employed in the world, apart from the U.S.S.R., probably fell short of the number in 1929 by roughly a sixth. But the real shortage of employment was considerably greater than this comparison appears to suggest. In addition to the number of unemployed represented by this proportion, industry failed to provide employment for the further number of hands which had come into the labour market as a result of the natural increase in population during the five years of depression. Thus, as demonstrated by the international index of unemployment compiled by the International Labour Office, unemployment in sixteen preponderatingly industrial countries

in different parts of the world which are included in that index still remains very large. Although the average for the year 1934 was about 25% lower than in 1932, when world unemployment reached its maximum, it still remained at considerably more than the double of what it had been in 1929.¹ Further, as stated above, a considerable proportion of the workers recorded as employed in 1934 was only employed part time.

The annual averages discussed up to this point, though showing the broad changes, do not afford a sufficiently realistic picture of the course of industrial recovery up to the early part of 1935 from the depth of depression in the middle of 1932, when world industrial activity was in fact considerably below the average level for the year. This may be shown diagrammatically.

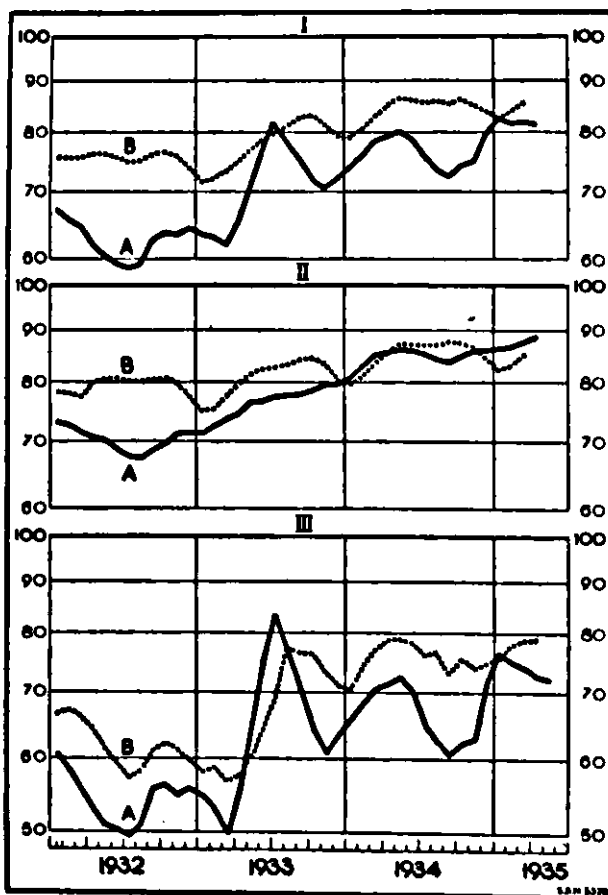
Diagram 3 shows the monthly movement since the beginning of 1932 of the indices of industrial activity and workers employed in the world (excluding the U.S.S.R.) as well as in Europe and North America separately. As in Table 9 above, the average for the year 1929 has been taken as basis (= 100). The monthly movement of the world index of industrial activity prior to 1932 was largely similar to that of the corresponding though somewhat less comprehensive index which was shown in the diagram given on page 48 of last year's edition of this publication.

Diagram 3. — MONTHLY MOVEMENT OF INDUSTRIAL ACTIVITY AND EMPLOYMENT.

(Base : Average for 1929 = 100 : logarithmic scale.)

A. Industrial activity. B. Employment.

- I. World, excluding U.S.S.R.
- II. Europe, excluding U.S.S.R.
- III. North America.



¹ The annual index figures were as follows :

Year	1929	1930	1931	1932	1933	1934
Index	100	164	235	291	274	221 (provisional).

As explained in connection with the annual index figures, the difference in level between the two curves given in part I of the diagram would have been smaller—i.e., the level of the employment curve would have been some 5 % lower throughout than is actually shown had North America and Europe entered with the same relative weights in the world index for unemployment as in that for industrial activity. In parts II and III of the diagram, the curves for employment and industrial activity are more closely comparable. Attention should, however, be directed in the first instance to the trends of the curves. While most of the national indices of industrial activity are adjusted for seasonal variations, this is generally not the case as regards the employment indices. Further, although the latter chiefly relate to industry, in most cases they cover to some extent employment in other fields of activity as well.¹

In the last edition, attention was drawn to the coincidence of the signing of the Lausanne Agreement on reparations with the turn of the tide in world industrial activity in July 1932 and to the preponderating influence which developments in the United States have exercised upon the subsequent course of the world index. This influence is clearly discernible in the erratic movement of the world index as shown in the diagram. In the first quarter of 1935, the world index of industrial activity (excluding U.S.S.R.) stood but slightly above the peak to which it was brought by the burst of industrial activity in the United States in the summer of 1933 and to which it approached again closely in May 1934. Important though the recovery was compared with the extreme depression in the summer of 1932, yet the world index (excluding the U.S.S.R.) fell short of its average level for 1929 by some 18 % ; it still remained considerably below the average for 1930 and had in fact only just recovered to the level where it stood in 1925 — i.e., at the beginning of the ten-year period covered by Table 8.

It will be noted that the sub-index for Europe rose continuously up to May 1934, then fell off slightly during the following four months to resume its rise, though at a slower rate, in the autumn. By March 1935, it stood 13 % below its average level for 1929. North-American industrial production during the first quarter of this year was on an average 25 % less than in 1929 and still remained considerably below its peak of July 1933.

While the obstacles to international trade remained unabated or were stiffened,² the industrial recovery of the world as a whole — in spite of the marked recovery since September last — has not made very much headway since the second quarter of 1934. The international indices of employment shown in the diagram afford additional evidence on this point. The scattered data on production and employment in recent months which are available at the moment of writing do not suggest that any appreciable further improvement in the industrial activity of the world (excluding the U.S.S.R.) has taken place during April and May 1935, though activity in several European countries continued to expand particularly in the latter month.

INDUSTRIAL ACTIVITY IN INDIVIDUAL COUNTRIES.

The depression has affected the industrial activity of individual countries in very varying degrees and the degree of recovery since the summer of 1932 has been still more widely different. Evidence with regard to twenty-three countries is afforded by the annual indices or annual averages of monthly or quarterly series given in Appendix II,

¹ In the United States, where a separate index of employment in manufacturing industry is available, that index agrees very closely with the general employment index. It may be presumed that this is largely true also of other countries and that therefore the indices here aggregated are fully representative of the trend of industrial employment, although, in the case of Europe, they probably over-emphasise the amplitude of the seasonal variations in employment, as far as the branches actually covered by the national indices of industrial activity are concerned.

² These obstacles affect more directly the industrial activity of Europe as a whole than that of North America, which is less dependent upon foreign trade and has indeed been more seriously affected by certain internal factors operative in the United States to which reference is made below.

Table 1.¹ But the recovery in recent years emerges more clearly from Table 10 below, which gives, in addition to annual averages for 1930-1932, averages for the third quarter of 1932 (within which the turn in industrial activity occurred in most countries) and for each quarter since the beginning of 1933. For purposes of comparison, the international index is also given.

Table 10. — GENERAL INDICES OF INDUSTRIAL PRODUCTIVE ACTIVITY.
Average 1925-1929 = 100 (unless otherwise stated).

Country	1930	1931	1932	1932	1933				1934				1935
	Average of quarters			III	I	II	III	IV	I	II	III	IV	I
<i>Europe :</i>													
Germany (A)	97	80	66	64	69	73	77	79	89	95	95	93	94
Austria (A)	96	84	72	67	67	70	74	84	78	79	80	87	81
Belgium	95	85	71	61	75	77	72	76	76	73	73	76	74
Denmark (Base 1927)	(127)	(117)	(106)	.	.	.	.	.	(120)	(133)	(135)	(136)	(138)
France	115	102	79	76	84	89	91	88	86	83	79	77	76
Finland (A)	101	89	92	94	102	108	110	106	117	124	125	121	130
Greece	112	116	109	.	115	118	120	123	124	141	137	141	130
Hungary (A) (Base 1927)	(97)	(90)	(79)	(74)	(79)	(84)	(89)	(95)	(96)	(102)	(97)	(108)	(109)
Italy (Base 1928)	(100)	(85)	(73)	(71)	(75)	(83)	(84)	(80)	(78)	(87)	(91)	(93)	(98)
Norway	115	89	105	.	105	111	97	114	111	114	113	118	117
Netherlands	105	91	72	62	82	77	80	77	87	85	74	75	78
Poland (A)	95	80	62	63	56	64	67	70	70	74	72	76	72
Roumania	116	122	106	117	99	119	140	136	137	141	165	154	139
<i>United Kingdom :</i>													
Board of Trade (Base 1924, 1927-1929)	(97)	(88)	(88)	(82)	(89)	(91)	(91)	(99)	(104)	(104)	(100)	(109)	(111)
London and Cambridge	100	85	86	79	89	90	89	99	104	104	98	106	105
Sweden (Industriförbund) (A)	108	94	88	81	90	87	91	99	106	113	112	115	119
Czechoslovakia	101	92	72	69	65	67	68	72	71	79	77	75	73
<i>America :</i>													
Canada (A)	100	84	68	68	57	67	81	79	80	88	90	87	90
United States (A)	88	74	58	56	57	72	84	68	74	77	67	71	81
Chile (A) (Base 1927-1929)	(118)	(91)	(102)	(105)	(115)	(111)	(110)	(110)	(113)	(118)	(124)	(135)	(133)
<i>Asia :</i>													
Japan	111	107	114	116	123	128	135	144	141	148	150	164	158
World (excluding U.S.S.R.) (A)	96	82	69	66	69	79	86	79	84	87	82	84	90
World (including U.S.S.R.) (A)	100	89	78	75	79	88	96	89	95	99	94	96	105

(A) Adjusted for seasonal variations.

An inspection of the Appendix Table referred to above will show that, among twenty-one countries for which indices for 1934 are given, industrial activity in the following ten — U.S.S.R., Japan, Chile, the United Kingdom, Sweden, Denmark, Norway, Finland, Greece and Roumania — exceeded the average for the five-year period 1925-1929. This was true, no doubt, also of New Zealand and the Union of South Africa, for which countries, however, complete data for 1934 are not yet available.² In all the above countries, except

¹ The annual series are often wider in scope than are the monthly series. With reference to countries for which both kinds of series are available, preference should be given to the former in making comparisons over longer periods of years.

² In the Union of South Africa, for which country index figures are shown only up to 1930 in the Appendix Table, the compilation of official statistics of industrial production was interrupted in 1931, but was again resumed in 1933. Though the production index has not yet become available for that year or for 1934, such production data as are in fact available suggest that a considerable expansion of industrial activity has taken place in those years. In New Zealand, industrial activity has throughout the period of world depression exceeded the level of 1929.

the United Kingdom, the trend of industrial growth up to 1929 or 1930 was rapid, and in most of them only a short-lived check to this trend was brought by the worst years of world economic depression.

In 1934, or at any rate by the last quarter of that year, even the record level of 1929 was in fact exceeded — in certain cases, indeed, very considerably exceeded — in all the twelve countries mentioned and also in Hungary — *i.e.*, in the case of thirteen out of the twenty-three countries which publish monthly or annual indices of industrial activity. This is true also of many other countries, and overseas countries in particular, for which, however, more scattered production data only are available.

During the first quarter of 1935, a further appreciable advance in industrial activity was made in practically all the countries here referred to.

On the other hand, in that quarter, the industrial indices for Belgium, France, the Netherlands, Poland — all members at that time of the so-called gold *bloc* — and Czechoslovakia were still roughly a quarter below their pre-depression average or as much as a third below their level for 1929. The indices for Austria, Canada and the United States, which had recovered more during the two preceding years, still fell short of their 1929 level by about a quarter, and those for Germany and Italy, while fairly close to the pre-depression average, were still short of their 1929 level by 15 and 10% respectively.

The course of industrial activity in individual countries has been influenced by the economic and financial, monetary and credit policies applied in each. The direct effect of any particular policy upon industrial activity is of course dependent upon a number of more or less heterogeneous factors. A grouping of the industrial indices according to the currency position of the countries concerned presents considerable interest. Such a grouping is attempted in Diagram 4, part A, for the purpose of which the monthly indices¹ of the twenty countries covered by Table 10 have been aggregated into five curves.

Curve *a* relates to Japan and Chile, whose currencies have depreciated much more since 1929 (the base period) than that of any other country here considered.

Curve *b* relates to the other paper-currency countries which have not yet established any new *de jure* relation between their currency and gold — the United Kingdom, the three Scandinavian countries and Finland, Austria, Greece and Canada.

Curve *c* relates to countries which maintain their currencies officially at par by means of some system of exchange control — Germany, Italy, Czechoslovakia, Hungary and Roumania. With a view to promoting exports, however, some of these countries — *e.g.*, Germany, Hungary and Roumania — allow (particularly since 1933) certain transactions with foreign countries to be effected at depreciated rates. In February 1934, Czechoslovakia devaluated its currency by 16.6% for the same purpose. Exchange control was officially introduced in Italy (May 1934) later than in the other countries of this group.

Curve *d* relates to the United States alone, which, after having suspended the gold standard early in April 1933, fixed a new though provisional gold parity (41% below the old parity) of its currency at the beginning of February 1934.

Curve *e* relates to France, Belgium, the Netherlands and Poland, all full gold-standard countries during the period considered.²

Part B of the diagram is supplementary to part A. In constructing the composite indices (four out of the six curves) shown in part B, other criteria than the currency position of the countries concerned have been followed.

Curve *f* relates to six chiefly agricultural countries — Chile, Denmark, Finland, Greece, Roumania and Hungary — in all of which the process of industrialisation has proceeded rapidly since the war and particularly in recent years.

¹ In the case of the United Kingdom and Hungary, for which only quarterly indices are available, these have been taken to represent the position in the middle month of each quarter. On this basis, hypothetical index figures for the intervening months have been interpolated.

² Belgium devaluated its currency provisionally by 28% at the beginning of April 1935.

Curve *g* relates to three Northern-European countries — Norway, Sweden and Finland — whose industry is largely based on exploitation of forests and has benefited from the price advantage which forest products have enjoyed relative to other products in recent years.

Curve *h* relates to the United Kingdom alone, which, on account of its great relative weight in the basic aggregates for curve *b* of Part A, exercise a preponderating influence on the course of that curve.

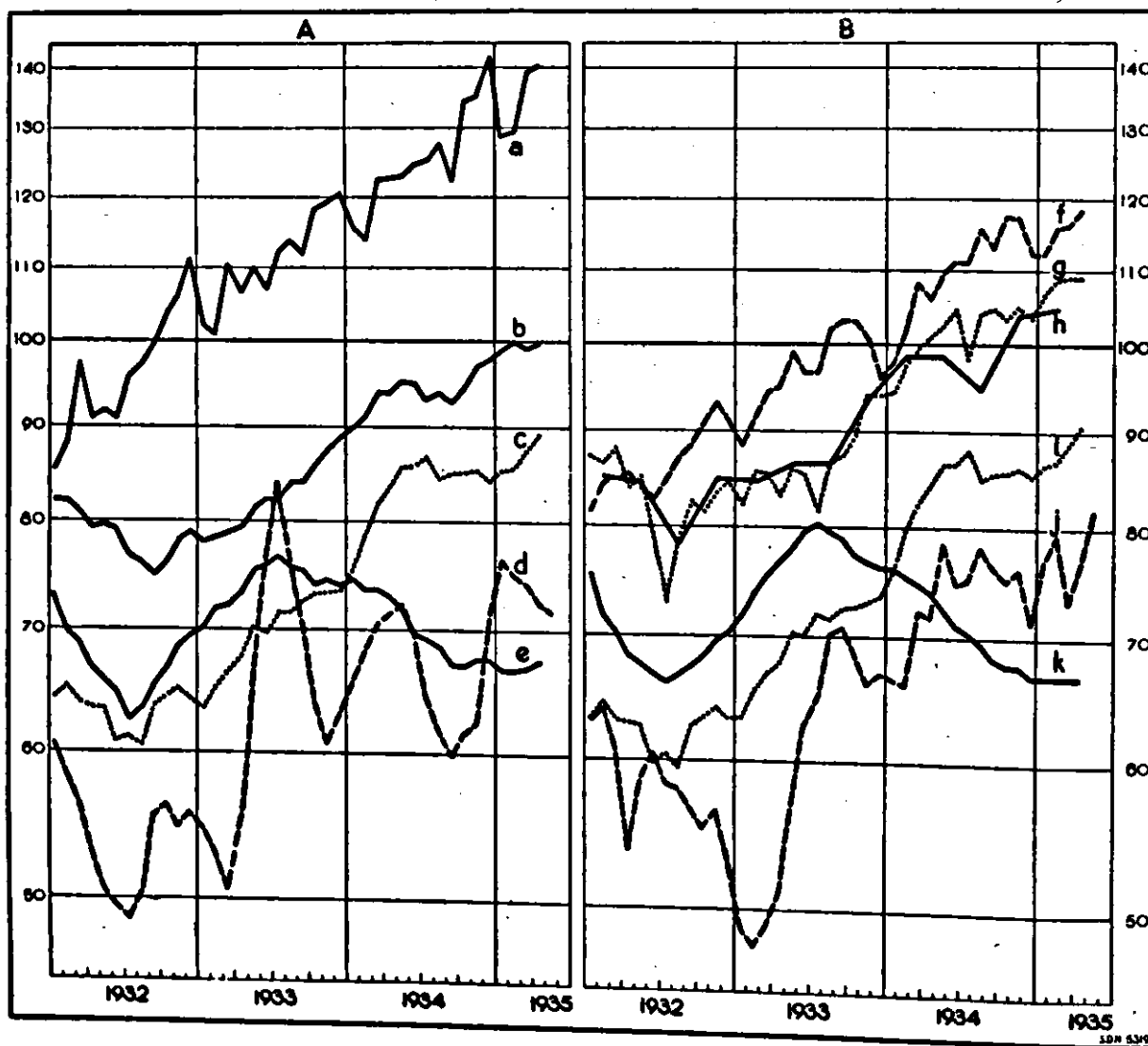
Curve *i* relates to Germany and Italy, whose industrial activity in recent years has followed a roughly similar course, chiefly in consequence of the policy of Government intervention in the industrial fields.

Curve *j* relates to Canada alone, whose industrial index is here shown separately for purposes of comparison with those of the Northern-European countries and the United Kingdom on the one hand and that of the United States on the other.

Curve *k* relates to France alone, which enters with a preponderating weight in the basic aggregates for the composite index of industrial activity in the gold-standard countries represented by curve *e* of part A.

Diagram 4. — GENERAL INDUSTRIAL ACTIVITY IN CERTAIN COUNTRIES OR GROUPS OF COUNTRIES.

(Average for 1929 = 100: logarithmic scale.)
(For explanation of *a*, *b*, *c*, etc., see the text.)



There are three striking features of a general order brought out in the diagram :

(1) The industrial recovery which manifested itself after the Lausanne Conference in 1932 up to the London Conference in the middle of 1933 was universal in character. A marked increase in activity occurred, indeed, in all the five groups of countries distinguished in part A of the diagram. But, while the dramatic revival which took place in the United States for four months after the suspension of the gold standard in the spring of 1933 was accompanied by rapid advance also in the European gold-standard and exchange-control groups, recovery slowed down markedly in the European paper-currency group¹ during the spring and the early part of the summer and halted for several months in Japan.

(2) Since the formation of the gold *bloc* in July 1933 after it had proved impossible to reach a general stabilisation agreement at the London Conference, a continuous deflationary pressure is reflected in the curve for the European gold-standard group. The much more sudden decline in industrial activity which occurred in the United States during the latter part of 1933 and which has since been followed by extremely erratic recovery would appear to have been mainly due to rather special causes to which further reference is made below.

(3) In all the other groups distinguished above, industrial activity has increased rapidly since the summer of 1933, though a temporary break occurred, in the sterling group, during the second and third and, in the exchange-control group, during the third and fourth quarters of 1934.

Production developments in the individual countries composing the different groups shown in the diagram should be examined more closely.

Curve *a*, which is dominated by Japan, indicates that the rapid industrial growth of that country which, as was observed in the last edition of this publication, has been due in recent years not only to the export advantage afforded by the heavy depreciation of the yen, but also to a systematic reorganisation of industry on modern lines, continued at an accelerated rate up to the end of 1934 to reach a level over 40% above its 1929 average. This rapid advance spread in fact over the whole range of individual industries covered by the official index, except copper, natural silk and woollen tissues, while the increase was particularly marked in the case of rayon yarns and tissues, iron and steel and machinery. Owing to the marked seasonal variations of the index, it is as yet too early to judge whether the apparent setback in the first quarter of 1935 means more than a passing halt in the rapid rise of Japanese industrial output.

The quantitative development of total industrial production has been largely similar in other countries where the process of industrialisation was already proceeding rapidly before 1929 and where it has been further enhanced on account of the particular conditions arising from the depression. As is pointed out in Chapter II, these countries, which are chiefly agricultural, were forced to reduce their imports of manufactured articles as a result of the heavy fall in price on the world market of their own principal export products. In compensation for the reduction in their imports of manufactures and in order to provide employment for part of their population severely hit by the agricultural depression, these countries have endeavoured to develop their national production of such articles, taking advantage of the increased protection afforded in many cases also by the depreciation of their currency or by exchange control.

These developments are reflected, *inter alia*, in the marked increase in the production of pig-iron and raw steel in some of these countries.

¹ In Canada, on the other hand, the course of industrial production was strongly influenced by developments in the United States.

1934 as % of 1929.

	Union of South Africa	Brazil	India	Australia
Pig-iron	722	170	95	96
Crude steel . . . . .	...¹	238	139	108

An inspection of the detailed tables on the activity in various branches of manufacturing industry proper given in Appendix II will show that the development in particular of certain textile industries and of the boot-and-shoe industry in these and other agricultural countries has likewise been very rapid.

As mentioned above, six chiefly agricultural countries for which monthly indices of industrial activity are available have been selected for the purpose of part B of the diagram and their indices aggregated in curve *f* there shown. It will be noted that the course of general industrial activity since the beginning of 1932 in these countries taken together is not much different from that in Japan, though the average rate of increase is somewhat less rapid. The increase has been most marked in the case of the industries producing goods for current consumption — *e.g.*, textile manufacture. As shown by the annual composite indices given below for this group of countries, the textile industry has developed not only much more rapidly than the aggregate of all the other industries covered by the national indices here considered, but continued, indeed, to expand at a very rapid rate throughout the depression period, while the other industries weighing more heavily in the general indices were subject as a whole to a marked recession of activity until 1932.

Annual Composite Indices of Industrial Activity in six² chiefly Agricultural Countries.

	(1929 = 100.)					
	1930	1931	1932	1933	1934	1935 (1st quarter)
General index	99	91	86	97	110	115
Textile industries.	106	114	141	150	167	159
All other industries covered.	98	88	79	90	103	109

A similar development of the textile industry would appear to have taken place in recent years in most other countries with a comparatively young industrial system. This fact goes far to explain the plight of certain branches of the textile industry in some of the older industrial countries which in the past have largely relied upon the markets of industrially less-developed foreign countries for the sale of their textile manufactures.

As shown by the curves *g* and *h* of the diagram, the course and the relative level (compared with 1929) of general industrial activity in Norway, Sweden and Finland considered as a group³ and in the United Kingdom almost coincided up to the first quarter of 1934⁴; and if the composite index for the former group rose more rapidly in the subsequent twelve months, the Board of Trade index for the United Kingdom did not lag very much behind by the first quarter of 1935. Also, in the group of northern countries here considered, the textile industry was but little affected by the depression and this is equally true of other consumers' industries such as clothing, leather and footwear. In 1933 — the most recent year for which detailed data are available for Sweden and

¹ Data not yet available.

² Chile, Denmark, Finland, Greece, Hungary, Roumania.

³ It will be noted that Finland, on account of the particular nature of its economic structure, is included both in group *g* and in group *f* discussed above. It only accounts, however, for a minor share in the total weights of these various groups.

⁴ Such deviations between the two curves as may be observed until that date are chiefly accounted for by the fact that the index for the United Kingdom is a quarterly one, while in the other countries the activity indices are compiled monthly.

Norway — the output of the textile and clothing industries as a whole was considerably larger in all three countries concerned than it had been in 1929, and it continued to rise at a rapid rate in 1934 according to the summary data available for that year. But pulp and paper and also — particularly in Sweden — metallurgy and engineering are of much greater relative importance and have in reality contributed more to the rapid general recovery in these countries since the middle of 1934. In the United Kingdom, on the other hand, the textile industry and cotton manufacture in particular, which largely depends for its prosperity upon the possibilities of export, is still, along with shipbuilding and mining (coal), considerably depressed, while the output of leather and footwear, steel and non-ferrous metals, motor-cars and engineering products (excluding ships), residential building and building materials, gas and electricity in the first quarter of 1935 stood well above and that of the food industries was at any rate equal to the average for 1929.

If, in spite of the more or less considerable advance beyond the 1929 level which is registered by the general indices of industrial activity in the United Kingdom, Norway, Sweden and Finland, Denmark and Greece, the composite index for the paper-currency countries other than Japan and Chile only just touched that level in the first quarter of 1935, as shown by curve *b* of the diagram, this is due to the inclusion of Canada (curve *j*) and Austria in that index. Though both these countries, and Canada in particular, have enjoyed a marked recovery from the extreme points of depression (February 1933 and July 1932 respectively), by the first quarter of 1935 their industrial activity still fell short of the 1929 average by roughly 25%. Separate sub-indices for the various industries covered by the Austrian general index are not available. In Canada, whose economic structure is similar in certain respects to that of the group of Northern-European countries (curve *g*) discussed above, textile manufacture, mining (gold) and petroleum refining were the only major industries which experienced a greater activity during 1934 as a whole than in 1929. Although towards the end of 1934 activity in the pulp and paper industry also rose above the 1929 average, other important industries such as iron and steel, motor-car manufacture, timber-sawing and flour-milling which weigh heavily in the general index were still much depressed.

The course of the composite index for the European exchange-control countries (curve *c*) largely influenced by Germany and also, although to a less extent, by Italy (*cf.* curve *i*) is largely determined — at any rate since the autumn of 1933 — by the Government measures taken to promote industrial recovery and to distribute work among the unemployed in those two countries. The policy of direct Government intervention in and control of the national industrial activity has, in fact, been applied to a larger extent in both these countries, and Germany in particular, than in any other European country except the U.S.S.R. With a view to maintaining the official exchange value of their currency at gold parity on the one hand and promoting greater self-sufficiency in manufacturing production on the other, both Germany and Italy have endeavoured to reduce their imports of consumers' manufactured goods¹ while increasing the imports of raw materials required for the expansion of manufacturing production for their national market.² Up to the middle of 1934, the recovery in general industrial activity in Italy lagged somewhat behind that in Germany; but, while the latter has since not risen further — by the first quarter of 1935 the German index was still somewhat lower than in June and July 1934, when it reached a point about 11% above its average level for 1929 — the former has continued its upward course, particularly during the early part of 1935. By April last, the Italian general index was in fact only 2% short of its average for 1929.

¹ On the other hand, it may be mentioned that their imports of capital goods for industrial use and of certain semi-manufactures, which in the summary classification of their trade statistics are included under the heading of manufactured articles, have increased in recent years as compared with 1932.

² Their exports of manufactured articles have, in fact, been heavily reduced in recent years in spite of the marked recovery in their general industrial activity reflected in curve *i* of the diagram.

The branches which had recovered most in Germany by the summer of 1934 were the automobile, non-ferrous metal, textile and boot-and-shoe industries, which, together with electric-power generation, had all a greater output than in 1929; but shipbuilding, engineering, construction industries and mining, which in general had suffered a greater decline in earlier years, were still considerably depressed, as was also the iron-and-steel industry, though not to the same extent. The latter, moreover, made some headway towards the end of the year and during the first quarter of 1935. This also applies to mining and pulp and paper manufacture, while there was a decline in most of the other important industries and textiles in particular.

The recovery in general industrial activity in Italy has been effectively supported, particularly in 1934, by a very marked expansion of the construction industries, including building and public works. Building activity, which by April 1935 stood over 30% above its average level for 1929, has been encouraged by cheap public credits and tax alleviations. Many other industries also have been directly or indirectly encouraged by special measures. For April 1935, the paper and artificial-silk industries and electric-power generation recorded an output far above the 1929 level. The output of specialised engineering products, electrical material, rolling-mill products and steel was likewise above or close to that year's level. On the other hand, shipbuilding, ordinary engineering, railway material and automobile production, cotton and natural silk manufacture still lagged considerably behind in recovery.

In Czechoslovakia, the third country of industrial importance included in group *e*, the fillip given to industrial activity by the 16.6% devaluation of the currency in February 1934 brought the production index (1929 = 100) from 59 in the preceding month to 71 in May of that year. But industrial activity has not risen further since; the index had in fact fluctuated, on a somewhat lower average level, up to April 1935. By that date, none of the principal industries covered by the index had as yet regained the ground lost since 1929 and most branches still remained much depressed.

In marked contrast with developments in practically all the countries examined up to this point, industrial output in the countries of the gold *bloc* considered as a whole (curve *e*) shrunk continuously from the summer of 1933 up to the end of 1934 to become virtually stabilised during the first quarter of 1935 at a level which, in the case of France (curve *k*), was practically equal to the lowest point reached in 1932. In the case of Belgium and the Netherlands, the decline was less marked, and in Poland the level of industrial activity was even somewhat higher in 1934 than during the latter part of 1933, but, compared with 1929, it still remains lower than in any other country for which indices are available. Thus, the deflationary pressure persists in all these countries and, indeed, almost without exception in all branches covered by their activity indices, though it is generally less marked in the industries producing goods for current consumption than in those producing capital goods.

It will be observed from the diagram 4 that, in the summer and autumn of 1934, a decided halt in industrial recovery took place in the leading paper-currency countries (except Japan) and the exchange-control countries, and that the decline proceeding since August 1933 in the European gold-standard group was precipitated. This general worsening of the industrial outlook would appear to have had at least some connection with the simultaneous developments in the United States (curve *d*), whose industrial output fell very rapidly as a result of extensive labour disputes (particularly in the iron-and-steel and textile industries) which adversely affected general business sentiment. After these disputes had been settled, however, and after the Congressional elections in November, a revival set in¹ which carried the production index in January 1935 well above the level it had reached in May 1934; but by April 1935 it had again receded to that level.

¹ It will be noted that a new advance in industrial activity occurred simultaneously in the countries of the "sterling *bloc*".

In last year's edition of this publication, attention was drawn to certain measures taken by the United States Government with a view to promoting industrial recovery (*inter alia*, by launching extensive public work schemes¹), and at the same time alleviating unemployment, improving the wage standard of those actually employed. The broad numerical results of the policy designed to spread employment among a larger number of workers by shortening the hours of work have been summarised on page 25 above, and are illustrated in somewhat greater detail in Table 5, Chapter III, which shows also the effects of this policy on average labour costs of industrial enterprise. Whatever the other merits which may be claimed for the various Government steps taken, their measurable positive results on the volume of industrial output as a whole have not as yet been very great. For the first quarter of 1935, the general index of industrial activity was on an average still some 25% below its level for 1929 and 12% below the highest point reached in 1933, immediately before the system of industrial codes entered into force²; it stood only 6-7% above the average level for the second half of 1933, the average for the whole year 1934 stood 5-6% below that level. While activity in no important individual industry, except tobacco and footwear manufacture, had by the first quarter of 1935 recovered to the level of 1929, other consumers' industries — such as textile (particularly woollen) manufacture, gasoline and rubber-tyre production and printing (though not paper production) — were not very far off that level. On the other hand, mining and most heavy manufacturing industries such as iron and steel and other metals, transportation equipment (in spite of a marked revival in automobile production) and cement fell very much short of pre-slump records. Building activity, which is not included in the production index of the Federal Reserve Board, was perhaps lower than that of any other major branch, though a certain revival was noticeable in March and April.

Before concluding this review of recent changes in the general industrial activity of individual countries, a brief reference may be made to industrial developments in the U.S.S.R. The results of the first Five-year Plan (covering in fact four and a-quarter years) were reviewed in the last edition of this publication. The purpose of that plan was in the first instance to create the equipment required for further industrial expansion — a purpose which was in fact largely achieved — and the efforts were therefore mainly directed towards production of capital goods. The second Five-year Plan covering the years 1933-1937 lays greater emphasis on the production of consumers' goods. Thus, against a planned increase over the whole of that period of some 104% (*i.e.*, an average rate of increase of roughly 15% per annum) in the case of the heavy industries, increases of 162% and 117% (about 21% and 17% per annum) are to be achieved in the case of food manufacture and other consumers' industries respectively. According to the general production indices available³, the actual production results of 1934 would appear to be close to the original plan for that year. Against a planned increase in industrial output as a whole during that year of 28.9% over 1932 — the last year of the first Plan — the actual increase is reported to have amounted to 28.7% (9% between 1932 and 1933 and 18% between 1933 and 1934). The output of capital goods increased by 33.6% (11% in 1933 and 20.4% in 1934) against 33.8% planned, and that of consumers' goods as a whole⁴ rose by 22.2%

¹ Of the \$3.7 milliard appropriated for that purpose in the budget for the last financial year, \$2 milliard had been actually disbursed by the end of 1934, and it is estimated that roughly a million persons had found employment in connection with the public work schemes.

New budget appropriations to a total amount of \$4.8 milliard have been provided for this year for the purpose of further extending public works and for direct relief payments. It is hoped that some three and a-half million unemployed will be brought back into the productive system as a result of these new appropriations.

² After the recent award of the Supreme Court (May 1935) implying that the Code legislation is unconstitutional, the system of industrial codes can no longer be legally imposed; but, pending its general revision, it continues to be applied voluntarily by most of the important industries.

³ Based on the hypothetical value of industrial output at the prices ruling in the year October 1926-September 1927.

⁴ Separate figures for food products and other consumers' goods are not available for 1934.

(6.5% in 1933 and 14.7% in 1934) against 23.3% originally planned for that period. During the remaining part of this five-year period, it is apparently intended to let the rate of increase of the capital industries slow down while accelerating that of the consumers' industries. The degree of realisation of the original Plan, which, moreover, is gradually modified and adjusted, varies of course from branch to branch, as may be judged from the following table showing for a number of the more important industries the actual output in 1932, 1933 and 1934 together with the planned output for 1934 and 1935.

Actual or Planned Production of Certain Industries in the U.S.S.R.¹

Products	Units of measure	1932	1933	1934		1935
		Actual	Actual	Actual	Planned	Planned
				(prov. data)		
Coal	Metric tons (000,000's)	64.4	78.0	93.7	96.8	112.2
Petroleum	" "	21.4	21.4	24.2	28.7	30.3
Pig-iron	" "	6.2	7.1	10.4	10.0	12.5
Steel	" "	5.9	6.8	9.6	9.8	11.8
Rolling-mill products	" "	4.2	4.9	6.7	6.6	8.2
Motor-cars	Number (000's)	24.0	49.7	72.5	72.0	92.0
Tractors	" "	51.0	76.9	114.8	115.3	126.7
Locomotives	Hp. Units	829	1,153	1,722	1,730	1,900
All machinery	Roubles ² (000,000's)	7,628	8,908	11,118	9,907	12,180
Electrical energy	Kwts. (000,000's)	13,540	16,366	20,520	19,000	24,900
Cotton fabrics	Metres (000,000's)	2,459	2,737	2,711	3,059	2,800
Boots and shoes	Pairs (000,000's)	79.5	77.4	69.2	67.5	77.0

It will be noted that, while the increase by 1934 in the output of all the heavy industries shown was indeed considerable, it fell short of the amounts planned for that year in the case of coal and petroleum, steel and locomotives; but the output was either equal to or exceeded the programme in the case of machinery as a whole, motor-cars and tractors, pig-iron and rolling-mill products. Of the other industries shown, electric-power generation in 1934 exceeded the Plan, as did also footwear manufacture, though it was very considerably smaller than it had been in 1932 and 1933, while the output of cotton fabrics was slightly smaller than in 1933 and fell considerably short of the original Plan for 1934.

PRICE OF CAPITAL.

It would fall outside the scope of this summary to attempt any detailed analysis of the numerous factors which have determined the course of industrial activity in each country. Reference should be made, however, to one important factor — the cheapening of credit and long-term capital in particular — which appears to have played an influential rôle in production recovery in certain countries. Special indices of the price of industrial capital alone are lacking for most countries; but the changes in the yield of first-class bonds (mainly Government issues) given in Table 11 below for the majority of the countries whose industrial activity has been reviewed above may be taken to reflect, at least approximately, the price trend for industrial long-term capital, notwithstanding the fact that the average cost of such capital throughout the period considered has undoubtedly ruled higher, in all countries, than the bond yields shown. In the case of the United States, France and Sweden, for which countries separate series relating exclusively or mainly to industrial bonds are available, these have been added. Series for market rates of discount, indicative of the cost of short-term capital, have also been added where available.

¹ According to Planovoie Khoziastvo 1/1935, Plan 1/1935, Sozialisticheskole Stroitelstvo U.S.S.R. Statistical Year-book 1934, Narodny Bank 4/1935 (Monthly Review).

² Including agricultural machinery, transport machinery and plant for production of electrical energy; value at 1926/27 prices.

The relative level of the price of capital in each country is, of course, determined by a multitude of factors relating, *inter alia*, to the economic structure, the general degree of economic and financial development and the organisation of the capital market. Even under more normal conditions, therefore, considerable differences obtain, particularly as between capital-exporting and capital-importing countries. But as industry may be presumed on the whole to have originally adapted itself to what it considers to be the more or less normal price of capital in each country, attention should be directed rather to the relative changes which have occurred in the course of the depression than to an international comparison of the different levels shown.

During the first two years of depression, the price of long-term capital fell but slowly, if at all — in Japan, Austria, and especially in Poland, it even increased between 1929 and 1931 and in Hungary at any rate between 1930 and 1931. On the other hand, it rose markedly in 1932, particularly in the first half-year, in all the countries covered by the table except the United Kingdom and the Netherlands. In those two countries, however, a considerable rise had occurred during the last quarter of 1931¹ and the yield of the securities shown receded gradually during 1932 from the level reached in that quarter. As may be seen from the special series given for the United States, Sweden and France, the rise in the effective long-term rates up to the second quarter of 1932 was much more marked for industrial than for Government loans. The movement of the market rates of discount during the first years of depression was similar to that of bond yields, though the drop in the former up to the autumn of 1931 was relatively greater, as was also their subsequent rise up to the first quarter of 1932.

Since 1932 and up to the early months of 1935, a fairly marked contrast in the movement of bond yields and also of market rates of discount will be observed between the small group of full gold-standard countries and the various other groups distinguished above. Whereas under the influence, *inter alia*, of the deflationary policy pursued in the former countries, both their long-term and their short-term rates have either risen since 1932, as has been the case in France, or have fallen off but moderately, as in the case of Belgium and the Netherlands, a very marked cheapening of the price of capital — greatly assisted by successful conversions of Government loans — has taken place during that period in the United Kingdom and Sweden, both being countries representative of the paper-currency group. It will be noted that the cheapening of long-term rates in Sweden has been particularly marked in the case of industrial loans. This is true also, though not in the same degree, of the United Kingdom, for which country the following annual figures are available:²

	Average Yield (%) on New Issues of:		
	Government loans	Industrial debentures	Preference shares
1913	4.77	5.50	5.74
1929	5.07	6.10	6.58
1932	3.72	5.44	6.32
1933	3.14	4.58	5.28
1934	3.14	4.48	5.00

In the other countries whose industrial activity expanded or recovered rapidly in 1933 and (at least part of) 1934, a simultaneous substantial decline in the price of capital is noticeable. Even in Germany and Italy, where the recovery in industrial output is chiefly to be attributed to special factors referred to above, the cheapening of credits has undoubtedly helped to render the operation of those factors more effective. It should be observed, however, that, in the latter country, the rates have again tended to rise since the autumn of 1934.

¹ In practically all the countries considered, the rise did in fact begin in that quarter when the international financial crisis consequent upon the previous banking developments in Central Europe reached its height.

² Cf. *The Economist*, February 2nd, 1935.

Whereas in the United States both bond yields and short-term market rates have fallen since 1932 as much as, or relatively more than, in the United Kingdom, the cost of long-term industrial credit would appear still to remain higher than in that country or in Sweden, though not as high as in France. Moreover, the average loan rate charged customers by the banks in the principal cities of the United States had still by 1934 been comparatively little reduced since 1932. This fact may, in part, have been responsible for the retardation of the general industrial recovery in that country since the latter half of 1933, while being itself in part a result of the deeper causes of a social or political order underlying the industrial developments during that period.

INDUSTRIAL PROFITS.

The cheapening of credit, while acting as a stimulus to recovery from depression, particularly as regards the output of producers' equipment — part of which becomes obsolete during a prolonged depression and requires to be replaced or modernised — and of investment goods in general, is an element of primary importance for the improvement of the profitability of industrial enterprise.

Comprehensive indices of industrial profits are only compiled or published for a limited number of countries, and those available are in no case strictly comparable as between countries. They are all subject to bias involved in the basic data, whether taken from tax returns or published balance-sheets whose informative value, especially for periods when industrial activity and prices change rapidly, depends very largely upon how assets are valued and losses written off. Different methods of capitalisation are employed in calculating the rates of earning, and where the net profits are calculated after deducting taxes changes in taxation affect the apparent rates of earning. The indices vary in comprehensiveness; an index referring to big companies alone may not be fully representative of the industrial system as a whole. Moreover, in addition to industrial companies proper, most of the indices available include in varying degree corporations operating in other fields of economic activity.

It follows that comparison cannot be made as between countries of the level of profits as shown by the indices available. The trend in profits in each country since 1929, as reflected by these indices, is nevertheless of significance. It should be observed that, as a result of the writing-down of the capital stock which has been effected in the course of the depression and which has in most cases been compensated only in part by the raising of new capital during the period of recovery, the rates of earning shown for recent years relate as a rule to a smaller nominal capital than to those shown for the earlier years considered.

The annual net profits and rates of earning of some 2,000 industrial concerns in the United Kingdom as compiled by *The Economist* are given below, together with an index

Years	United Kingdom			
	(a) Number of companies considered in columns (b) and (c)	(b) Net profits (after debenture pay- ments) £(000,000's)	(c) Ratio of profits to preferred and ordinary capital %	(d) Index of changes in the volume of profits
1929	1,932	198.8	10.5	100.0
1930		197.5	9.8	82.6
1931		175.0	7.2	65.0
1932		143.3	5.8	62.5
1933		144.8	6.1	72.3*
1934	1,975	168.8	7.2	...

* Provisional.

Note. — The number of companies whose reports are considered in the statistics of *The Economist* (columns (b) and (c)) changes, though not very considerably, from year to year; but as comparisons are made each year for identical companies in the preceding year the figures have been arranged in two-year groups. In the index shown in column (d) the difficulties involved in a comparison extending over more than two years have been overcome by means of the chain-linking method.

(calculated by Sir Josiah Stamp¹ on the basis of the reports summarised by *The Economist*) showing the changes in aggregate profits since 1929.

Up to 1932, net profits fell more heavily than the industrial output. Recovery became evident in the profit returns published during the third quarter of 1933 and those published during 1934 were the first in seven years to show an increase in each quarter. In spite of the marked recovery in profits visible from the 1934 reports (which in fact for a large part relate to "activity years" extending more or less far back into 1933) the ratio of the net profits divulged in these reports to the capital stock of the reporting companies still fell considerably short of the 1929/30 level. The index given in column (d), which is more directly comparable with that of industrial activity, will, when available for 1934, probably show a higher degree of recovery in the volume of profits than that suggested by the figures in column (c), though not as great as that in industrial activity. The time lag involved in the profit index should, however, be borne in mind. Moreover, while the activity index measures, in principle, changes in quantity, the profit index relates to values, the nominal level of which has been considerably lower in recent years than in 1929 in consequence of the fall in prices during the intervening period. These reserves equally apply to any comparison of the relative changes in profits and industrial activity since 1929 in the other countries considered below.

The series given below for the United States, according to the compilations of the National City Bank of New York (columns (a)-(c)) and the National Bureau of Economic Research (column (d)), confirm the fact, illustrated by the relevant production and employment data, that the violence of industrial depression up to 1932 was very much greater, and the degree of recovery (compared with pre-slump conditions) during subsequent years considerably smaller in that country than in the United Kingdom.

Years	United States.			
	(a) Number of corporations considered in columns (b) and (c)	(b) Net profits \$(000,000's)	(c) Rate of return on nominal capital	(d) All corporations in the U.S.A. Net income (or loss) before payment of income tax \$(000,000's).
1929	1,560	4,063	12.6	9,130
1930		2,246	6.3	1,960
1931	1,410	726	2.5	-2,850
1932		-105	(negative)	-5,200
1933	1,435	661	2.6	-2,110
1934		1,051	4.5	...

Note. — The figures have been arranged in two-year groups for the same reasons (applicable to columns (a)-(c)) as those indicated under the United Kingdom above.

The compilations of the National City Bank are based on published reports of manufacturing and trading corporations. In the main, they cover larger enterprises and are not therefore fully representative of industry as a whole. According to the details of the profit statistics compiled by the National Bureau of Economic Research on the basis of the tax returns of all corporations in the country, the net earnings of the larger enterprises were much less seriously reduced in the course of the depression (and the losses they sustained during the worst years were relatively smaller² than those of the minor enterprises. Thus,

¹ The original index of Sir Josiah Stamp has here been converted on to the basis of 1929 = 100.

² The largest concerns with a share capital of \$50 millions and over did not as a group suffer a net loss even in 1932.

although the net profits of the corporations considered in columns (b) and (c) above declined heavily in 1930 and 1931 to become negative in 1932, these series undoubtedly understate the decline in profits of industry as a whole, as may be concluded from series (d), showing a net loss for 1932 more than half as great as total net profits for 1929. That a very considerable recovery in industrial profits took place in 1933 and 1934 — reflecting not only the increase in the quantity of industrial output, but also, in part, the simultaneous rise in prices — is, however, unmistakable. Nevertheless, the series covering all corporations still indicates for 1933 an excess of losses (largely deferred from preceding years) over profits amounting to more than \$2 milliard. The net figure for 1934 is not yet available for that series.

In Japan, on the other hand, as suggested by the following figures compiled by the Mitsui Gomei Kaisha,¹ the amount of net profits and the rate of return on the nominal share capital of the reporting industrial enterprises, after a decline which started in the latter half of 1929 and proceeded through 1930, would appear since to have risen continuously (with the exception of a minor relapse in the latter part of 1931) to reach a higher level for the second half-year of 1934 than that which was reported for the first half-year of 1929.

Japan (1,000 industrial concerns).								
Half-years	Net profits	% return on share capital	Half-years	Net profits	% return on share capital	Half-years	Net profits	% return on share capital
	Yen (000,000's)			Yen (000,000's)			Yen (000,000's)	
1929 : I	302	9.8*	1931 : I	149	4.8	1933 : I	242	7.8
II	248	8.5*	II	139	4.5*	II	271	8.7
1930 : I	138	4.5*	1932 : I	168	6.2	1934 : I	299	9.2
II	123	4.0	II	192	7.1	II	327	10.1*

* Approximate.

Certain profit figures are available also for Germany, Belgium and Italy. These figures, which are compiled by the Institut für Konjunkturforschung,² the Belgian National Bank,³ and *La Borsa*, respectively, are reproduced below :

Germany 2,000 industrial concerns: Net profit or loss RM. (000,000,000's)	Belgium			Italy 260 corporations: Net profits as % of total capital
	Number of companies ³	Excess of total profits over total loss Fr. (000,000's)	As % of paid-up capital	
1929	5,719	5,796	20.2	10.8
1930	6,668	6,324	14.4	(4.0)
1931	7,091	4,358	8.8	5.8
1932	7,130	1,410	2.8	3.9
1933	7,062	789	1.6	6.3
1934	7,334	1,334	2.7	...

* Provisional.

It should be mentioned that the net profits of the 2,000 industrial concerns shown for Germany had in fact been declining since 1927, when they reached their maximum at RM. 3.3 milliard (1928 RM. 3.2 milliard). That the worst financial results are recorded for 1931 with a net loss of RM. 5 milliard may have been largely due to the sudden withdrawal of foreign credits and the drastic restriction in domestic credits consequent upon the banking crisis. Deprived of liquid working capital, industry was induced to restrict activity in order to compress current costs, with the result that the fall in output was enhanced in the following year, while the net loss was considerably reduced. The lack of

¹ Figures quoted in *The Economist*, London.

² *Vierteljahrshefte zur Konjunkturforschung*, 9 : 4 : A.

³ Figures covering all Belgian and Congolian companies publishing reports in the *Moniteur belge* in the course of each year considered ; *Bulletin d'information et de documentation*, Banque Nationale de Belgique.

working capital was subsequently made good to a certain extent by various Government measures, and as output for the internal market, where demand was revived as a result of the same measures, began to recover rapidly, the concerns here considered were enabled as a group to balance profit and loss in 1933 and in 1934 to realise a modest net profit provisionally estimated at somewhat over half-a-milliard Reichsmarks.

In net profit, the Italian corporations here considered also recovered in 1933 and this recovery undoubtedly continued in 1934, for which year, however, the aggregate profit figure is not available.

The figures shown for Belgium relate to all reporting joint-stock companies and are not necessarily quite representative; the profits of industry as a whole may have fared worse in the course of depression than the series given would appear to suggest. Further, it is not clear how far they represent net profits proper. It will be observed, however, that the profit figures which became available in the course of 1933, but which in fact relate largely, if not mainly, to activity in 1932, fell to a very low level to recover but slightly in the following year.

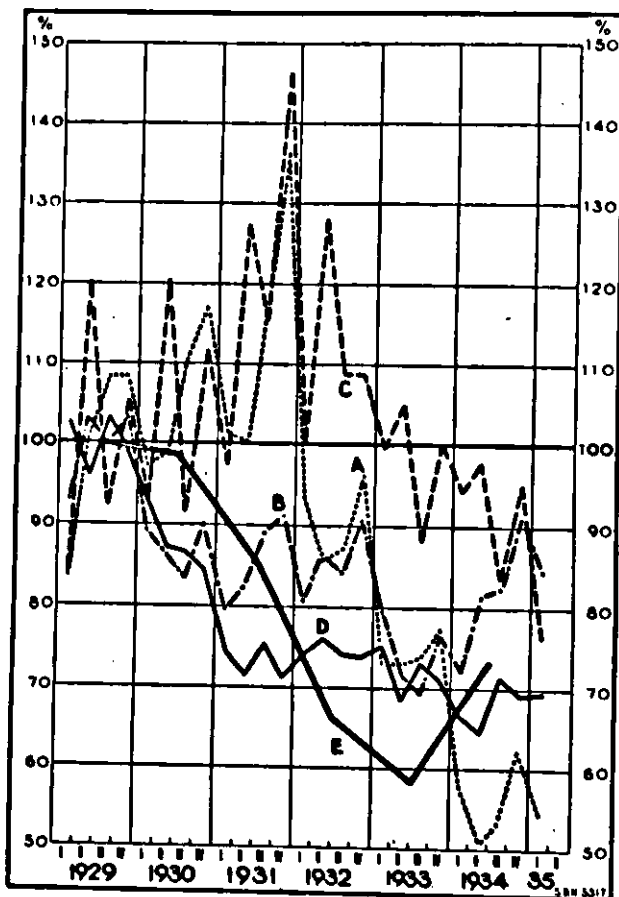
No aggregate profit index is available for Sweden, but the individual reports for 1934 of industrial enterprises compare favourably with those for 1929 as regards both the relative level and the absolute amount of the net profits shown.

ACTIVITY IN EXPORT INDUSTRIES AND HOME-MARKET INDUSTRIES.

Occasional reference has been made above to the inequality of decline and subsequent recovery in certain countries in the industrial production for export and for the internal market respectively. Separate group indices for export industries and home-market industries are only available for a few minor countries. An indirect approach to the study of this phenomenon is, however, attempted below by comparing the relative changes in the quantum of exports of manufactured articles with those in the manufacturing activity as a whole in the case of Germany,

Diagram 5. — Ratio of Export Indices (Manufactured Goods) to Production Indices (Manufacturing Activity). (Average for 1929=100.)

- A. Germany.
- B. France.
- C. Italy.
- D. United Kingdom.
- E. United States.



France, Italy, the United Kingdom and the United States. The results of this comparison are illustrated in Diagram 5, showing the relative changes since 1929 (= 100) in the ratio of the quantum indices of exports of manufactured articles to the indices of manufacturing production.¹

Quarterly indices of the quantum of trade in manufactured goods are only available for Germany, France, Italy and the United Kingdom. In the case of the United States, annual figures had to

¹ Mining, building and construction, electric-power generation and gas production, where included in the general indices of industrial activity, have been excluded for the purpose of this comparison.

be used. The scope of the indices of manufacturing production and exports respectively is, of course, not identical in the case of any of the countries considered. Thus, the ratios shown in the diagram cannot be taken to represent more than approximations. A fall in any of the curves indicates that the quantum of exports of manufactured articles has either shrunk more or increased less — during the years of recovery — than manufacturing production and, *vice versa*, a rise indicates that the former has shrunk less or increased more than the latter.

In order to facilitate the interpretation of the diagram, the annual averages of the indices shown are given below :

Table 12. — QUANTUM OF MANUFACTURED GOODS EXPORTED (QME) AND MANUFACTURING PRODUCTION (MP). (1929=100).

	Germany		Italy		France		United Kingdom		United States	
	QME	MP	QME	MP	QME	MP	QME	MP	QME	MP
1930.....	95.4	90.5	94.2	90.6 (91.8)	85.9	98.4	80.1	91.0	78.7	79.8
1931.....	86.7	76.8	97.3	80.2 (77.7)	73.6	86.3	59.7	81.7	57.5	67.2
1932.....	59.2	65.1	75.8	68.1 (66.9)	56.0	65.4	61.3	81.9	35.1	52.9
1933.....	54.8	73.5	72.3	73.6 (73.8)	57.1	77.6	63.4	87.9	36.8	63.0
1934.....	49.7	88.9	69.2	74.5 (80.0)	57.6	70.6	68.4	100.1	48.2	65.5
1935..... (1st quarter)	48.7	89.6	64.4 ^a	84.5 (89.7)	56.0	66.3	74.1	106.3	—	73.9

^a Series including building, etc., not considered in the diagram. ^b January and February only.

While both exports and production of manufactured articles declined up to 1932 in all the five countries considered, the brunt of the depression in France, the United Kingdom and the United States fell in the first instance upon the export industries, as is clearly illustrated in the diagram. The home-market industries in France appear to have continued to expand their activity in 1930. On the other hand, in Germany up to the end of 1931, and in Italy up to the middle of 1932, the export industries maintained a relatively much higher degree of activity than the home-market industries. But, as from the dates mentioned, far from partaking in the considerable revival denoted by the manufacturing indices for these countries, their production for export — and that of Germany in particular — has been subject to a rapid decline, reflected in the indices for their exports of manufactured articles. Thus, the industrial recovery in both Germany and Italy has been entirely confined to production for the home market.¹

The quantum of exports of manufactured articles from France has changed but little on an average since 1932. The revival in manufacturing production up to the middle of 1933 chiefly occurred in the branches producing for the home market, and this is equally true of the subsequent decline in activity up to the first quarter of 1935. Thus, the rather marked quarterly movement of the ratio between the two indices during 1933 and 1934 brought out in the diagram was due in the main to changes in production for the home market.

In spite of a marked rise in the exports of manufactured articles from the United Kingdom between the third quarter of 1932 and the first quarter of 1935, the percentage

¹ In the case of Italy, this fact stands out even more clearly if comparison be made between the export index and that of general industrial activity — including building, etc. — which is given in parentheses in the statement above. As already mentioned, the industrial recovery in that country has been effectively supported by the expansion of the building activity encouraged by various Government measures.

ratio of the export index to that showing manufacturing production tended to fall, though moderately.

In the United States, production for export continued to fare worse than that for the home market up to 1933. In 1934, the index of exports of manufactured articles rose much more rapidly than that of manufacturing production (annual average), owing mainly to a marked expansion in the exports of motor vehicles, the production of which, however, is chiefly concerned with the home market. But the exports of other manufactured articles also increased and it should be mentioned that, according to the value figures available, the exports of manufactures as a whole continued to rise during the first quarter of 1935 at a rapid rate by 10% compared with the quarterly average for 1934 and by 19% compared with the first quarter of that year.

In Finland, Norway and Sweden, special production indices are compiled distinguishing export industries (EI) from home-market industries (HMI) as shown below (base: 1929 = 100):

	Finland			Norway			Sweden		
	EI	HMI	Total	EI	HMI	Total	EI	HMI	Total
1930	94.7	88.1	90.8	98.4	102.4	100.8	96.6	97.2	96.4
1931	86.7	77.0	80.0	69.9	82.9	78.0	78.4	88.8	84.5
1932	93.8	77.0	83.3	95.1	91.1	92.7	66.4	86.9	79.1
1933	107.1	88.9	95.8	98.4	91.9	94.3	72.4	87.9	81.8
1934	124.8	98.4	110.0	104.1	98.1	100.2	84.5	108.4	100.0
1935 (1st quarter)	125.7	111.1	117.5	118.7	95.1	102.7	92.2	115.0	107.3

In Sweden, where manufacture for export is more diversified than in either Finland or Norway, the course of events has been not unlike that in the United Kingdom, though there is a time lag both in the decline and in the subsequent recovery of production for the home market. Sweden was in fact seriously affected by the depression about a year later than the United Kingdom. Moreover, the depression in the export industries would appear to have been less serious and the recovery in these industries had by the first quarter of 1935 proceeded much further in Sweden than in the United Kingdom.¹ Manufacturing production for the home market in Sweden, although its relative increase between 1932 and the first quarter of 1935 was slightly less than that of the production for export, has not only regained the ground lost since 1929 but has risen far above the level for that year.

Production in the Finnish home-market industries as a whole has increased less than in Sweden and that of the corresponding industries in Norway has not yet recovered to the pre-depression level. On the other hand, the output of both the Finnish and the Norwegian export industries — among which, however, the pulp-and-paper (in the case of Finland, also the timber) industries are of greater importance than in the case of Sweden — has risen far above the 1929 level. In Finland, the depression began in 1929. Compared with 1928 = 100, the Finnish export-industry index for the first quarter of 1935 stood at 120 and the home-market index at 110.

The recovery in the export industries of the northern countries, the United Kingdom and the United States, which contrasts rather markedly with the stagnation in France and the continuous decline in Germany and Italy, has undoubtedly been facilitated in a certain degree by the relative under-valuation of the currencies of the former in terms of those of the latter countries. This under-valuation of currencies, particularly of the

¹ The nature of the export and of the home-market industries respectively is of course largely different in the two countries. Indeed, while the textile industry — one of the most depressed in the United Kingdom — is an important export industry in that country, it constitutes a typical home-market industry in Sweden. On the other hand, the pulp-and-paper industry, which has fared rather well in recent years, is one of the most important export industries in Sweden, while being chiefly a home-market industry in the United Kingdom.

paper-currency group, has on the other hand afforded an increased protection of the home-market industries. In the United Kingdom, the direct Customs protection has, in addition, been simultaneously increased. The extent to which these particular factors, or any of the rather numerous other factors operative in the industrial recovery, may have contributed to the results here shown cannot of course be statistically established for any of the countries concerned.

ACTIVITY IN CAPITAL GOODS AND CONSUMPTION GOODS INDUSTRIES.

The statistical authorities compiling the national industrial indices here considered have endeavoured to an increasing extent in recent years to subdivide these indices according to the main purpose of the industries covered or the nature of the goods produced by them. Thus, distinctions such as those between "producers' and consumers' goods", "durable and non-durable goods", "investment and consumption goods", etc., have been introduced and sub-indices compiled accordingly. But the criteria applied in making these distinctions are far from uniform.

For the purpose of the present analysis, an attempt has been made, therefore, to calculate such sub-indices of the national general indices according to more uniform criteria so far as the information available regarding the different branches covered and the weights assigned to them in each case has permitted.

First, mining and similar primary stages of industrial production where covered by the national indices have been excluded as far as possible.¹

Secondly, the remaining branches of industrial activity considered in each case have been aggregated under three distinct headings, covering the industries which produce chiefly :

(a) Producers' investment goods, all "durable", such as industrial, agricultural, trade and transport equipment (mainly products of engineering, shipbuilding and construction, excluding dwellings) or semi-manufactures (mainly of the iron and steel, metallurgical, wood-working and cement industries) intended for ultimate transformation into equipment or investment goods in general.²

(b) Consumers' investment goods, all "durable" or "semi-durable", such as dwellings,³ private motor-cars,⁴ furniture, etc.

(c) Goods intended for more immediate consumption, all "non-durable", such as prepared foodstuffs, beverages and tobacco products, textile manufactures, clothing and footwear, rubber goods, paper and printing products, chemical products, gas and electric light, or semi-manufactures intended for ultimate transformation into such consumption goods.

The results of these calculations are shown in Table 13 in the form of annual averages since 1929 and quarterly averages since 1932 and are illustrated graphically in Diagram 6, which is drawn on the basis of monthly figures since January 1932. The year 1929 is taken as base period (average = 100) except in the case of Japan, for which country comprehensive data are only available in sufficient detail since January 1930. It should be mentioned that, according to a somewhat less comprehensive production index extending further back, the average level of general industrial activity in that country in 1930 was only about 5% lower than 1929.

The table covers all the countries for which it has proved possible — on the basis of the detailed data published⁵ — to calculate sub-indices of the kind referred to above or for which original

¹ They are in fact shown separately and have thus been excluded in all cases where they are of importance in the general indices of industrial activity.

² Semi-manufactures are in most national indices included as representative of production in later stages of manufacture, which is more difficult to measure and but incompletely recorded. A distinction of the semi-manufactures according to their ultimate utilisation for producers' investment goods on the one hand and consumers' investment goods on the other is not feasible, as they may equally well be utilised for both purposes.

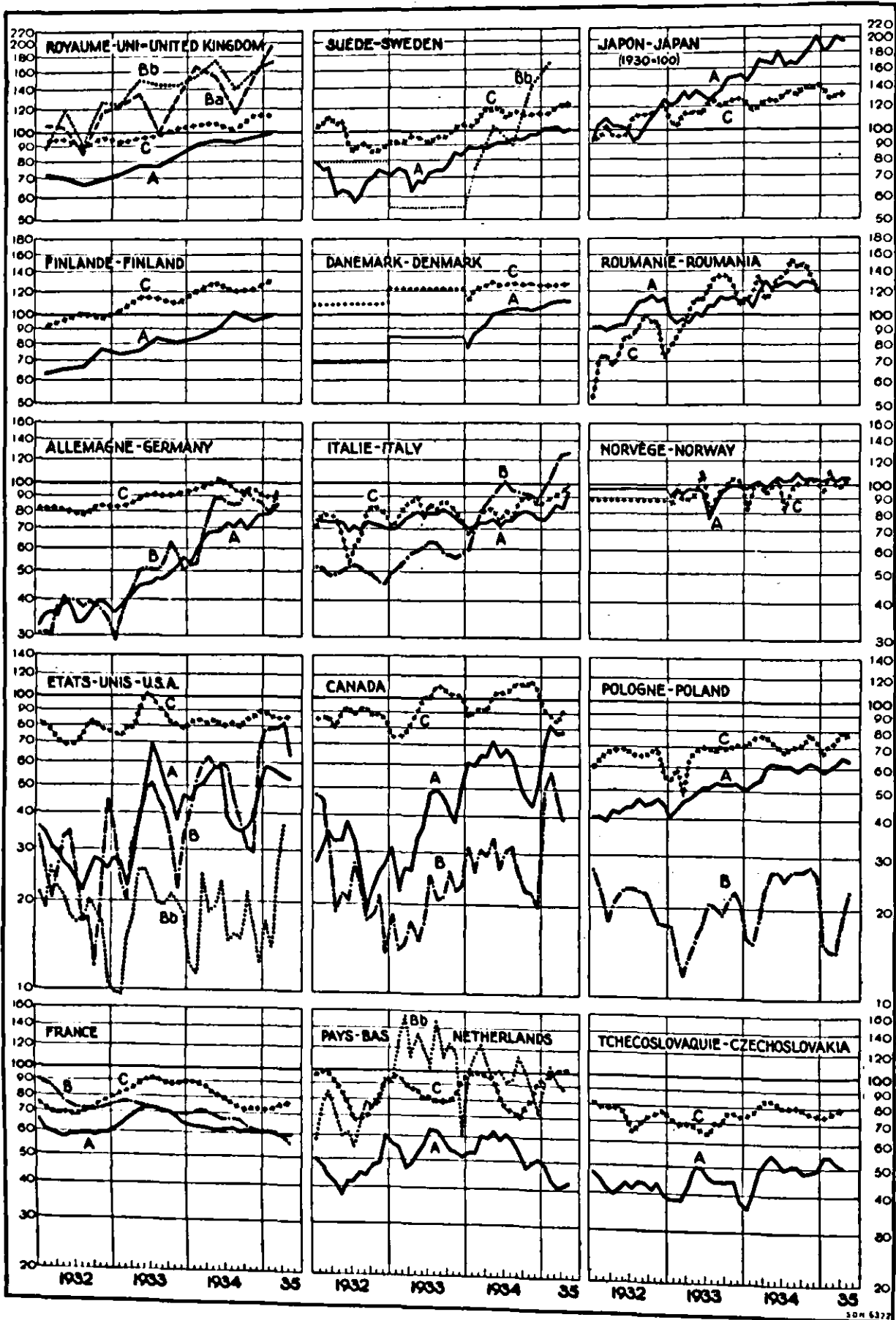
³ Buildings constructed for industrial and commercial purposes are, when shown separately, included under (a).

⁴ Lorries, tractors and autobuses are, when shown separately, included under (a).

⁵ Cf. *Statistical Year-Book of the League of Nations, 1934/35* (Geneva 1935), Table 98, which gives these data in fairly full detail.

Diagram 6. — MOVEMENT OF PRODUCTION OF INVESTMENT AND CONSUMPTION GOODS.
(Average for 1929 = 100; logarithmic scale.)

- A. Producers' Investment Goods.
- B. Consumers' Investment Goods.
- C. Current Consumption Goods.
- Ba. Automobiles only.
- Bb. Building only.



sub-indices are available which would appear to correspond more or less closely to one or the other of the industry groups there described. The detailed composition of the sub-indices shown for any of these groups is, of course, not identical for any two countries owing to differences both in the industrial structure of the countries considered and in the scope of the national production indices. Group (b), consumers' investment goods, is more incompletely represented¹ in these indices and is more difficult to distinguish than either group (a) or group (c). In the case of certain countries whose industrial production indices do not cover building, but for which special indices of building activity are available — e.g., Belgium, the Netherlands, Sweden, the United Kingdom² and the United States — those indices are given for purposes of comparison. This is done also as regards automobile production in the United Kingdom, which is not shown separately in the Board of Trade index, but for which a special index exists. In the case of the United States, the production of motor vehicles is shown as a separate item in the general production index and that of Poland includes building activity likewise shown separately. In the case of the other countries — e.g., Canada, France, Germany and Italy, for which sub-indices of activity in consumers' investment industries are shown in the table and the diagram — these indices cover both automobile production and building activity included in their general indices of industrial production.

Belgium and the U.S.S.R., for which countries monthly or quarterly production data comparable with their annual figures are not available, have been omitted in the diagram while being included in the table.

Table 13. — COMPOSITE INDICES OF PRODUCTION OF INVESTMENT AND CONSUMPTION GOODS.

P.I. = Producers' Investment Goods { A. = Automobiles only.
 C.I. = Consumers' Investment Goods { B. = Building only.
 C. = Current Consumption Goods

(Base : Average for 1929 = 100.)

Years	Japan		Canada			United States				Belgium			Czechoslovakia		Denmark	
	P. I.	C.	P. I.	C. I.	C.	P. I.	A.	B.	C.	P. I.	B.	C.	P. I.	C.	P. I.	C.
1929			100	100	100	100	100	100	100	100	100	100	100	100	100	100
1930	100	100	68.5	73.8	95.5	74.3	63.0	59.3	86.8	88.6	86.2	84.2	85.2	92.0	111.5	106.0
1931	91.3	100.1	39.5	48.8	94.6	48.9	44.4	49.1	85.2	79.4	91.6	74.7	70.6	87.1	93.6	105.4
1932	104.4	105.5	25.7	25.5	87.6	28.0	25.9	19.0	75.9	66.2	91.4	67.9	42.5	74.6	69.1	108.6
1933	134.4	117.6	31.6	19.4	93.4	42.4	35.6	18.8	84.1	68.1	90.8	66.1	43.0	70.1	84.1	121.3
1934	170.0	127.2	50.3	27.6	101.8	45.3	51.1	17.1	83.3	72.3	75.5	56.9	49.0	79.8	97.6	124.2
Quarters																
1932 I	101.8	96.9	31.4	41.7	85.5	33.4	26.6	22.2	79.3	.	.	.	44.6	79.3	.	.
II	102.1	96.3	34.5	20.3	87.3	27.2	31.3	20.2	69.4	.	.	.	41.5	78.1	.	.
III	96.3	111.7	25.8	25.8	90.9	23.5	19.7	18.1	75.9	.	.	.	42.7	67.4	.	.
IV	117.3	117.3	25.2	17.9	86.6	27.0	26.4	15.4	78.7	.	.	.	41.5	74.7	.	.
1933 I	126.0	108.2	26.7	15.6	74.4	25.9	26.4	11.4	72.8	.	95.6	.	38.0	69.9	.	.
II	130.7	113.5	32.2	16.7	89.9	40.0	39.0	23.2	89.6	.	107.8	.	47.4	67.1	.	.
III	131.0	123.3	47.9	22.3	106.9	60.3	45.4	20.7	94.5	.	93.1	.	44.9	67.8	.	.
IV	149.5	125.2	42.9	23.8	102.2	43.0	29.6	19.8	80.0	.	64.5	.	42.2	74.8	.	.
1934 I	156.3	118.1	61.8	29.4	90.1	48.4	51.1	16.1	83.3	.	75.1	.	42.0	76.9	84.0	118.3
II	170.6	124.6	67.1	29.9	99.8	57.2	60.3	20.3	83.2	.	90.7	.	54.4	83.6	98.0	126.4
III	164.4	130.2	61.7	29.4	108.9	36.4	46.9	15.1	80.4	.	75.5	.	50.4	79.7	103.7	126.4
IV	188.3	138.7	46.9	21.5	111.9	40.8	41.7	16.9	86.0	.	60.8	.	48.9	76.2	104.3	126.4
1935 I	189.1	129.4	78.8	50.4	88.1	57.3	78.1	19.5	86.5	.	74.6	.	53.9	75.9	108.5	125.9

^a Contracts awarded relating to floor space of residential buildings in thirty-seven States (F. W. Dodge Corporation).
^b Number of building permits (including rebuilding and alterations) in 114 towns and localities.

¹ In some cases, this group is entirely unrepresented in the national indices.

² In connection with the recent revision of the production index of the Board of Trade, data covering about 30% of the building industry in the United Kingdom have been included in that index, but the revision has so far been extended only back to the first quarter of 1934.

The rapid expansion in manufacturing production which characterised the pre-depression period had occurred chiefly in the investment or durable goods industries,¹ These industries were, up to 1932, as a rule more seriously affected by the depression, than were the industries producing goods for current consumption. The slump in the former class of industries in 1932 was particularly marked in the United States and Canada, Germany, Poland and Czechoslovakia. On the other hand, in Roumania — a country whose manufacturing industry is still in its infancy — the consumers' industries were more severely hit, and in Japan and Italy the branches manufacturing producers' equipment were not at any rate worse off than those producing consumption goods, though in the latter country the output of consumers' capital goods was heavily depressed. It is interesting to note that, in Japan, the Scandinavian countries and Finland, where the depression in industry was as a whole less serious than in most other countries, the output of consumption goods was in 1932 almost as large as or even larger on an average than it had been in 1929. Also, in the United Kingdom, the decline in the production of such goods was comparatively light.

The present analysis is chiefly concerned, however, with developments during the subsequent years of recovery. On the basis of the evidence afforded by the table and the diagram, the countries there included may be broadly divided into five groups, the countries within each group having at least some characteristics in common as regards the course of their industrial production of the different kinds of commodities here considered. These five groups are as follows :

- (1) U.S.S.R. and Japan.
- (2) The United Kingdom, Sweden, Finland, Denmark and Norway.
- (3) The United States and Canada.
- (4) Germany and Italy.
- (5) France, Belgium, the Netherlands, Poland and Czechoslovakia.

Roumania, which is also included both in the table and the diagram, does not fit into any of these groups and will be considered apart.

Group 1. — The course of industrial production in Japan in recent years has been not unlike that in the U.S.S.R. It is true that the rate of increase has been more rapid in the latter than in the former, particularly during the pre-depression period, as may be seen from Appendix II, Table 1; but it should be remembered that the Russian index measures the degree of expansion from an exceedingly low level. General industrial activity in Japan has been comparatively little affected by the world economic depression — in fact, only for two years (1930 and 1931) — while simultaneously a thorough reorganisation and modernisation of its whole industrial system has been undertaken. Full details regarding the production of investment and consumption goods in Japan are only available since 1930. On the other hand, the effects of the industrial reorganisation only began to show themselves towards the end of 1931. If these two years be taken either separately or combined as base period for a comparison of the Russian and Japanese indices here considered, the results (annual averages) are as follows :

	Base : 1930=100				Base : 1931=100				Base : Average 1930-31=100			
	Producers' investment goods		Current consumption goods		Producers' investment goods		Current consumption goods		Producers' investment goods		Current consumption goods	
	U.S.S.R.	Japan	U.S.S.R.	Japan	U.S.S.R.	Japan	U.S.S.R.	Japan	U.S.S.R.	Japan	U.S.S.R.	Japan
1930	100	100	100	100	—	—	—	—	100	100	100	100
1931	130	91	116	100	100	100	100	100	100	100	100	100
1932	152	104	129	105	117	114	109	105	126	109	110	105
1933	168	134	135	118	130	143	117	118	146	140	125	118
1934	203	170	155	127	156	186	133	127	179	178	143	127

¹ This statement applies to the principal industrial countries and thus to the world as a whole, but not necessarily to countries whose industrial system was still comparatively young and undeveloped.

It will be noted that the output of capital goods in recent years has increased as fast, if not faster, in Japan as in the U.S.S.R. In both countries the output of this class of commodities, consisting very largely of equipment required for the further expansion of their industry, increased faster than that of current consumption goods, but the disparity was wider in Japan, which manufactures consumption goods largely for export, than in the U.S.S.R., where special efforts are made under the new Five-year Plan (covering the years 1933-1937) to enhance the output of consumption goods, of which there is a great deficiency within the country.

As will be seen from the diagram, the disparity between the rates of increase in investment and consumption goods respectively has been steadily widening in Japan since the end of 1932. In the last quarter of that year, the average index numbers for the two classes of commodities were identical (*cf.* Table 13), but, by the end of 1934 and again in March 1935, the output of the former was double what it had been on an average in 1930, against an increase of 30-40% in the case of the latter class.

In Roumania, on the other hand, whose industrial output as a whole has grown as rapidly as that of Japan since 1932 (which, however, was a year of rather low industrial activity in the former country), the rate of increase has been much more rapid in the case of current consumption goods than in that of capital goods, for the supply of which Roumania has still to rely to a large extent upon foreign countries. This equally applies to other primarily agricultural countries with a young and rapidly growing industrial system, such as Greece and Chile, where manufactured capital goods are hardly produced at all either from domestic or imported raw materials or semi-manufactures and which have therefore been omitted in the table and the diagram.

Group 2. — The main feature emerging from the index figures and curves shown for the countries in this group (all members of the so-called sterling *bloc*) is the following: in so far as their general industrial activity has risen, in 1934 and 1935, above the average for 1929, this is chiefly due to the high level of their output of consumption goods.

While, in Denmark, the output of consumption goods remained considerably above the 1929 average throughout the depression period, it has exceeded that level in Finland since the beginning of 1933, in Norway — at least occasionally¹ — since the middle of 1933, and in Sweden and the United Kingdom since the last quarter of that year. By the first quarter of 1935, it ranged from 13% (United Kingdom and Norway — February 1935) to 31% (Finland) above the 1929 average. The very high level of the index for consumption goods in Finland is largely attributable to a rapid expansion in the output of newsprint and pulp for export; but, also in Denmark and Sweden, the index for consumption goods was remarkably high (27 and 22% respectively above the 1929 average).

The output of producers' investment goods, which had shrunk much more than that of current consumption goods during the course of the depression, has in fact recovered at a relatively faster rate since 1932 in all the five countries of this group. But, by 1934, it had risen above its 1929 level only in Denmark and Norway, while, in the United Kingdom, Sweden and Finland, it had only just reached that level by the first quarter of 1935. The increase during recent years in this class of commodities has been more continuous, however, than that in consumption goods in all the five countries. Thus gradual progress is being made towards a restoration of the pre-depression balance between the two classes of production; the temporary recession in industrial activity during the summer and early autumn of 1934 noticeable in the general indices for these countries (*cf.* Diagram 4 above) related almost exclusively to their output of consumption goods.

¹ The seasonal fluctuations in the output of consumption goods are particularly marked in the Norwegian index. There have also been labour disputes in various industries of that country during the period here considered.

The remarkable recovery in the industrial production of all these countries has been effectively sustained by a rapid revival of activity in the building trade.¹ For lack of adequate index numbers for Denmark, Finland and Norway, indices of residential building activity are shown only for the United Kingdom and Sweden in Table 13 and Diagram 6. It will be seen that a very rapid expansion in building activity has been going on in the United Kingdom since 1932. Judging from the annual averages given in the table, it had dropped below its 1929 level only in 1931 and by the first quarter of 1935 stood as much as 72% above that level. The Swedish building index for the same quarter was almost as high as the British after having risen steeply from the low level to which it had fallen in 1933² on account of a protracted and widespread labour dispute.^{3 4} The insistent demand for other kinds of consumers' investment goods in the United Kingdom is reflected in the index for the British production of private motor-cars, which, by the first quarter of 1935, had risen more than 100% above its 1929 average. Had special indices of production of wireless sets and various kinds of modern household implements such as refrigerators, aspirators, stainless-steel furniture and fixtures, etc., been available for that and the other countries of this group, they would probably all have shown a similar development.

Group 3. — The indices for the United States and Canada present a picture rather different from that of the sterling group. The average level of the United States output of consumption goods in 1934 and the first quarter of 1935, though higher than in 1932, did not exceed that of 1931. The short-lived rise to the 1929 level, with the sudden burst of general industrial activity in the summer of 1933, mainly served to replenish stocks which had previously run short. Though the Canadian output of the same class of commodities rose above its 1929 level during certain periods of 1933 and 1934, its average for the first four months of 1935 fell considerably short of that level.

The trend of the output of producers' investment goods (*i.e.*, excluding motor-cars) has been downward in the United States since the summer of 1933, but rising in Canada. On an average for the first four months of 1935, the production of this important class of goods — the backbone of the whole industrial system — amounted in the United States to less than 60% and in Canada to less than 80% of what it was in 1929. The index for the output of consumers' investment goods in Canada, the movement of which is chiefly determined by that in building activity (predominating in the index), remained at an extremely low level up to the end of 1934, as did also building activity in the United States. However, the revival in building which has so far taken place in both countries during the early part of 1935 may be expected, if it continues,⁵ to have favourable repercussions on industrial activity in general. The rapid recovery in the motor-car production of the United States, which was accompanied in 1934 and the early part of 1935 by an equally rapid and strikingly parallel recovery in Canadian motor-car production, would appear not to have exercised any lasting influence on general industrial activity, though it has no doubt contributed very largely to the rather erratic recovery in steel production.

Group 4. — Developments in Germany and Italy have one striking feature in common. The output of consumers' investment goods — the class of production which in both countries was most depressed in 1932 and the beginning of 1933 and which has been most directly encouraged by the employment creation measures, tax alleviation, etc.,

¹ Except in the case of Finland, where building activity has been slack in recent years in consequence of a record expansion during the years immediately preceding the depression.

² Only annual figures are available for Sweden prior to 1934.

³ This building trade dispute was largely responsible for the marked recession in the Swedish output of producers' investment goods during the second and third quarters of 1933: *cf.* Table 13 and Diagram 6.

⁴ A further discussion of building developments in these and other countries will be found below.

⁵ The building index for Canada, which, in February 1935, reached 47% of its 1929 average, had again by April dropped to 23% of that level. This movement may, however, be chiefly seasonal.

referred to above — has in both countries increased the most, though far more in Italy since the beginning of 1934 than in Germany.

On the other hand, the policy of employment creation would appear to have exercised a more marked influence on producers' investment goods in Germany than in Italy, where the index for this class of commodities has risen comparatively little since 1932 and particularly since the late summer of 1933.

The Italian output of goods for current consumption, which, however, is subject to rather wide fluctuations, has on an average risen considerably more than that of capital equipment (particularly railway material and ships) without yet reaching its level for 1929.

The German production index for consumption goods (which stood 6% lower in 1929 than in 1927) exceeded its 1929 level in the second quarter of 1934, thus reflecting an increase in output which was largely consequent upon the increased demand created by the granting of loans to newly married couples. The subsequent rather marked decline up to March 1935 resulted in the main from curtailment of the supply of imported raw materials, particularly for the textile and footwear industries.

Group 5. — The countries in this group are all, except Czechoslovakia, members of the gold bloc.¹ An inspection of Table 13 and Diagram 6 will show that the output of consumption goods in these countries was but little higher in 1934 than it had been in 1932² and, compared with 1929, it was indeed lower in all these countries except the Netherlands than in any of the other countries considered above. This general observation equally applies to the output of producers' investment goods, which, in the first quarter of 1935, only amounted in the Netherlands to 44%, in Czechoslovakia to 54%, in France and Poland to 60% and in Belgium probably³ to some 66% of the 1929 average.

The production of consumers' investment goods in France, which was rather well maintained until the beginning of 1932, has since fallen continuously and stood in the first quarter of 1935 at practically the same level as that of producers' equipment. Building activity in Poland has been extremely depressed ever since the beginning of 1932. In Belgium and the Netherlands, on the other hand, a very marked revival in building activity occurred in the beginning of 1933, when the Dutch building index in particular rose very considerably above its 1929 average. It is difficult to judge how far the rise in the Dutch output of producers' investment goods up to the middle of 1933 may be attributed to this revival of building activity. It will be noted, however, from the diagram that, although the fluctuations in the building index are very much wider than those in the index for producers' goods, there has been a certain correlation in the subsequent downward movement of both indices.

BUILDING ACTIVITY.

The activity in the building trade may deserve a more concentrated survey than that afforded by the scattered observations made above with reference to a few countries only. In Appendix II, Table 14, a compilation has been made of the various annual indices of building which are available for some thirty countries in the different parts of the world. Reference should also be made to the monthly indices of building activity in some fifteen countries given in Table 1 of the *Monthly Bulletin of Statistics* of the League of Nations.

These various indices should be used with great caution. They are generally not directly comparable from country to country and, where several indices are available for one and the same country, they are sometimes in apparent contradiction to each other. They are based on widely different criteria and vary much in scope, as may be seen from the detailed notes accompanying that

¹ Belgium dissociated itself from the gold bloc only at the end of March 1935.

² In the case of Belgium, it was even lower in 1934 than in 1932.

³ Judged on the basis of the movement of iron and steel production alone, as no more comprehensive monthly sub-index for this class of commodities is available for Belgium.

table. Business fluctuations are on the whole more closely reflected in the indices based on building permits delivered than in those referring to buildings completed or under construction. Distinction is not always made between residential buildings and those intended for industrial, commercial or administrative purposes, though the trend of construction activity may be very different for these various classes of buildings. In each particular field of building, special factors may be operative which have little apparent relation with general business trends. If, however, in a period of protracted depression, activity in residential building revives, this fact may be taken to imply an improvement in the prospects of the industry in general.

An inspection of the tables referred to above will show that a boom, particularly in residential building, was under way during 1934 or the early part of 1935 in Australia, South Africa, Chile, the United Kingdom, Denmark, Norway, Sweden, Greece and Roumania, all countries in which general industrial activity has risen more or less considerably above the level for 1929.

Also, in Italy, whose industrial production (apart from building), though it is still considerably below its 1929 level, has improved of late, a very marked expansion in building activity has been going on since the early part of 1934. Reference has been made above to the special character both of the Italian building boom and of the less-marked recovery in building which has taken place in Germany since the beginning of 1933 and which has in fact related chiefly to non-residential building.

Among countries whose indices point to a more modest recovery in building activity in 1934, the Argentine, Canada, New Zealand, Finland, Poland and Spain may be mentioned. In the United States, no appreciable improvement—apart from a slight revival in non-residential building—was noticeable until February and March 1935 when, however, as shown in Diagram 6, the index for building permits delivered rose perceptibly. On the other hand, in France, Belgium, the Netherlands, Switzerland and Czechoslovakia, building activity contracted in 1934.

The factor which has been chiefly instrumental in the building recovery where it has taken place would appear to be the cheapening of long-term capital, to which detailed reference has been made above. Judging from available indices for costs and volume of building, the interest factor seems to have exercised a more marked influence on the trend of residential building in particular than has the reduction in all the other elements of building costs taken together. Building costs as a whole have, indeed, fallen much less in countries such as Denmark, Sweden and the United Kingdom, which now experience building booms, than in those where activity still remains much depressed or is declining. This does not of course preclude that a rise in costs, such as that which has taken place in the United States since 1933, constitutes a serious obstacle to a revival in the building activity. A further discussion with graphical illustration of various points here referred to will be found at the end of Chapter III.

C. REVIEW OF PRINCIPAL BRANCHES OF PRIMARY AND MANUFACTURING PRODUCTION.

In Table 14 below are given the world indices of primary production for thirteen commodity groups for the years 1925 to 1933, together with provisional indices for 1934 for most of these groups. The figures in parentheses given in the text column show the share of each group in total world production of primary commodities.

Individual indices of the world production of each of the commodities comprised in the above groups and the continental production indices for each commodity group will be found in Appendix I, Tables 2 and 3.

Table 14. — GROUP INDICES OF PRODUCTION IN THE WORLD AS A WHOLE, WEIGHTED BY 1930 VALUES.
(Average 1925-1929 = 100.)

Groups of products	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Cereals and other food crops (36.9)*	99	98	99	103	101	103	101	104	103	96
<i>Of which Cereals (25.1)*</i>	100	99	99	103	100	102	99	104	102	92
Meat (22.7)*	*95	*97	*101	*104	*105	*106	*105	*105	*106	*110
Wine and hops (1.5)	109	79	96	109	107	92	101	106	97	117
Coffee, tea, cocoa (1.2)	87	89	98	112	114	111	104	114	115	93
Tobacco (1.7)	101	99	98	98	105	109	107	92	100	...
Vegetable-oil materials (3.3)	95	94	104	100	106	102	105	102	105	96
Textiles (7.3)	96	101	94	103	106	104	105	98	109	106
Rubber (0.3)	80	95	93	100	131	125	121	107	129	154
Wood-pulp (1.1)	85	94	99	104	117	114	104	99	111	...
Fuels (11.4)	93	93	102	102	110	102	92	84	89	96
Metals (9.5)	88	91	99	106	116	95	72	52	65	79
Non-metallic minerals (1.6)	87	93	101	106	113	109	95	77	80	88
Chemicals (fertilisers) (1.5)	88	86	94	112	120	112	83	76	84	...
General index (100)	95	96	99	104	106	103	98	96	99	99

* Excluding production in China (apart from Manchuria).

* Provisional indices subject to revision.

In Table 15 are shown world indices of secondary production of some of the principal manufacturing industries. These indices cover, or are representative of, the physical volume of world production of each industry. The production of pig-iron, crude steel and wood-pulp, in the absence of more direct data, is also included in the world index of primary production.

Table 15. — INDICES OF WORLD PRODUCTION OF CERTAIN MANUFACTURING INDUSTRIES.
(Average 1925-1929 = 100.)

Industry	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Brewing *	97	97	99	101	106	101	89	79	79	80
Textile manufacturing :										
General *	91	96	106	101	106	92	93	93	103	104
Cotton *	97	103	101	102	98	87	88	96	99	...
Wool †	90	99	104	101	107	105	105	103	113	95
Artificial silk	62	71	98	122	146	142	165	177	257	304
Saw mills *	93	94	105	103	106	92	72	62	77	85
Wood pulp	85	94	99	104	117	114	104	99	111	...
Paper	87	93	99	106	114	107	99	91	100	110
Coke-ovens	89	89	100	105	119	103	79	65	74	84
Iron and steel	88	91	99	106	116	92	67	49	65	78
Rolling-mills †	89	92	99	106	115	89	65	46	60	72
Motor vehicles	95	98	82	102	123	81	59	39	52	73
Shipbuilding	95	72	97	116	120	125	70	31	21	42
General index of manufacturing activity *	91	94	99	105	112	99	89	78	89	97

* Provisional indices.

* Excluding the United States and certain other countries.

* Index compiled by the Institut für Konjunkturforschung (Berlin).

* World cotton-mill consumption; years ending 31.VII of following year.

* Consumption in the nine principal wool-manufacturing countries.

* Exports of sawn and planed softwood from the principal exporting countries.

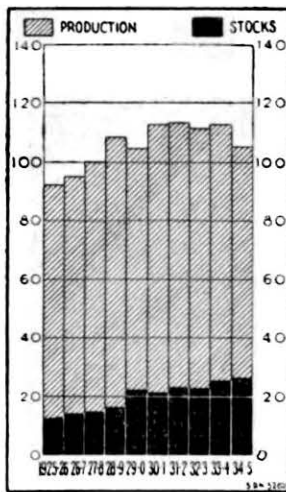
* Six principal producing countries.

* Index calculated by the Economic Intelligence Service of the League of Nations.

National annual indices of activity in most of the above industries, as well as in a number of others for which world indices are not available, will be found in the various tables of Appendix II, and quarterly indices in the subsequent text tables.

Note on diagrams. — The diagrams given in this section with reference to those individual products for which sufficiently comprehensive data are available fall into three main divisions: "supplies", "consumption" and "production". The diagrams illustrating "supplies" show (in black) stocks at the beginning of the year¹ plus annual production (shaded part) and thus illustrate, not only the total amount of supplies available each year, but also the movement of stocks; they also indicate the ratio of stocks to total supplies. The diagrams illustrating "consumption" show the apparent world consumption of certain commodities. The diagrams illustrating "production" alone are only given for a few industries in the case of which the stocks would appear unimportant.

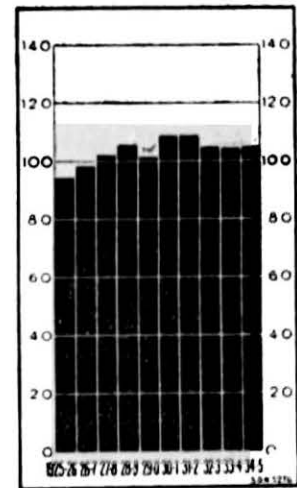
Diagram 7 A.
WORLD SUPPLY
OF WHEAT.



The indices given are based on the average for 1925-1929 = 100. In considering the changes in the production, consumption and stocks of important commodities, reference should also be made to the analysis of international trade in these commodities contained in a companion volume.²

All figures for 1934 (1934/35) are provisional and are marked with an asterisk (*).

Diagram 7 B.
WORLD CONSUMPTION
OF WHEAT.



CEREALS AND OTHER FOOD CROPS.

Wheat. — The world wheat situation in the crop year 1933 (1933/34) was less satisfactory than in any other year of the decade under review. Abundant crops, particularly in the importing areas, and unprecedentedly large stocks combined with stagnating consumption and dwindling trade to depress prices. The market was alleviated to an appreciable extent in the course of 1934-35, owing

to a heavy curtailment of production and consequent reduction in stocks. Meanwhile, however, consumption and trade tended to continue their downward trend.

The aggregate world crop of 1933 (1933/34) was the third largest on record — inferior only to those of 1928 and 1930 — while that of 1934 was the smallest since 1929. It is customary, however, to consider the variations in the world wheat situation excluding the U.S.S.R., China, Turkey, Iran and Iraq, and including only net exports from these countries in the "current supplies". The development of the "world" wheat situation in this limited sense will appear from the diagrams above, and further from the following figures :

	Aver.	1928	1929	1930	1931	1932	1933	*1934
<i>World (excluding U.S.S.R., etc.) :</i>	1925-1929	1928/29	1929/30	1930/31	1931/32	1932/33	1933/34	*1934/35
Area (million hectares) ³	95	99	98	101	98	99	98	95
Crops (million metric tons)	97	107	94	102	101	102	99	90
Current supplies ⁴ (million metric tons)	97	107	95	105	103	102	100	90
Apparent consumption (million metric tons)	95	100	96	103	103	99	98	98
Season-end stocks (million metric tons)	21	26	25	27	27	30	31	†24

†Forecast.

¹ In the case of most agricultural products, the crop begins on August 1st or October 1st.
² *Review of World Trade, 1934*, League of Nations (Geneva 1935), pages 51-60: "Trade in Certain Staple Products".
³ Up to 1933/34, area harvested; in 1934/35, area sown.
⁴ By "current supplies" are meant crops, excluding the U.S.S.R., China, Turkey, Iran and Iraq, plus net exports from these countries.

The extraordinarily light crop of 1934 — 6% below the average pre-depression level and the smallest since 1924 — was a result of the wheat restriction scheme applied in the United States and of the severe drought which curtailed output practically throughout the Northern Hemisphere and Oceania. The damage caused by the latter factor was, however, rather unequally felt in different parts of the world. The distribution of the world crop among the three main groups of countries — viz., the four major exporters (Canada, the United States, Argentina and Australia), the “Danubian exporters” (Hungary, Roumania, Yugoslavia and Bulgaria), and “importing Europe” (rest of Europe, excluding three other exporters: viz., Poland, Lithuania and the U.S.S.R.) — will be seen below (metric tons, 000,000's):

	Aver.	1928	1929	1930	1931	1932	1933	*1934
	1925-1929	1928/29	1929/30	1930/31	1931/32	1932/33	1933/34	*1934/35
“Four major exporters”	44.4	54.5	38.5	47.8	45.3	44.7	34.6	31.2
“Danubian exporters”	8.3	10.0	8.2	9.6	10.1	6.0	10.0	6.7
“Importing Europe”	28.5	26.6	29.2	24.9	26.4	33.0	35.2	32.4

Apparent world consumption (“disappearance”) has remained at a low level in the two last years under review. The economic depression in conjunction with differential prices of wheat, maintained at a high level by means of import barriers and Government price fixing, has operated against an increase, or for a decrease, in the consumption of the European importing countries. However, consumption in the Danubian countries rose in 1933/34 so that the total European consumption was the highest in a decade. This was, however, more than offset by a decline in the use of wheat in the United States — chiefly for feeding purposes — and in the imports into China. In 1934/35, according to forecasts, total consumption recovered but little in the United States and the Far East, and shrank both in the Danubian countries and importing Europe considered as a group.¹

World stocks reached a high peak on August 1st, 1934, but the drop of production was drastic enough to cause a reduction estimated at about 25%² by August 1st, 1935. This is, however, still 25% above the average pre-depression level and far above what is considered as normal.

The U.S.S.R. reaped record harvests in both 1933 and 1934, but their exports remained much lower than before, especially in the season 1934/35.

The International Wheat Agreement of August 25th, 1933, has not yet exerted any decisive influence upon the developments referred to above. Unequal weather conditions changed the relative position of the exporting countries considerably; Argentina reaped a bumper harvest in 1933/34 and much exceeded her export quota; the United States became in 1934/35 a net importer of wheat for the first time for at least seventy-five years. On the other hand, the initial estimate of the world's import demand proved somewhat high, owing, not only to heavy crops, but also to changed commercial policies. Thus France, despite a reduction in crop in 1934, required and obtained an export quota under the international plan and actually exported more wheat in the 1934/35 season than any other European country. China — the second largest importing country in 1932/33 — imposed an import duty on wheat in 1933 which was increased in 1934.³

Wheat is at present grown in nearly all countries with some sort of Government protection or subsidy. During 1933-1935 wheat and flour exports have been subsidised — with the notable exception of Canada — to an unprecedented extent. Nevertheless, the total volume of the world's wheat trade has, since the middle of 1933, been at a level characteristic of the first decade of the twentieth century.⁴

¹ Cf. Food Research Institute, Stanford University, *Wheat Studies*, Vol. XI, Nos. 4 and 9.

² May 1935.

³ In June 1935, it was announced that the restrictions laid down for exporting countries in the Agreement of 1933 were virtually suspended.

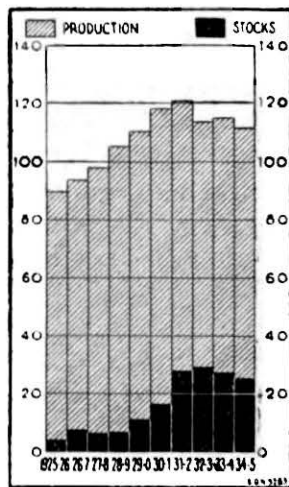
⁴ Cf. *Wheat Studies*, loc. cit.

Maize. — The world crops of maize, the principal fodder cereal, decreased between 1932 (1932/33), the peak year, and 1934 (1934/35), from 125 million metric tons to about 92 millions, or by 27%. This decline, more drastic than that of any other cereal, was due chiefly to the United States, whose share in world crops fell from about 60% on the average for 1925-1929 to little more than 38% in 1934. Although unfavourable weather over the "Corn Belt" had already reduced the 1933 crop in the country, production of maize and pigs far exceeded the demand, and prices collapsed. The Agricultural Adjustment Administration therefore launched in August 1933 an emergency scheme to restrict output and early in 1934 a more permanent scheme, known as the "Corn-Hog Programme". The acreage restriction, however, reduced the maize crop far less than did the drought, which ravaged the maize region more than the wheat areas. Dollar prices attained higher levels than at any time since the onset of the depression, and the income of maize and pig producers rose. In Europe, both the areas under maize and the crops during the quinquennium 1930-1934 have been considerably above the average for 1925-1929. Unfavourable weather, however, reduced the 1933 crop heavily; despite a slight decrease in the area in 1934, the crop reaped was second only to the record of 1932. The crops of Argentina in 1932/33 and 1933/34 failed in part; but in 1934/35 the area under maize was increased and weather conditions were in general favourable. Visible stocks of maize at the principal centres reached their peak in the beginning of 1934, but have since declined considerably.

Rice. — The world rice crop has averaged in the years 1930/31 to 1934/35 about 4.3% above the average for 1925/26 to 1929/30. The crop decreased from 90.5 million metric tons in 1933/34 to about 86 millions in 1934/35, the smallest crop since 1927. The greater part of this drop was due to Japan, where the crop, owing to unfavourable natural conditions, was smaller than in any year since 1913/14. Crops appear to have diminished also in the two other important importing areas — viz., China and India. On the other hand, most exporting countries reaped average crops, although the crops in Burma were below the average, so that exportable surpluses were lower. The Far East rice market thus improved during 1934/35.

Sugar. — World production and consumption of sugar have shown a tendency towards an adjustment since 1932/33, and the heavy stocks accumulated in previous years have steadily

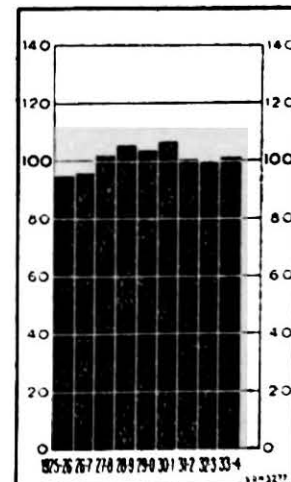
Diagram 8 A.
WORLD SUPPLY
OF SUGAR.



declined. Meanwhile the growing self-sufficiency of the importing countries has continued, the free market has been further narrowed, and countries with exportable surplus have had to cope with a difficult situation. The effects of the restriction of output in these countries under the international agreement concluded in 1931 (known as the "Chadbourne Plan") were, up to 1934, largely offset by an increase in most countries outside the agreement.¹

The striking changes which have taken place in the world sugar situation during recent years will be seen from the figures below. The "controlled area" comprises Germany, Belgium, Hungary, Poland, Czechoslovakia, Yugoslavia, Cuba, Mexico, Peru and Java.

Diagram 8 B.
WORLD CONSUMPTION
OF SUGAR.



¹ The Chadbourne Agreement will expire on September 1st, 1935.

	Aver. 1925/26- 1929/30	1929/30	1930/31	1931/32	1932/33	1933/34	* 1934/35
Quintals (000,000's)							
<i>Output from:</i>							
Controlled area	113	121	110	86	62	59	62
Uncontrolled area	125	136	152	156	156	167	162
<i>Thereof:</i> British Empire . . .	35	37	42	45	50	54	56
U.S.A. and dependen- cies	31	35	36	40	42	49	35
U.S.S.R.	9	10	15	15	8	10	14
Other countries	50	54	59	56	56	54	57
World, Total output	238	257	262	242	218	226	224
<i>Thereof:</i> Cane sugar	160	172	158	162	146	145	136
Beet sugar	78	85	104	80	72	81	88

Some of the general tendencies prevailing from 1929/30 to 1933/34 were reversed in 1934/35. Output from the "controlled area" showed a slight increase, just offset by a decrease from the "uncontrolled area". The advance in the first group was mainly attributable to Germany, Poland and Czechoslovakia. Output in Cuba, despite a slight increase in 1934/35, was about half of the average for 1925/26 to 1929/30, and that of Java attained a new low point, less than a fifth of the pre-depression average. It may be added that the Government of the Netherlands Indies decided early in 1935 to reorganise the Java sugar industry and to reduce the potential capacity by about half, which will necessitate the permanent closing-down of a number of estates and factories. The output of the United States and dependencies dropped considerably owing to the drought and the sugar adjustment programme adopted in May 1934. This programme aimed at stabilising both the continental and insular sugar industries by means of processing taxes and marketing quotas, including one for imports from Cuba.

World consumption reached a low point in 1932/33, but increased slightly both in 1933/34 (1.2%) and 1934/35 (forecasted as 4.5%). It has thus exceeded production, which has remained near its low point of 1932/33 during the last two years under review. As a matter of fact, world visible stocks reached their peak, 92.4 million quintals, in April 1932, and fell off to 57.8 millions in October 1934 (see Appendix I, Table 6).

Amongst the few countries which in 1934/35 were producing sugar without State assistance in one form or another were Java, Peru and San Domingo, which together provide not more than 5% of the world's current output. The so-called "free" market for sugar, which around 1930/31 amounted to 6 million tons, absorbed in 1934/35 less than 3 millions out of a total world demand of about 26 millions.¹ The existing surplus of sugar has remained large in relation to this contracted "free" market and has constituted the chief obstacle to a definite improvement in world sugar prices.

MEAT.²

Estimated production of meat in the world remained practically stable during 1929-1932, increased slightly in 1933 and reached its peak in 1934. If, however, the U.S.S.R., whose output has been probably much reduced during 1930-1933, is considered apart, it will be found that the remaining meat production has shown a steady upward movement throughout the period of depression,

¹ The "free" market consists of the import requirements of the United Kingdom, India, China and other Eastern countries and a number of small countries producing little or no sugar of their own. Cf. *Report of the United Kingdom Sugar Industry Inquiry Committee* (Cmd.4871), London 1935.

² The meat-production index is largely conjectural in character, for comprehensive slaughter data are lacking for a number of countries. The index given for the world comprises beef, veal, pig-meat (pork, bacon, etc.) and mutton and lamb in roughly the following proportions (averages relating to the period 1925-1929): beef 35%, veal 10%, pig-meat 44%, mutton and lamb 11%. Poultry is not taken into account. For statistics of slaughtering, see the *Statistical Year-Book of the League of Nations, 1934/35*, Table 18.

1930-1934. The aggregate output in 1934 probably reached a level some 10% above the average for 1925-1929. The major part of the increase in 1934, however, was due to an exceptional cause — viz., the emergency slaughterings in North America as a consequence of the prolonged drought during the summer of 1934, which caused a shortage of fodder and pasture. But the total meat output of Europe also rose more in 1934 than in the immediately preceding years, an expansion in which the U.S.S.R. had a considerable part.

The general trend since 1925, in most countries characterised by declining beef and veal production and increasing pig-meat, mutton and lamb output, appears to have been reversed in the last year or two. In the world, excluding the U.S.S.R., the output of all these classes of meat products rose in 1932, but beef and veal more than the others; in 1933 and probably also in 1934, beef and veal production continued to expand, while pig-meat, mutton and lamb production fell. The increase in the beef and veal supplies in 1932 was due to Europe (excluding the U.S.S.R.) mainly, but in the subsequent two years North and South America also increased their production. Europe and North America taken together account for about 90% of the world's total pig-meat; the drop in the production of the former during 1932-1934 more than offset the increase in the latter. The world's supplies of mutton and lamb appear to have declined somewhat in recent years, both in Europe and Oceania, the main producing areas.¹

The above changes have been caused by various factors. The growth of dairy-farming has tended to interfere with cattle-raising. The variations in the wool market have tended to increase the proportion of dual-purpose sheep. Schemes of controlling the production of pig-meat have been applied in recent years in several countries. The heavy curtailment of pig production in Denmark, the Netherlands and in Poland, the chief exporters of pig products, has not been fully offset by increases in the former importing or self-sufficient countries in Europe. The "Corn-Hog Programme" applied in the United States in 1934, together with drought, resulted in the reduction of the number of pigs by as much as 20 millions from a total live-stock of 57 millions existing at the beginning of the year. The regulation of meat imports by the chief importing markets, while not checking the increase in total supplies, has resulted in some changes in the channels of supply; in particular, the restrictions imposed by the United Kingdom, by far the largest import market, upon imports of non-Empire meat have reacted in favour of Canada, South Africa and Oceania.²

The consumption of so perishable a commodity as meat tends to coincide with production. Stocks of meat are negligible in relation to total output. There is little doubt, therefore, that the aggregate consumption of meat has been well maintained and even increased during recent years, largely, no doubt, because meat prices have fallen more than the prices of many other foodstuffs.

DAIRY PRODUCE.

Dairy produce represents a very considerable proportion of the total quantum and value of agricultural production.³ Milk probably takes precedence of any other single primary product as a source of the farmers' income. The statistics available, however, are not sufficiently comprehensive to permit the inclusion of dairy produce in the index of world production, but information is available for a number of countries which, taken together, may afford a fair sample of this branch of production.

Dairy-farming. — The available data relating to the chief primary product of dairy-farming, milk, are summarised in Table 16. Notwithstanding the limited scope of the table, a tentative index of the known total production has been compiled. The U.S.S.R. has been excluded from this index owing to the lack of data for years following 1930.

¹ Owing to the fact that the U.S.S.R. accounts for a large part of the world slaughterings of sheep (over 25% in 1930) and that no recent information is available for that country, the world mutton and lamb index is still more conjectural in character than the other meat indices. In the world, excluding the U.S.S.R., mutton and lamb output increased still in 1932, but fell subsequently.

² In the beginning of 1935, the Dominions concerned, in agreement with the United Kingdom, imposed temporary restrictions upon exports of meat to the United Kingdom.

³ Cf. *World Production and Prices, 1925-1933* (Geneva 1934), Chapter I, Table VIII.

Table 16. — PRODUCTION OF MILK.

Country	Hectolitres (000,000's) *							Average 1925-1929 = 100.					
	Average 1925-1929	1929	1930	1931	1932	1933	*1934	1929	1930	1931	1932	1933	*1934
Germany	*204.0	206.8	217.4	229.1	235.2	240.0	...	101	107	112	115	118	...
Belgium	*27.7	28.3	28.7	28.9	30.1	30.5	...	102	104	104	109	110	...
Denmark	45.4	48.8	52.2	54.0	53.2	52.3	...	107	115	119	117	115	...
Estonia	5.9	6.3	7.4	7.9	7.9	7.7	7.8	107	125	134	134	131	132
Finland	21.7	19.5	21.6	22.0	22.0	21.5	...	90	100	101	101	99	...
Greece†				(1.8)	(1.9)	(2.6)	...						...
Norway	*11.3	*11.0	11.9	*12.0	12.2	*12.3	...	*97	105	*106	108	*109	...
United Kingdom ^b	61.5	63.6	64.1	64.8	66.7	69.0	70.3	103	104	105	108	112	114
Switzerland	26.2	26.1	25.3	25.2	27.0	28.1	...	100	97	96	103	107	...
U.S.S.R.†	(302.6)	(286.3)	(257.7)	...	...	...	...	.	.	.	.	.	.
Canada	63.9	63.1	66.6	69.4	70.0	70.6	71.7	99	104	109	110	110	112
United States . . .	*420.0	438.8	438.7	448.6	448.2	450.1	...	104	104	107	107	107	...
Chile†	*(2.0)	.	(2.7)	...	...	...	...	.	(135)	.	.	.	.
Uruguay† . . . . .	.	.	(1.6)	(1.6)	(1.7)	(1.8)	...	.	.	.	.	.	.
Japan	1.4	1.6	1.7	1.8	1.9	...	...	114	121	129	136	...	...
Australia	36.4	37.3	37.7	42.3	47.2	49.1	...	102	104	116	130	135	...
New Zealand	29.0	33.6	33.7	35.0	40.4	*44.0	...	116	116	121	139	152	...
Total	954.4	984.8	1,007.0	1,041.0	1,060.0	*1,077.0	...	103	106	109	111	113	...

† Series not included in the totals. * Partly estimated.

^a Where the original statistics are given by weight, an average specific gravity of 1.031 has been assumed. — ^b Calculated from the index of the London and Cambridge Economic Service. — ^c 1927.

The main point which emerges from the table is that dairy-farming remained practically stationary between 1925 and 1929, but has expanded more rapidly than other chief branches of agriculture since the onset of the world economic depression. If the United States, which represents over 40% of the known total production, is excluded, it will be found that milk production exceeded the average for 1925-1929 by 17% in 1933.

These increased supplies of milk have generally tended to outstrip demand at the prices ruling. In practically all countries, various milk-marketing schemes have been adopted with a view to regulating and maintaining prices. These schemes have generally resulted in the diversion of more milk into butter and cheese production.

Dairy Industry. — The development of the dairy industry is illustrated by the indices given in Table 17. The series for the United States and Australia are official composite indices of dairy produce. The basic series from which the other indices have been calculated refer, in the case of a number of countries, to intakes of milk by dairy or milk factories or to milk employed for "industrial purposes"; in that of others, to production of butter and cheese (butter only in that of Belgium, Denmark, Latvia, Irish Free State, the U.S.S.R. and Uruguay); and in that of Japan, to butter, cheese and condensed milk.

The expansion of the dairy industry has generally been more rapid than that of dairy-farming. The table brings to light considerable differences in the development of the dairy industry in the different countries, particularly during the latest years under review. All the importing countries have restricted imports by increased tariffs and quotas. The exporting countries, with the exception of New Zealand and, since the end of November 1934, Denmark, have in turn resorted to various schemes of export bounties. As a result, home-market prices in most countries have been maintained at a level much above that of "world" prices.

Table 17. — INDICES OF PRODUCTION OF MILK PRODUCTS.
(Average 1925-1929 = 100.)

Country	1925	1929	1930	1931	1932	1933	*1934
Germany ^a	.	.	(100)	(88)	(88)	(93)	...
Belgium ^b	.	(100)	(101)	(103)	(107)	(116)	...
Denmark	*93	111	118	121	116	115	113
Estonia	66	128	144	149	134	107	...
Finland ^c	.	(113)	(124)	(129)	(124)	(116)	...
Irish Free State ^d	.	(109)	(106)	(94)	(94)	(104)	...
Latvia ^e	64	133	165	168	166	140	140
Luxemburg	80	114	127	131	153	156	...
Norway	92	107	112	121	127	131	...
Netherlands	90	106	107	105	99	102	102
Sweden	84	116	126	126	125	128	...
Switzerland	95	93	85	82	108	121	122
U.S.S.R. ^f	.	.	.	(155)	.	(221)	(233)
Canada	104	94	101	113	111	111	115
United States	95	105	106	108	108	106	104
Argentina	106	89	106	123	123	...	...
Chile ^g	(83)	.	(154)	...	...	...	...
Uruguay ^h	.	(129)	(219)	(226)	(264)	(277)	...
Union of South Africa	91	120	140	140	136	122	...
Southern Rhodesia	94	97	120	124	133	111	98
Japan	85	109	156	125	120	...	...
Australia	104	101	104	113	121	131	...
New Zealand	86	118	121	125	149	160	...

* Partly estimated. ** Base : * 1930 ; * 1929 ; * 1928. * Exports of butter. * Base : 1927.

WINE, BEER AND ALCOHOL.

Wine. — The total area under vines has remained fairly stationary during recent years, and the average annual vintages of 1925-1929 and 1930-1933 were practically equal, about 168 million hectolitres. The vintage of Europe, however, increased — mainly owing to favourable climatic conditions in France — from 133.9 million hectolitres in 1933 to 160 millions in 1934, which nearly equalled the previous record reached in 1925, and North Africa reached in 1934 a record with 25 million hectolitres. Wholesalers' stocks in France increased by 62% in the course of 1934. In the United States, where federal prohibition was abolished in December 1933, production of wine increased from 734,000 hectolitres in 1933 to 2,860,000 in 1934, and consumption from 88,000 to 663,000 hectolitres.¹

Beer. — The two main raw materials of beer — barley and hops — are included in the index of primary production (see Appendix I, Table 2). An attempt has been made to compile statistics of world production of beer.² Although data available for several countries in Latin America, Africa and Asia are still rather incomplete, it is believed that the following figures give a fairly accurate

¹ Official communication. Consumption of wine per head of population amounted to 0.5 litre in 1934; this may be compared with 212 litres for France, 70 litres for Italy, 3.3 litres for Belgium and 1.13 litre for the United Kingdom.

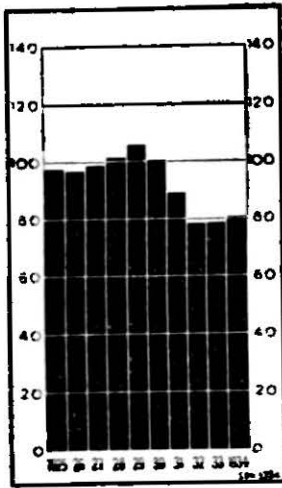
² Cf. *The Statistical Year-Book of the League of Nations, 1934/35*, Table 35.

picture of the general development of the world's brewing industry (in hectolitres, light malt liquor excluded, 000,000's) :

	Average 1925-1929	1929	1930	1931	1932	1933	1934
Europe (incl. U.S.S.R.) . .	158.4	165.2	155.8	136.7	120.9	120.5	122.8
North America	2.5	3.0	2.9	2.7	2.4	13.3	46.1
Oceania	3.9	3.9	3.6	3.0	2.7	2.8	...
Total (incl. other countries)	169.6	180.0	170.6	151.5	133.3	144.9	180.0

The sharp increase in the production of North America in 1933 and 1934 is of course due to the modification of the federal prohibition in respect of beer and its subsequent abolition.¹ The figures, however, somewhat overstate the actual increase, as some amount of illicit beer was brewed during the prohibition period. For this reason, the known world production of beer is illustrated in the diagram opposite, excluding the United States. As international trade in beer is negligible in relation to total output and beer cannot be kept in stock for any length of time, production may be taken as roughly representative of consumption.

Diagram 9.
KNOWN WORLD
CONSUMPTION OF BEER
(EXCLUDING U.S.A.).



The consumption of beer has generally proved to be sensitive to changes in purchasing power, and it is often taken as an index of general economic conditions. The known total consumption of beer in fact shows the same annual variations as the general business cycle, although within rather narrow limits. It is, however, noteworthy that consumption in 1934 was but slightly above the depression levels. In many individual countries, too, beer consumption reflects fairly closely the recent economic changes. In respect of individual countries, however, it should be noted that beer consumption varies, not only according to changes in purchasing power, but also according to changes in taxation, in wine-growing countries according to changes in the wine crop and generally according to changes in consumption habits. The countries where consumption fell off in 1934 were Belgium, Bulgaria, Estonia, France, Italy, the Netherlands, Sweden and Yugoslavia.

Alcohol. — The total production of ethyl alcohol consists of : (a) alcohol distilled from cereals, rice, potatoes, as well as from sugar and molasses ; (b) alcohol distilled from sulphite leach, a by-product of the sulphite cellulose industry ; (c) alcohol contained in liquor distilled from fruit ; (d) alcohol content of wine, beer, etc. Methyl alcohol is obtained from wood by the dry distillation process. Statistics relating to the production of alcohol generally cover groups (a) to (c) of ethyl alcohol and methyl alcohol, but the data relating to (c) are often only rough estimates or excluded. Alcohol distilled is used for two chief purposes : viz., (i) for the preparation of distilled liquor or spirits ("potable alcohol"), and (ii) for power purposes and as raw material for various industries — e.g., vinegar, dyestuffs, etc. ("industrial alcohol"). As all alcohol produced is not at once absorbed by these two channels of consumption and as the statistics relating to production and uses are sometimes established by different bodies, the sum of alcohol used does not correspond to total production. The statistics relating to alcohol are thus rather complicated and are not available for all countries. Table 18 is therefore confined to those among the important producing countries for which statistics are available.

It will be seen that, while consumption of potable spirits has undergone a drastic reduction during the depression, the use of industrial alcohol shows a striking upswing. Thus, much the greater part of alcohol distilled in Europe and North America is at present being absorbed by industry. This marked change is largely due to the increased use of alcohol in many European countries for power purposes,² with a view to assisting agriculture.

¹ In 1934, the total consumption of beer in the United States was 37.4 million hectolitres, or 29.7 litres per head of population. The latter figure may be compared with 176.6 for Belgium, 76.9 for the United Kingdom, 52.0 for Germany, 42.7 for Czechoslovakia, 32.0 for France.

² Cf. section on "Sources of Energy" below.

Table 18. — PRODUCTION AND USE OF ALCOHOL.
In terms of Pure Alcohol.

Country and Series	Hectolitres 000's							Average for 1925-1929 = 100					
	Average 1925-1929	1929	1930	1931	1932	1933	1934	1929	1930	1931	1932	1933	1934
Germany: Production ^a	2,298	3,243	2,882	2,569	2,253	3,003	3,567	141	125	112	98	131	155
Potable	755	872	480	443	394	498	...	116	64	59	52	66	...
Industrial	1,537	1,960	1,616	1,609	2,145	2,557	3,139	128	105	105	140	166	204
Belgium: Production	220	251	231	193	167	162	189	114	105	88	76	74	86
Potable	92	125	129	111	92	49	...	135	140	120	100	53	...
Industrial	99	67	54	55	61	81	82	68	55	56	61	82	83
France: Production ^b	1,976	2,522	3,072	3,450	...	...	...	128	156	175	...	...	...
Potable ^b	1,498	1,551	1,618	1,599	...	...	...	104	108	107	...	...	...
Industrial ^c	964	1,094	1,456	1,835	...	...	...	114	151	190	...	...	...
Hungary: Production	350	378	463	371	236	...	...	108	132	106	67	...	...
Potable	171	186	199	89	40	71	...	109	116	52	23	42	...
Industrial	70	77	177	185	162	163	...	110	253	264	231	233	...
Italy: Production	474	509	489	420	450	373	...	107	103	89	95	79	...
Industrial	237	285	343	340	366	315	...	120	145	144	154	133	...
Poland: Production	664	729	878	664	422	269	450	110	132	100	64	41	68
Potable ^d	446	482	373	278	228	251	260	108	84	62	51	56	58
Industrial ^e	106	116	137	155	109	118	205	109	129	146	103	111	193
United Kingdom: Production ^f	1,563	1,849	1,610	1,384	1,411	2,145	2,357	118	103	89	90	137	151
Potable	595	556	530	460	455	443	429	93	89	77	77	75	72
Industrial	537	730	768	846	1,011	1,501	1,538	136	143	157	188	279	286
Czechoslovakia: Production	580	624	708	645	740	968	969	108	122	111	128	167	167
Potable	245	252	240	217	185	147	135	103	98	89	76	60	55
Industrial	260	292	297	306	322	796	768	112	114	118	124	306	295
Canada: Production ^g	457	764	764	422	323	198	291	167	167	92	71	43	64
Potable	116	168	167	140	112	68	72	143	143	120	96	58	62
Industrial	136	145	144	159	125	162	...	107	106	117	92	119	...
United States: Production	6,985	7,601	7,262	6,284	5,562	4,524	7,697	109	104	90	80	65	110
Potable . . . . .	...	...	...	...	...	148	1,448	...	...	...	...	...	...
Industrial ^h	6,985	7,601	7,262	6,284	5,562	4,376	6,249	109	104	90	80	63	90

Sources: National official statistics.

^a Year ending September 30th. — ^b Including an estimate of alcohol content of spirits produced free of duty. — ^c Including stocks held by wholesale dealers. — ^d Sales of alcohol for consumption and for technical and medical uses. — ^e Years ending March 31st following year given. — ^f Year ending March 31st. — ^g Alcohol produced at industrial alcohol plants.

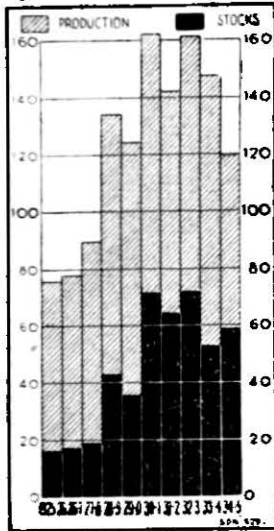
COFFEE, TEA AND COCOA.

Coffee. — The year-to-year changes in world supplies of coffee mainly reflect variations in the Brazilian crop, and their subsequent reactions on stocks which have been moderated in recent years by the large scale destruction of coffee in Brazil. Production outside Brazil, on an average one-third of world total, has increased, but consumption of these so-called "mild" coffees has generally kept pace with production.

In Brazil, production ¹ appears to have risen steadily from 1925/26 to 1933/34, subject to minor

¹ Completely revised production statistics for Brazil are given in the *Statistical Year-Book of the League of Nations, 1934/35*, Table 29.

Diagram 10 A.
WORLD SUPPLY OF COFFEE.



setbacks in some years; the total increase during this period amounted to no less than 100%, while in the world as a whole it was only 60%. Consumption would appear to have expanded up to 1930/31, but on a very much more moderate scale, and to have since remained below that point. As a result large stocks, representing at one time nearly eighteen months' supply at the current rate of consumption, were accumulated (see Appendix I, Table 6). However, the 1934/35 crop in Brazil is the lightest of the past decade and consumption shows some improvement. These developments are brought out by the following figures (quintals 000,000's).

The following estimates of consumption do not cover the deliberate destruction of stocks of low-grade coffee in Brazil, initiated in 1931, which by the end of January 1935 had eliminated 21.4 million quintals (35.6 million bags).

		Average 1925/26-1929/30	1930/31	1931/32	1932/33	1933/34	*1934/35
Production :	Brazil	12.4	16.3	13.0	15.4	17.8	8.6
	Other	7.2	12.7	7.4	8.2	7.2	7.4
	World	19.6	24.0	20.4	23.6	25.0	16.0
Consumption ¹ :	World	13.5	15.1	14.2	13.7	13.8	14.1
End-of season stocks :	World	9.7	16.9	18.9	13.8	15.4	...

Diagram 10 B.
WORLD CONSUMPTION OF COFFEE.

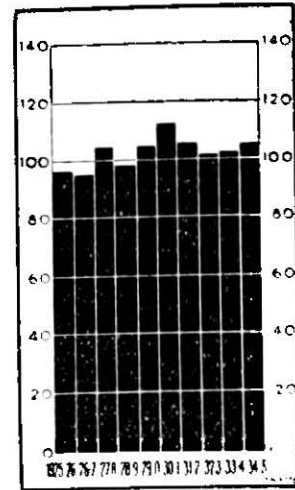
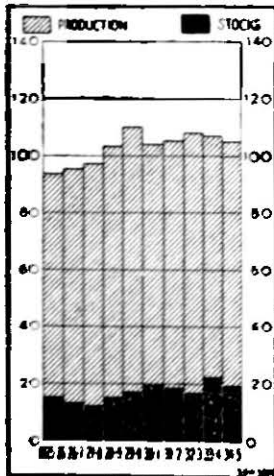


Diagram 11.
WORLD SUPPLY OF TEA.



Tea. — The tea regulation scheme, embracing India, Ceylon and the Netherlands Indies, came into force on April 1st, 1933. World production of tea, including exports from China, decreased from 4.9 million quintals in 1932 to 4.5 millions in 1933, but increased somewhat in 1934. The export quota adopted by the agreement countries for the year ending March 31st, 1934, was fixed at 87.5% of the standard of 3.7 million quintals. This proved somewhat high, while exports from countries outside the regulation scheme, especially from China and Japan, increased. On the other hand, consumption in the British Empire, which absorbs over 70% of world exports of tea, failed to expand, and shipments to other markets fell off in 1934. As a result, the downward movement of stocks in London and Amsterdam, which occurred after the restriction agreement, was reversed during 1934, and on April 1st, 1935, they were but little less than two years earlier (see Appendix I, Table 6). The International Tea Committee reduced the export quota to 82.5% of the standard for the commercial year 1935/36.

Cocoa. — The current supply of cocoa² reached 6.1 million quintals in 1933, which was a record, 18% above the average for 1925-1929, and dropped in 1934 to 5.8 millions, or by 6%. The decline in the Gold Coast alone was larger than this, but it was partly offset by increases in the Ivory Coast, French Cameroons, etc. According to trade estimates,³ world consumption would seem to have

¹ Estimates published in the *South-American Journal* (London), January 27th, 1934, and January 26th, 1935.

² Somewhat more than half of these supplies refer to crops in the year ending September 30th of the year stated, the rest to exports, mainly in calendar years.

³ Estimates of the *Gordian* (Hamburg).

increased between 1932 and 1934 by 13%, while total end-of-year stocks, including invisible stocks in both exporting and consuming countries and stocks afloat, increased from about 4.5 million quintals in 1932 to 5 millions in 1934. Visible stocks in European ports and New York passed their peak in the middle of 1934 (see Appendix I, Table 6).

TOBACCO AND TOBACCO MANUFACTURE.

*Raw Tobacco.*¹ — World tobacco crops during the decade under review reached their peak in 1930, when they amounted to 24.2 million quintals, and their low point in 1932, with 20.4 million quintals. An increase in 1933 was followed, according to the incomplete information available, by another drop in 1934. India has replaced the United States as the largest tobacco grower of the world; these two countries taken together produce more than half of the total tobacco supplies. The acreage in the United States was reduced through Government intervention² by 24% in 1934 and the crop declined by 20.5% in the same year. The chief tobacco countries of the Caribbean (Cuba, Dominican Republic, Puerto Rico³) have much reduced, while the South-American countries (particularly Brazil) have considerably extended, their tobacco-growing during recent years. The combined crops of the Near East⁴ were in 1934 as much as 37% below the average level of 1925-1929.

Tobacco Manufacture. — The quarterly indices of the tobacco manufacturing industry shown in Table 19 below reflect changes in the factory consumption of raw tobacco in the countries given. But they do not always afford an accurate picture of the changes in consumption of manufactured tobacco, as several of the countries given export a certain proportion of their output. This proportion is considerable in the case of the United Kingdom, the world's largest exporter of manufactured tobacco,⁵ but small, for instance, in the case of the United States. The index for the Netherlands, however, refers to domestic consumption.

In general, output of manufactured tobacco has fluctuated in sympathy with the cycle of economic conditions. Thus it increased in 1933 and 1934 in countries where conditions improved and purchasing power rose, but not elsewhere. In the United Kingdom, production increased between the years 1933 and 1934 by more than 10%, while exports rose by 7%.

Table 19. — QUARTERLY INDICES OF TOBACCO MANUFACTURES.
(Average 1925-1929=100.)

Country	1930	1931	1932	1933				1934				1935
	Average of quarters			I	II	III	IV	I	II	III	IV	I
Germany.....	111	84	95	89	109	103	105	100	116	115	123	107
Belgium.....	121	120	109	107	92	101	98	89	99	98	93	87
Greece.....	95	93	87	93	93	93	94	94	94	95	102	93
Italy.....	106	91	89	87	80	87	85	85	80	84	84	76
Netherlands ^a	120	121	122	121	125	133	132	128	125	128	122	123
United Kingdom...	118	112	109	106	116	114	116	122	124	124	128	118
Czechoslovakia....	88	89	87	96	87	78	95	84	86	83	87	78
Canada.....	123	110	92	98	95	103	103	100	110	112	115	117
United States.....	111	104	94	92	111	100	92	109	109	107	109	112
Chile ^b	103	78	100	109	103	91	94	103	100	106	107	104

^a Year ending June 30th.
^b Approximate consumption index, calculated by weighting the indices for cigarettes, cigars and pipe etc. tobacco by the relative values of these products in 1930.
^c Base: 1927-1929.

¹ For detailed statistics, see the *Statistical Year-Book of the League of Nations, 1934/35*, Table 33.
² The Kerr-Smith (Crop Restriction) Act of June 28th, 1934.
³ The American production adjustment scheme also applies to Puerto Rico.
⁴ Bulgaria, Greece, Roumania, Turkey and Yugoslavia.
⁵ In 1930, exports were 15% of the total output of manufactured tobacco.

The production of manufactured tobacco has, however, varied within rather narrow limits. On the other hand, the amount of money spent on smoking materials has undoubtedly been subject to wider variations than the quantities consumed. There has been a distinct shift during the depression in favour of cheaper tobacco products. It should be noted, however, that consumption of manufactured tobacco is affected, not only by variations in purchasing power, but also by changes in taxation and changes in taste.¹

VEGETABLE-OIL MATERIALS.

The total supplies of vegetable oils and vegetable-oil materials would appear in 1934 (1934/35) — after a long period of comparative stability, at or above the average pre-depression level — to have fallen by over 9% to the lowest point reached since 1926 (1926/27). A drop of over 16% in the output of Asia, where about half the supplies originate, was mainly responsible for this decrease, although also Europe and North America showed declines. Vegetable-oil materials and one of their chief products, margarine, met with the competition of increased supplies of whale oil² and butter. Steps were taken in some European countries to discourage imports of vegetable-oil materials, one of the objects being to favour butter against margarine.

The marked drop in the output of vegetable oils and oil materials during 1934 (1934/35) was chiefly attributable to olive oil, cotton-seed (smallest crop during a decade) and ground-nuts; but exports of palm and palm-kernel oil were of record size in 1934.

TEXTILES: MATERIALS AND MANUFACTURES.

In order to obtain an idea of the relative movements of world production of textile raw materials and textile manufactures, three indices are given below. The first is the textile-material index included in the world index of primary production. As, however, it includes artificial silk, a manufactured product which has shown a sharp increase throughout the depression, thus masking the general movement of agricultural textiles, another raw-material index which omits artificial silk is shown. The third index, referring to the activity in the textile manufacturing industry, is representative of the greater part of the world, but is not fully comparable with the raw-material indices.³ The base of each index is the average for 1925-1929.

	1929	1930	1931	1932	1933	1934
Textile raw materials	106	104	105	98	109	106
Ditto, excluding artificial silk	103	101	101	93	99	93
Textile manufacturing	106	92	93	93	103	104

A considerable discrepancy developed between the supplies of raw textiles and the output of manufactured textiles during the early years of the depression. The year 1932 marks a turning-point.

The improvement in the situation is brought out clearly by a rough comparison of the raw-material index, excluding artificial silk, with the industrial index. When making this comparison, it should be kept in mind that data for raw materials produced in the Southern Hemisphere refer to years ending on July 31st following the year given; thus, for any given year, the annual movement of the industrial index actually precedes that indicated for raw textiles. A marked contraction in raw-material supplies available from the 1932 (1932/33) crops in fact coincided with a general

¹ Evidence of the shift from the consumption of both cigars and pipe tobacco to that of cigarettes was given in Table XXI of Chapter II of *World Production and Prices, 1925-1933* (Geneva, 1934). In Germany, however, this tendency was reversed in the course of 1933 and 1934, but the greater increase in the consumption of cigars benefited solely cheaper qualities. Cf. *Der deutsche Oekonomist* (Berlin), No. 2567, May 10th, 1935.

² The production of whale oil, which is not included in the index of primary production, was, in 1932/33 and 1933/34, 55% and 54% respectively above the average pre-depression level. It represented in the latter year about 3% of the total aggregates of vegetable-oil index.

³ Index compiled by the Institut für Konjunkturforschung (Berlin), a weighted average of composite indices of activity in the textile industry of the following seven principal countries (weights in parentheses): the United States (25), the United Kingdom (21), Germany (14), France (12), Japan (10), the U.S.S.R. (9) and India (9).

improvement in the textile industry already in the latter half of 1932 (see Diagram 12 below). World manufacturing production which, however, includes rayon fabrics, increased more than raw textiles in 1933 as a whole and remained remarkably stable in 1934, while raw-material supplies available from the 1934 (1934/35) crops shrunk. The discrepancy referred to above was thus further narrowed down.

The decrease in the output of textile materials in 1934 (1934/35) was chiefly due to cotton; the flax and hemp crops fell off to a certain extent, but the output of other textiles increased.

The striking differences in the development of textile manufacturing in different countries are shown in Appendix II, Table 2, and subsequent tables. There is a marked contrast between the German and British industries on the one hand and the French, Belgian, Italian, Polish and Czecho-

slovak industries on the other, in respect to the level attained in 1934 relatively to the pre-depression average. There was, however, a substantial improvement in both Czechoslovakia and Poland in 1934. The process of "localisation" of the textile industry is exemplified by the indices for a number of countries whose industries work chiefly for the domestic market and are in many cases comparatively young: a composite index for some of these countries is given in Section B, on page 32. In Asia, Japan continued to make rapid headway, India regained part of the ground lost, while China experienced a setback, mainly due to the consequences of the drain on silver.

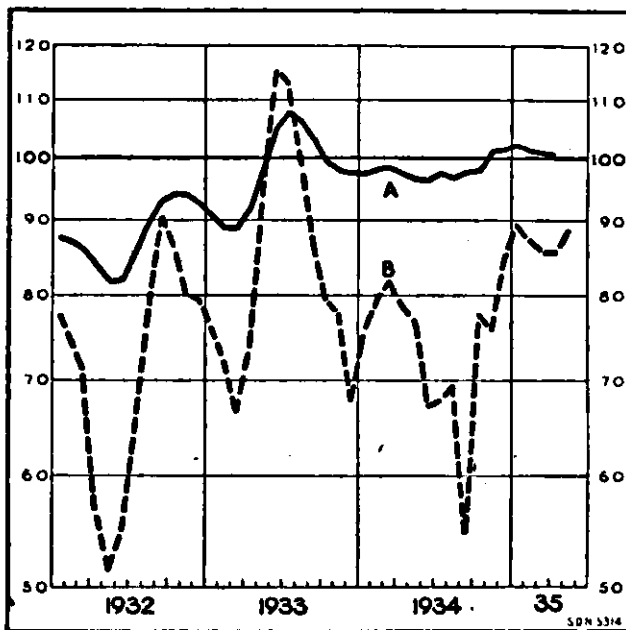
Recent variations in the textile manufacturing activity of the world, represented by the world index given above, and in the United States, are illustrated by the diagram opposite. It will be seen that both curves reached a peak toward the middle of 1933. After the downward swing, however, the world curve has remained rather stable, while the United States curve shows further variations. The high point reached

in the middle of 1933, and the low point of the third quarter of 1934¹ constitute the turning-points of the latest two-year cycle in which the United States textile industry has been revolving. The immediate factor governing this cycle has been the wave of exhaustion and replenishment of textile goods inventories.

The most recent variations in the activity of the textile industry in some other countries are shown in Table 20 below. This table does not, however, reveal all the factors that have influenced the world index, which includes the U.S.S.R. and India, where quarterly indices are not available. It will be seen, however, that the variations in the indices for Germany, the United Kingdom and Japan during 1934 and the first quarter of 1935 largely counterbalanced the movement in that for the United States in the world index. The decrease in the German index during the latter half of 1934 was largely caused by the restriction of imports, which in 1933 represented over 90% of the total raw-material supply of the German textile industry.

Diagram 12. — TEXTILE MANUFACTURING ACTIVITY (1929 = 100).

A. World. B. United States.



¹ The low figure for September 1934, however, was largely due to a prolonged labour dispute.

Table 20. — QUARTERLY COMPOSITE INDICES OF ACTIVITY IN THE TEXTILE INDUSTRIES.
(Average 1925-1929 = 100.)

Country	1930	1931	1932	1933				1934				1935
	Average of quarters			I	II	III	IV	I	II	III	IV	I
Germany	95	93	84	88	91	102	103	107	110	102	99	99
Belgium	90	82	69	66	73	70	76	67	56	56	60	57
Finland *	(95)	(89)	(90)	(95)	(105)	(110)	(110)	(103)	(120)	(127)	(129)	(136)
France	91	76	64	75	76	83	81	80	70	60	62	65
Greece	128	135	140	170	145	146	167	170	180	170	191	167
Hungary	110	111	95	105	112	119	121	128	139	140	138	...
Italy ^b	(91)	(82)	(67)	(72)	(80)	(79)	(74)	(66)	(73)	(74)	(83)	(84)
Poland	83	79	68	51	75	80	77	84	81	74	79	(80)
Roumania ^c	(114)	(109)	(139)	(165)	(135)	(179)	(152)	(179)	(162)	(204)	(185)	(138)
United Kingdom: (Board of Trade) ^d	80	77	85	88	87	89	96	96	91	86	95	97
(London and Cambridge)	79	78	88	95	90	94	104	106	98	88	101	106
Czechoslovakia	95	87	71	65	61	65	74	80	88	79	72	72
United States	84	87	76	76	100	105	79	84	78	68	84	92
Japan	105	110	117	113	125	136	135	127	137	147	152	143
World *	92	93	93	94	104	112	104	104	102	103	105	107

* Base : 1926-1929. ^b Base : 1928. ^c Base : 1927-1929. ^d Base : 1924, 1927-1929.

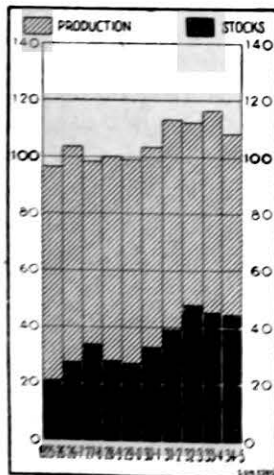
* Index compiled by the Institut für Konjunkturforschung (Berlin).

Cotton.

Raw Cotton. — Relatively heavy and light world crops of cotton have alternated in recent years ; the crop of 1934/35 was the lightest during a decade. World cotton-mill consumption began to increase from the middle of 1932, and world visible stocks of raw cotton to decrease in the course of the third quarter of 1933 (*cf.* Diagram 2 above). These movements continued during 1934.

Diagram 13 A.

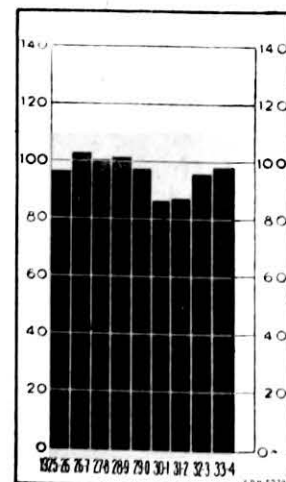
WORLD SUPPLY OF COTTON.



Owing to the relatively high cotton prices ruling in the United States, a marked shift from American to other kinds of cotton made itself felt during 1934/35.

Diagram 13 B.

WORLD CONSUMPTION OF COTTON.



The American cotton crop has shown considerably wider fluctuations than "outside growths" taken together. The cotton adjustment plan for 1934 (the "Bankhead Act") provided for an area reduction of approximately 40% of the average for 1928-1932 and limited the crop free of the ginning tax to 10 million bales (2,268,000 m. tons net weight). Owing to the drought, the actual crop was below this figure, which caused a sharp advance in cotton prices. Production of "outside growths" rose in both 1933/34 and 1934/35. The Indian and Egyptian crops, however were, lower in the second year. A remarkable extension of cotton-growing has been realised in the last two years in China and more specially in Brazil, which

endeavoured to diminish her dependence on coffee. Compared with the pre-depression average, the Brazilian crop of 1934/35 was 146% higher and the Chinese 51% higher.

The variations in the world production of ginned cotton and the world cotton-mill consumption of cotton will be seen from the figures below, which refer to years ending July 31st and exclude linters.¹ It should be observed that the scope of the statistics relating to consumption is somewhat more limited than that of the production statistics.

	Average 1925/26 to 1929/30	1929/30	1930/31	1931/32	1932/33	1933/34	*1934/35	Half-year ending January 31st, 1934 ² 1935 ²	
	Metric tons (000's)								
<i>Production :</i>									
American cotton	3,310	3,214	3,021	3,707	2,819	2,829	2,089	—	—
"Outside growths"	2,460	2,536	2,599	2,243	2,351	2,921	3,011	—	—
Total	5,770	5,750	5,620	5,950	5,170	5,750	5,100	—	—
<i>Mill Consumption :</i>									
American cotton	3,312	2,954	2,474	2,794	3,213	3,069	—	1,469	1,236
"Outside growths"	2,236	2,480	2,350	2,071	2,114	2,410	—	1,099	1,387
Total	5,548	5,434	4,824	4,865	5,327	5,479	—	2,568	2,623

As a result of these developments, the cotton-mill consumption of American cotton has rapidly lost ground to "outside growths". Especially the use of Indian and Brazilian cottons increased in 1934/35.

Total world stocks of all kinds of cotton are compared below with cotton-mill — i.e., consumers' — stocks (actual bales, regardless of weight, including linters, 000's) :

	1929	1930	1931	1932	1933	1934
<i>Stocks on August 1st :</i>						
Total stocks	9,625	11,715	13,835	17,046	16,076	15,879
of which American cotton	4,919	6,889	9,264	13,229	11,814	10,682
Cotton-mill stocks	4,863	4,498	4,313	4,462	5,050	5,337

The reduction in stocks of American cotton (held in the United States and elsewhere) between 1932 and 1934 was 19% ; those of other kinds increased. Stocks of all qualities of cotton represented on August 1st, 1934, 56% of the total production of 1933/34, those of American cotton, 42%, and world cotton-mill stocks at the same date 21% of the total mill consumption in the preceding year, calculated on the basis of actual bales, regardless of weight.

Cotton Spinning and Weaving. — An approximate measure of the activity in the cotton-spinning industry is afforded by the cotton-mill consumption. An index of world consumption is given in Table 15 above. That of the United States, the largest consumer, has decreased steadily since the second half-year of 1933.³ Japan, India and China each consumed more cotton than the United Kingdom both in 1933 and 1934. The total consumption of these three great Asiatic countries almost equalled that of Europe (excluding the U.S.S.R.) in both years.

Annual indices of activity in cotton-spinning and cotton-weaving are given in Tables 3 and 4 of Appendix II, and quarterly indices in Table 21 below. As the cotton trade is the principal branch of the textile industry, it governs to a large extent the general textile indices dealt with in the preceding section. The German cotton index shows a higher peak in the second quarter of 1934 and a more marked decline in the second half of the year than does the general index. The course of the weaving indices differs in many cases considerably from that of the spinning indices. The rapid rise in 1933 and still more rapid fall in 1934 of the French weaving index is particularly noteworthy.

¹ Production according to the *Statistical Year-Book of the League of Nations, 1934/35*, Table 48 ; mill consumption according to International Federation of Master Cotton Spinners' and Manufacturers' Associations, *International Cotton Bulletin* (Manchester). The latter figures are published in terms of actual bales, regardless of weight. The average coefficients of conversion of 1 bale used are as follows: American, 500 lb. = 226.8 kg. ; Indian, 400 lb. = 181.4 kg. ; Egyptian, 760 lb. = 344.7 kg. ; sundries, 450 lb. = 204.1 kg.

² Excluding Germany, for which figures for the latter half-year are not available.

³ The half-years considered are six months ending July 31st of the year stated and January 31st of the year following that stated.

Japanese exports of cotton by weight of piece goods surpassed the British in 1933, and exceeded them by nearly 40% in 1934.¹

Table 21. — QUARTERLY INDICES OF ACTIVITY IN THE COTTON INDUSTRY
(Average 1925-1929 = 100.)

Country	1930	1931	1932	1933				1934				1935	
	Average of quarters			I	II	III	IV	I	II	III	IV	I	
Germany*:	Spinning	(92)	(88)	(88)	(98)	(100)	(113)	(112)	(116)	(121)	(107)	(100)	(98)
Austria:	Spinning	94	88	87	65	78	100	118	109	107	108	124	124
	Weaving	106	117	114	81	101	106	132	145	138	130	124	146
Belgium:	Spinning	95	80	69	71	79	73	114	65	85	69	...	...
Spain:	Spinning	104	97	103	94	79	97	114	91	79	130	102	...
France:	Spinning	94	64	46	62	64	66	73	70	57	48	43	42
	Weaving	104	77	59	80	94	95	106	104	88	60	46	44
Greece:	Spinning	124	130	130	166	138	121	154	175	158	...	...	...
	Weaving	156	164	164	390	317	261	343	328	394	...	...	...
Hungary:	Spinning	193	194	231	278	256	299	330	312	343	294	369	307
	Weaving	116	114	132	157	143	166	192	175	189	165	203	173
Italy ^b :	Spinning	(89)	(80)	(84)	(94)	(96)	(90)	(99)	(95)	(89)	(75)	(84)	(86)
	Weaving	(86)	(75)	(76)	(84)	(85)	(80)	(86)	(84)	(83)	(69)	(78)	(80)
Poland ^c :	Spinning	(81)	(78)	(75)	(55)	(89)	(106)	(92)	(101)	(93)	(92)	(94)	(95)
Portugal ^d :	Spinning	(100)	(82)	(98)	(87)	(94)	(84)	(91)	(89)	(84)	(83)	(84)	(79)
United Kingdom:	Spinning												
	(Board of Trade) ^e	72	75	83	90	84	84	93	96	90	75	85	90
	(London and Cambridge)	74	72	79	84	79	81	88	87	84	76	83	86
Canada:	Spinning	77	73	75	54	72	119	134	89	142	106	120	72
United States:	Spinning	79	79	73	79	103	108	79	85	80	72	83	88
	Weaving	66	62	57	57	75	75	...	...	...	...	...	...
Chile ^f :	Weaving	(122)	(100)	(154)	(189)	(213)	(245)	(246)	(276)	(276)	(284)	(300)	(315)
India:	Spinning	115	128	134	131	118	124	124	121	112	138	146	...
	Weaving	114	130	135	129	115	126	134	125	120	144	163	...
Japan:	Spinning	98	100	110	116	120	119	129	127	132	134	148	141
	Weaving	105	106	116	123	129	125	129	129	137	135	142	141

* Base: 1928-1929. ^b Base: 1928. ^c Base: 1927-1929. ^d Base: 1930. ^e Base: 1924, 1927-1929.

Flax, Hemp and Jute.

A considerable part of flax and practically all hemp, jute and similar fibres produced go to various uses other than clothing, and hence the development of the industries connected with them has been more or less different from that of the cotton, woollen, silk and artificial silk industries. Indices of world crops of flax, hemp, manila hemp and jute are given in Appendix I, Table 2, and indices of activity in the connected industries in Appendix II, Table 5. For some countries, the most important of which is the United Kingdom, only a composite index for the whole group is available. Judging from import data, all the different branches of the group contributed to the rise of the British composite index in 1934.

Flax and Linen. — The world's flax crops of 1933 and 1934 both nearly equalled the record crop of 1931. The U.S.S.R. flax crop, which had almost doubled between 1928 and 1933, was restricted to some extent in 1934. The rest of Europe, after a decline in flax-growing for many years, registered an increase of 56% in crops between 1932 and 1934. The recent vogue for linen in furnishings, drapery and clothing stimulated demand in 1933 and 1934. The linen industry was very active by

¹ For trade in cotton goods, cf. *Review of World Trade, 1934*, sections on the United Kingdom and Japan.

1933 in many countries, and such indices as are available for 1934 — except those for the United States and Italy — bear witness to further progress realised in 1934. Germany (where imports of flax and tow from the U.S.S.R. were exempted from the special licence system applied to other fibres) and Czechoslovakia show a remarkable advance. An important feature is the development of the linen industry in the principal flax-growing countries. The Polish industry reached new high records both in 1933 and 1934, and the U.S.S.R. and the Baltic countries (Estonia, Latvia, Lithuania) have expanded their industries in 1934.¹

Hemp. — The world's hemp crop decreased rapidly during the period 1930-1933 and probably also in 1934. To this decline the U.S.S.R., the largest supplier, contributed most.² In the rest of Europe, however, crops recovered both in 1933 and 1934, although they still remained much below the pre-depression average. Hemp spinning and weaving advanced considerably in Germany and Poland during 1934; but in the United States it remained at the extremely low level attained in 1933.

"Hard Fibres". — Of "hard fibres", only manila hemp produced in the Philippine Islands is included in the textile (raw material) index. There was some increase in the production of this fibre both in 1933 and 1934, while the chief consuming countries — Japan, the United States and the United Kingdom — increased their purchases by large amounts. Other hard fibres, of which the most important are East African sisal, Mexican henequen, Java and Sumatra sisal and cantala, were largely substituted for manila hemp during the depression, and their total production increased by 18% between 1930 and 1934.³ The sisal and henequen industry of the United States again greatly slackened its activity in 1934 and is alone responsible for the drop in the American composite index for the group under consideration.

Jute. — The advance in production of jute during 1932 and 1933 from the low level attained in 1931, when the restriction started, was followed by a slight drop in 1934, and it has been officially decided to reduce the area under jute in 1935 by about 30%. The Indian jute industry has also worked during the last three years under a restriction scheme and its activity has remained stationary. But the mill consumption has increased in the last year or two and stocks have been somewhat reduced in certain European countries.

Wool.

Raw Wool. — The estimated production of raw wool and the stocks of raw wool and of wool tops are shown below. The five "major exporters" are Australia, Argentina, South Africa, New Zealand and Uruguay. Europe and the United States are the two principal consuming areas which supplement domestic production by imports; production in the U.S.S.R. is given separately owing to the exceptional reduction of its wool clip. The stocks of raw wool refer to three of the major exporting countries — Australia, New Zealand and South Africa — and those of wool tops to the principal combing establishments in the European continent. The following figures are in metric tons (000's):

	Average 1925-1929	1929 1929/30	1930 1930/31	1931 1931/32	1932 1932/33	1933 1933/34	*1934 *1934/35
<i>Production (greasy basis):</i>							
Five major exporters	872	922	908	951	993	939	939
Europe (excluding U.S.S.R.)	249	240	236	240	243	244	240
United States	163	182	196	209	197	204	199
World (excluding U.S.S.R.)	1,502	1,574	1,559	1,609	1,631	1,596	1,603
U.S.S.R.	166	179	139	96	64	63	64
<i>Stocks (July 1st):</i>							
Raw wool (3 exporters)		23	55	59	85	44	65
Wool tops (European continent)		28	19	22	30	31	30

The year-to-year changes in the world's wool clip (apart from the Russian) have not been within very wide limits in recent years. In 1934 (1934/35) increases in the Australian and Uruguayan clips and Chinese exports more than offset a decrease in other exporting countries, in the United States and in Europe as a whole.

¹ For the effect of these developments on the prices of flax, see Chapter III, Table 2.

² Figures for the hemp crop reaped in the U.S.S.R. in 1934 are not yet available, but the area under hemp decreased.

³ *The Economist* (London), February 17th, 1934, and February 16th, 1935.

The changes in consumption may be estimated from the statistics relating to the aggregate supplies of raw wool retained in the nine principal consuming countries apart from the U.S.S.R.¹; the resulting index has been given above in Table 15.² In contrast to the previous general tendency, a considerable margin developed between production and consumption in 1933 and 1934. World production (excluding the U.S.S.R.) was in both of these years 6% above the average level for 1925-1929, but consumption was 13% above that level in 1933 and 5% below it in 1934. This movement is clearly reflected in the figures for stocks of raw wool given above. The exceptional reduction in consumption during 1934 was mainly due to import restrictions imposed in Germany and Italy.

Wool Textile Industry. — The statistics of wool consumption in different countries would suggest that the wool textile industry experienced something in the nature of a boom in 1933, followed by a severe setback in 1934. Consumption dwindled in that year in all of the nine principal countries, and most in France. As, however, stocks had been accumulated in these countries during the sharp increase in prices which obtained in 1933, the consumption figures are likely to overstate the extent of the decline in 1934.

Annual indices of the activity in the wool industry will be found in Appendix II, Table 6, and quarterly indices available for some countries in Table 22. Activity decreased in practically all countries for which figures are available during 1934. The drop reached over 45% in Belgium and about 20% in the United States and France. Also some of the countries with "new" wool industries and indices much above the pre-depression level experienced decreases in activity, as did, further, the U.S.S.R. industry. The United Kingdom, however, maintained the output of the preceding year, and Czechoslovakia increased hers. The quarterly indices point to a rather general upward movement towards the end of 1934 or in the beginning of 1935. It was very marked in the United States, but absent in Japan.

Table 22. — QUARTERLY INDICES OF ACTIVITY IN THE WOOL INDUSTRY.

(Average 1925-1929 = 100.)

Country	1930	1931	1932	1933				1934				1935
	Average of quarters			I	II	III	IV	I	II	III	IV	I
Belgium	85	80	66	65	88	76	97	64	20	36	54	48
Spain	116	132	140	123	115	119	110	122	116	109	99	114
France	94	83	73	88	84	94	93	89	70	60	68	71
Greece : Weaving .	125	122	122	160	116	214	192	214	163	...	...	...
Hungary : Spinning *	(80)	(77)	(108)	(106)	(143)	(142)	(141)	(85)	(123)	(138)	...	...
Italy *	(90)	(83)	(76)	(78)	(82)	(85)	(86)	(84)	(80)	(79)	(81)	(86)
Czechoslovakia . .	103	101	83	78	75	85	95	104	107	83	66	69
Chile *	(154)	(228)	(354)	(299)	(393)	(295)	(273)	(249)	(381)	(389)	(298)	(285)
United States . . .	75	85	66	65	95	118	85	78	70	57	77	106
Japan : Spinning .	139	189	205	213	238	253	246	228	232	223	203	192
Weaving . . .	99	99	105	94	80	82	74	62	65	73	77	77

* Base : 1927-1929.

* Base : 1928-1929.

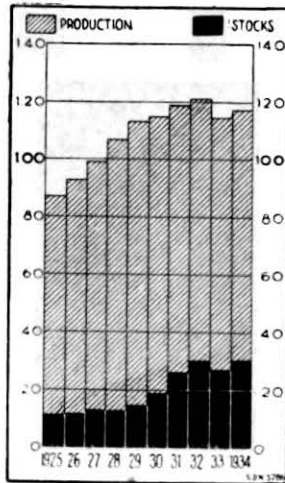
¹ The United Kingdom, France, the United States, Germany, Japan, Italy, Belgium, Poland, Czechoslovakia. Wool Intelligence Notes, Vol. I, No. 11, and Vol. II, No. 22.

² The consumption of wool recovered from rags in the United Kingdom increased from 43,100 metric tons in 1932 to 48,100 in 1934, and the percentage of recovered to raw wool consumed, from 16 to 20% in the same period. The use of recovered wool (23% of raw wool in 1928) as well as of various artificial wool substitute fibres rose considerably in Germany during 1934.

Silk and Artificial Silk.

Raw Silk. — The world's raw silk output recovered from the low point reached in 1932 during 1933. In 1934, total output would appear to have been reduced, while consumption increased, so that world stocks fell off by 12%. Japanese production — normally about four-fifths of all silk produced outside China — increased by 10% in 1934. This, however, was more than offset by greatly reduced exports from China. Japan's raw silk exports have been severely hit by the depression in her principal market, the United States.

Diagram 14.
WORLD SUPPLY OF
RAW SILK.



Silk Textile Industry. — While general textile activity in the United States reached a high point in 1933, the raw-silk industry, owing to increased substitution of artificial-silk yarn for silk, contracted sharply; the year 1934 as a whole showed a slight further drop, but the industry was considerably more active in the last quarter of 1934 and the first of 1935. The European silk industry as a whole, stimulated by the low prices of raw silk ruling, would seem to have recovered to some extent during 1934. To this recovery the three old silk spinning and weaving countries — France, Italy and Switzerland — made little or no contribution, while the United Kingdom, as well as other countries with "new" silk industries, made further progress. These developments will be seen in more detail from the annual indices given in Appendix II, Table 7, and quarterly indices shown in Table 23.

Table 23. — QUARTERLY INDICES OF ACTIVITY IN THE NATURAL-SILK INDUSTRY.
(Average 1925-1929 = 100.)

Country	1930	1931	1932	1933				1934				1935
	Average of quarters			I	II	III	IV	I	II	III	IV	I
France	75	61	35	35	42	50	42	47	47	42	43	51
Greece	196	240	296	273	341	256	284	273	411	...	...	...
Hungary (spinning) ^a	(128)	(154)	(158)	(165)	(141)	(126)	(154)	(160)	...	...	...	...
Italy (spinning) ^b	(97)	(83)	(46)	(43)	(59)	(62)	(38)	(25)	(38)	(59)	(70)	(65)
" (weaving) ^b	(94)	(89)	(68)	(75)	(78)	(79)	(83)	(85)	(88)	(76)	(76)	(85)
Portugal ^c	(100)	(181)	(148)	(238)	(182)	(461)	(180)	(427)	(576)	(625)	..	(85)
Roumania ^a	(158)	(183)	(191)	(264)	(269)	(297)	(264)	(256)	(297)	(300)	(242)	(239)
United Kingdom (Board of Trade) ^d	114	119	126	132	134	130	148	157	166	193	182	186
Switzerland	52	41	28	20	26	25	25	33	32	36	23	30
United States (deliveries)	106	108	100	81	109	86	69	86	83	73	96	93
Japan (weaving) ^e	(100)	(102)	(108)	(110)	(126)	(117)	(126)	(126)	(129)	(127)	(138)	(125)

^a Base : 1927-1929. ^b Base : 1928. ^c Base : 1930. ^d Base : 1924, 1927-1929.

Artificial Silk (Rayon). — World production of artificial silk or rayon has made striking headway each year during the depression, increasing from 198,910 metric tons in 1929 to 349,680 in 1933 and 413,770 in 1934. In 1933, three new large plants started operations in the U.S.S.R. and the production is stated to have risen from 1,200 tons in 1932 to 45,000 in 1933,¹ which was second only to the output of the United States and equal to that of Japan. The 1934 output in the U.S.S.R. is not available. Japan increased hers in 1934 by a further 55%. The major European

¹ *Economic Review of the Soviet Union*, June-July, 1934.

producers — Italy, the United Kingdom, Germany and France — united in a cartel together with other producers, reached new record figures in 1934; Italy with a 30% increase took the lead from the United Kingdom. Some minor producing countries (Belgium, Spain, Sweden, Czechoslovakia) experienced a setback. During recent years, artificial silk, benefiting by constant technical progress, reduced prices and the favour of consumers, has tended to compete more and more with the older textiles — silk, cotton and wool — especially in the knitting branch of the industry.

LEATHER AND BOOTS AND SHOES.

As leather is used for the manufacture of both durable and non-durable (current consumption) goods, the principal consumer being the boot-and-shoe industry, separate indices are given for the production of leather and for that of leather footwear as far as possible. Annual indices for a number of countries are given in Appendix II, Table 8.

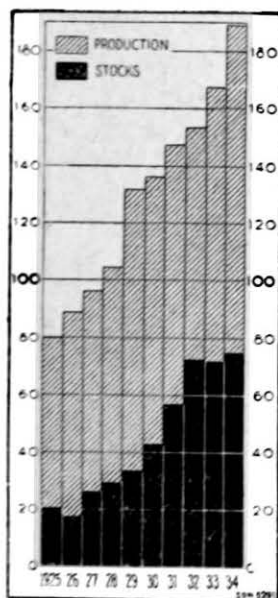
In general, the leather industry has fared less well than the boot-and-shoe industry. A notable exception is formed by Czechoslovakia, whose boot-and-shoe industry became the largest exporter in the world and has thus felt severely the effects of trade restrictions in 1933 and 1934. On the other hand, Germany's leather industry stood in 1934 still 30% below the average level of 1925-1929, while her footwear industry exceeded that level.¹

The boot-and-shoe industry, as is seen from the quarterly indices, has reacted rather quickly to the changes in general economic conditions. The quantity of the sales has been well maintained in most countries during the depression and increased in those where purchasing power rose in 1933 and 1934. There is little doubt that this has been achieved largely by means of offering a cheaper type of product.² Thus the values of the output have increased less in recent years than the quantitative indices.

RUBBER.³

Crude rubber. — World shipments have risen sharply since 1932 — the low point — and

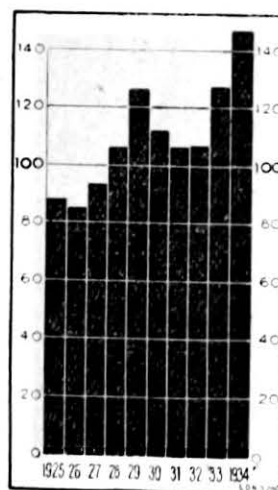
Diagram 15 A.
WORLD SUPPLY OF RUBBER.



reached in 1934 a record some 54% above the 1925-1929 average. The major part of the increase in shipments in 1934 occurred during the early months of the year. A Rubber Regulation Agreement was concluded among the plantation rubber-producing countries (representing 98.99% of total supplies of crude rubber) on May 7th, 1934. After the restriction scheme began on June 1st, 1934, shipments were reduced, and those of the first quarter of 1935 were 15% below the corresponding quarter of 1934. The "permissible exportable amount" for the countries parties to the agreement for 1935 has been fixed at 749,523 metric tons.

World absorption also reached a peak in 1934 — 47.5% above the 1925-1929 average; in the world outside the United States, the 1934 absorption was indeed 106% above that average. "Absorption", however, represents actual consumption only in the case of the United States; for the United Kingdom, net imports adjusted for variations in visible stocks, but for other

Diagram 15 B.
WORLD CONSUMPTION OF RUBBER.



¹ The increase in the boot-and-shoe industry during the last quarter of 1933 and first half of 1934 was largely due to particular causes. The ordinary consumers' takings increased less than is shown by the indices. Cf. *Vierteljahrshefte zur Konjunkturforschung* (Hamburg), 10: 1: B.

² For rubber footwear, see the "Rubber" section below.

³ The data concerning rubber have been taken from the International Rubber Regulation Committee's *Statistical Bulletin* (London) converting the original data in long tons to metric tons.

countries only unadjusted net imports are recorded. As world shipments increased more than world absorption in 1934, world stocks increased during the year by 12% and reached 756,600 metric tons at the end of 1934.¹ But, calculated in terms of months' absorption on the average of twelve previous months, these stocks decreased from 9.1 at the end of 1933 to 8.7 at the end of 1934, and further to 8.4 at the end of the first quarter of 1935.

	Average 1925-1929	1929	1930	1931	1932	1933	1934
	Metric tons (000's)						
World shipments	671	882	839	812	721	864	1,031
World absorption	646	818	726	690	697	824	954
<i>Of which:</i>							
United States	412	475	382	356	337	407	474
Other countries	234	343	344	334	360	417	480
World stocks ² (end of year)	270	385	511	650	649	674	757

Reclaimed Rubber. — The supply of rubber is augmented in a considerable measure by rubber reclaimed from old material. In the United States, reclaimed rubber consumption amounted in 1928, the last year of the operation of the Stevenson Restriction Scheme, to 226,600 metric tons — *i.e.* to over 50% of that of crude rubber, but fell, in sympathy with the drop of crude rubber prices, to less than 20% in 1933. In 1934, reclaimed rubber consumption again increased to 102,200 tons — *i.e.*, 22% of crude. In other countries, consumption of reclaimed rubber has been estimated roughly at some 20% of crude.

Rubber Products. — Approximately three-quarters of the rubber supplies are absorbed by the manufacture of pneumatic casings and tubes and other products for motor vehicles. Rubber footwear and rubber shoes constitute a second important class of rubber products and has increasingly competed with leather. National indices of activity in the rubber industry given in Appendix II, Table 9, show the rapid growth of the industry during 1933 and 1934 in the United Kingdom, in several minor European countries, mainly producing rubber footwear, and in Japan.

WOOD, WOOD PRODUCTS AND PAPER.

The available information concerning the total production of wood and its products is far from comprehensive. The current statistics available for the principal producing countries are chiefly confined to exports of timber and production of wood pulp. Only a fraction of all wood cut in North America, and probably not more than one-tenth³ even in the Northern-European countries, the chief timber exporters, is exported.⁴ Of the total European exports, about half has in recent years consisted of sawn and planed soft-wood, reviewed separately below. The manufacture of wood pulp, the only wood product so far included in the index of world primary production, probably absorbs less than a fifth of all wood cut in the principal producing countries.

Recent general developments of the wood-working industries considered may be summarised as follows. The production of sawn and planed soft-wood, an important building material, suffered considerably during the depression, but recovered in 1933 and 1934, without attaining the pre-depression levels. While a gradual substitution of steel and cement for wood in building construction and pit-props has been noticeable over a period of years, wood pulp has gained new ground — *e.g.*, as a raw material of the artificial-silk industry and through an increased use of paper and paperboard (*e.g.*, in packing). World production of wood pulp, paper and board fell off but relatively little during the depression and probably surpassed the 1929 levels in 1934. The increase in the activity of the paper industry would seem to have been checked during the latter part of 1934.

¹ This figure excludes stocks in Amsterdam, France and Germany, since these are already included in the absorption.

² End-of-year stocks outside and inside regulated areas and afloat.

³ Excluding wood contained in pulp and paper exported.

⁴ The total of wood cut considered includes fuel wood and wood for rural domestic use, which represent 40-50% of that total.

*Sawn and Planed Soft-wood.*¹ — The world market supply of these products (including box-boards) is closely reflected in the statistics of exports from the principal producing countries, shown in Table 24. Exports of soft-wood expanded considerably in 1933 and further, though at a more moderate rate, in 1934. North America regained in both years part of the ground previously lost.

The indices of building activity in European countries convey a rough idea of the very different trends of consumption of soft-wood during 1934. In the British market, the world's principal soft-wood market, the Northern-European countries, the chief suppliers, had to sustain increased competition from Canada and Poland. The increased consumption in Germany was in part met by enhanced domestic production, so that the import demand expanded less than in proportion to consumption. The brisker Italian demand benefited mainly Yugoslavia.

Table 24. — EXPORTS OF SAWN AND PLANED SOFT-WOOD.*

Groups of Countries	Standards (000's) ^a						1929 = 100				
	1929	1930	1931	1932	1933	1934	1930	1931	1932	1933	1934
Europe, exclud. U.S.S.R.	4,426	3,687	2,873	2,463	3,074	3,369	83.3	64.9	55.6	69.5	76.1
<i>Of which:</i>											
Northern exports ^b	2,503	1,999	1,576	1,540	1,863	1,972	79.9	63.0	61.5	74.4	78.8
Baltic exports ^c	285	264	171	132	236	270	92.6	60.0	46.3	82.8	94.8
Cent. Europ. exports ^d	1,562	1,344	1,052	751	975	1,127	86.0	67.3	48.1	62.4	72.2
U.S.S.R.	829	966	961	969	1,000	1,033	116.5	115.9	116.9	120.6	124.6
North America	1,534	1,206	804	542	838	1,041	78.6	52.4	35.3	54.6	67.8
Total	6,789	5,859	4,638	3,974	4,912	5,443	86.3	68.3	58.5	72.4	80.2

* Source: Communication of the International Timber Committee, Vienna.
^a One standard of sawn wood = 4.672 cubic metres (1 cubic metre = 35.3 cubic feet) = 2.5 metric tons.
^b Norway, Sweden, Finland.
^c Estonia, Latvia, Lithuania.
^d Poland, Czechoslovakia, Austria, Yugoslavia, Roumania (countries members of the International Timber Committee). The figures in standards for this group relating to 1929-1932 are estimated to be about 10% too low; those for 1933 and 1934 have been calculated on the basis 1 standard = 2.33 metric tons and represent the real weight. Exports from Germany and France, chiefly importing countries, are not shown separately.

Stocks of soft-wood in European countries were low at the end of 1933, but towards the middle of 1934 supplies tended to outstrip demand and stocks to accumulate. Owing, moreover, to the policy of price concessions followed by many exporters, a heavy drop in prices started in the summer, and many sawmills closed down during the winter 1934/35. An international timber trade conference held at Vienna in October 1934 recommended a curtailment of supplies by 10% from the levels of 1934. During the first quarter of 1935, output and exports were reduced accordingly.

Indices of activity in the timber industry of a number of countries will be found in Table 10 of Appendix II. It should be noted that the scope of these indices varies; while most of them are confined to sawmills, some (*e.g.*, those for the United States and Sweden) cover the whole wood industry

Wood Pulp. — World production of wood pulp fell off less during the depression than that of sawn wood, increased by 13% between 1932 and 1933 and in 1934 it probably reached a record figure. This rise is attributable in a roughly equal degree to Europe and North America; Sweden, Finland

¹ The statistics and discussion in the present section are based on the reports of the International Timber Committee (Vienna), *Monthly Statistical Bulletin* and *Informationsdienst*.

(the chief European exporters) and Japan registered new records of output in 1934. In all producing countries, chemical pulp has contributed considerably more than mechanical to this recovery. Despite an increasing trend in consumption, output has tended to exceed demand. The European " Sulphite Pulp Suppliers " decided to curtail production in 1935. A cartel of mechanical pulp producers in Northern Europe was constituted early in 1935.

The Paper Industry. — The general trend of world production of paper and paper board shows a great similarity to that of wood pulp.¹ The increase between 1932, the low point, and 1933 was about 10%, and such information as is available points to an equal increase in 1934. The variations have been less pronounced in the output of paper than in that of paper boards, which have less of the character of " current consumption goods ".

An annual world index is given in Table 15 above. The annual indices given in Table 11 of Appendix II show a remarkable growth of the paper industry in : (a) the United Kingdom and France, the two largest European importing markets, by 40 and 60% respectively and Italy by 25% above the average pre-depression level, (b) several minor importing countries, in particular Hungary, Greece and Chile, with increases of 150-200%, (c) Japan, which has largely captured the Asiatic market, and the U.S.S.R., by 36% and 178% respectively. Despite these developments, the three major exporters — Canada, Sweden and Finland — also increased their production considerably, Finland in particular by 90% over the pre-depression average. The United States and Germany, two of the largest producing countries, had not surpassed the average pre-depression level in 1934. German exports declined 32% between 1932 and 1934.

SOURCES OF ENERGY (FUELS AND ELECTRICITY).

During the decade under review, the world fuel index has moved within narrower limits than those of the other mineral groups considered, a phenomenon largely due to the fact that a not inconsiderable part of fuel output is consumed outside industry — for household, transport or public utility purposes.

During the years 1925-1929, coal accounted on an average for 72% of the aggregate on which the group index is based, but during recent years it had been losing ground to petroleum. This tendency was slightly reversed in 1934 despite record production of the latter. Meanwhile, alternative sources of energy, electricity derived from water power, and alcohol, used as such or mixed with petroleum products,² have made considerable headway.³

Coal. — World production in 1934 rose about 9% to rather over the 1931 level. Total pit-head stocks, relatively small in proportion to production, are roughly estimated to have fallen from 70 million tons, about with figure they had probably been more or less stationary in 1931-1933, to some 60 millions tons at the end of 1934.⁴ The more precise statistics available for coal stocks in four European areas⁵ given in Appendix I, Table 6, and illustrated in Diagram 16, show a decline

¹ It has been estimated that rags and paper waste represented about 19% of the total raw-material supply to the world's paper industry in 1931 and an increased proportion in later years. H. Austrin, *Papper och massa* (Stockholm 1934), p. 206.

² According to the prescriptions in force in many European countries, domestic alcohol must be added to motor spirit in proportions varying between 10% and 25%. In the United Kingdom, the quantity of alcohol allowed free of duty for methylation for power purposes and retained for domestic consumption increased from 479,512 proof litres in 1932 to 7,706,416 in 1934. See also the section on " Alcohol " above.

³ According to the U. S. Bureau of Mines (*Bituminous Coal Tables*, 1933), the total supply of energy in the United States was made up as follows (percentages) :

	1925	1929	1932	1933
Coal	67.0	60.4	52.5	52.2
Oil and natural gas	27.3	32.3	36.9	37.8
Water power	5.7	7.3	10.6	10.0
Total	100.0	100.0	100.0	100.0

⁴ *Annales des Mines* (Paris), Tome VII, No. 2, 1935.

⁵ Germany, the Saar, Belgium and Poland (Upper Silesia).

of about 10% during 1934. Consumption would therefore appear to have rather more than kept pace with the expansion in output.

The recent changes in the output of coal in the principal areas and in the world will be seen from the following figures (metric tons, 000,000's):¹

	1929	1930	1931	1932	1933	1934	1934 1st quarter	1935
Europe, excl. U.S.S.R.	605.7	560.8	505.8	458.8	464.2	498.0	128.9	127.0
U.S.S.R.	41.8	48.8	56.6	64.3	75.8	93.5	21.6	24.6
North America	564.6	497.4	409.2	333.7	355.3	386.0	112.7	113.8
Other areas ²	120.5	117.4	108.1	103.4	111.0	122.5	14.0	18.5
World	1,332.6	1,224.4	1,079.7	960.2	1,006.3	1,100.0	277.2	283.9

Two countries — Germany and the United Kingdom — accounted for nearly 87% of the increase of 34 million tons (7%) in European output in 1934. German production rose by over 15 million tons (14%), and that of the United Kingdom by 14 millions (7%); in both countries, domestic consumption rose by almost the same amounts. Production increased also in Poland, Belgium, and France. In the last-named country, however, there was a fall in consumption of 1.1 million tons, partly reflected in increased pit-head stocks and partly in decreased imports.³ Spain, where serious troubles interrupted coal-mining toward the end of 1934, and the Netherlands, were the only important European producers to experience a setback in 1934. In North America, output increased in 1934 rather more rapidly than in Europe, but was still 112 million tons below that of Europe against only 41 millions in 1929. In the U.S.S.R. and "other areas", production in 1934 exceeded the 1929 level.

Diagram 16.

SUPPLY OF COAL IN CENTRAL EUROPE.

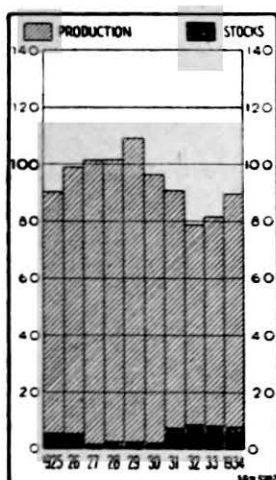


Diagram 16. SUPPLY OF COAL IN CENTRAL EUROPE. In the last-named country, however, there was a fall in consumption of 1.1 million tons, partly reflected in increased pit-head stocks and partly in decreased imports.³ Spain, where serious troubles interrupted coal-mining toward the end of 1934, and the Netherlands, were the only important European producers to experience a setback in 1934. In North America, output increased in 1934 rather more rapidly than in Europe, but was still 112 million tons below that of Europe against only 41 millions in 1929. In the U.S.S.R. and "other areas", production in 1934 exceeded the 1929 level.

World trade in coal and its products expanded in 1934 for the first time since 1929. Competition was exceptionally severe on the principal markets, and direct and indirect subsidies, bilateral agreements, price-cutting, import quotas, prohibitions and preferences were given full play. However, at the end of 1934, the two principal competitors, the United Kingdom and Poland, entered into an agreement regulating exports which is to remain in force for a period of three years from January 1st, 1935.

Coke. — The manufacture of coke by coke ovens and gas-works absorbs a fairly considerable part of world coal output, probably not less than 15%. The changes in world output of coke-oven coke are shown below :

	1929	1930	1931	1932	1933	1934
Metric tons (000's)	146,305	126,673	96,962	79,816	91,081	103,649
Percentage of the average 1925-1929	118	103	79	65	74	84

This class of coke is mainly utilised in metallurgy, and so the above index has naturally followed a very similar trend to that of the metal index, while remaining throughout at a somewhat higher level.

Petroleum. — World output of crude petroleum, which had been relatively well maintained during the depression, expanded in 1934 by nearly 5% to exceed the 1929 figure. Production outside the United States, more especially in Venezuela, the U.S.S.R. and Roumania, was almost entirely

¹ The figures for the first quarter of 1934 and 1935 are less complete than the annual figures.

² Principally Japan, India, China, Union of South Africa and Australia.

³ Rapport présenté à l'Assemblée générale du 22 mars 1935 du Comité central des Houillères de France.

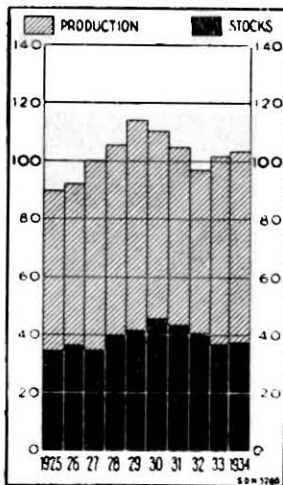
responsible for this result, as will be seen from the following figures :

	Metric tons (000,000's)					
	1929	1930	1931	1932	1933	1934
<i>Petroleum production :</i>						
United States,	138	123	117	108	123	123
Other countries	68	73	72	72	74	83
World { Total	206	196	189	180	197	206
{ Percentage of average 1925-1929 : .	119	113	109	104	114	119

The movement of total supplies in the United States is illustrated in diagram 17 below. Stringent Federal control was exercised, or attempted, in 1934, but nevertheless the official figures are believed to understate output owing to the production of a certain quantity of "hot" or illegally produced oil.

Diagram 17.

SUPPLY OF CRUDE PETROLEUM IN THE UNITED STATES.



In January 1935, the new pipe-line from Iraq to the Mediterranean was officially opened and, in the first quarter of 1935, the production in Iraq exceeded that in the first quarter of 1934.

Petroleum Products and Related Fuels.— In addition to the products obtained from crude petroleum, a further supply of motor spirit and other refined oils is derived from natural gas, bituminous and brown coal, shale and alcohol. In Germany and the United Kingdom, progress has been made, with Governmental encouragement, in obtaining motor fuel from coal by the low-temperature carbonisation and hydrogenation methods, while gas-works and coke ovens turn out annually some hundreds of thousands of tons of benzol.

It has been estimated¹ that world consumption of petroleum products and related fuels has fallen short of production in each of the years 1930-1934. World consumption rose by 4.2% in 1933 and 5.6% in 1934. The statistical position would appear to have been more favourable in the United States than elsewhere. During 1930-1934, the United States consumption plus exports exceeded production except in 1933, while consumption in the rest of the world has continuously fallen short of production plus net imports from the United States. World consumption of motor spirit, which has in the most recent years represented nearly 40% of all products consumed, rose by 2.3% in 1933 and 6.1% in 1934, when it reached a new peak. Consumption of motor spirit has in general been maintained at a higher level during the depression than that of most other current consumption goods.

Electricity. — The group index of fuel production does not give a complete idea of the world's total supply of energy, chiefly because it excludes the electricity from water-power. Owing to the flaws in the existing statistics, it is not possible to estimate with accuracy either the total output of electricity in the world or the part generated by hydro-electric plants. The total output recorded in statistics may be roughly estimated at some 275 millions kwh in 1929 and that of 1934 — a new maximum — in the neighbourhood of 315 million kwh.² The known output shows the following movement in the world and some of its principal areas during the past decade (average 1925-1929 = 100) :

	1929	1930	1931	1932	1933	1934
Europe (excl. U.S.S.R.)	120	121	114	112	120	131
U.S.S.R..	143	192	245	310	375	470
North America	122	123	117	114	115	124
Oceania	122	130	131	136	145	...
World	122	124	119	119	125	138

¹ V. R. Garcias and R. V. Whetsel (Foreign Oil Department, H. L. Doherty & Co., New York) in *The Petroleum Times* (London) February 23rd, 1935.

² Cf. *Statistical Year-Book of the League of Nations, 1934/35*, Table 63 (a). The statistics frequently omit the generation of current by industrial establishments for their own use and therefore understate total output.

Available information would seem to suggest that probably about 45% of the known total output has been generated by hydro-electric plants in recent years.¹

In Europe, an uninterrupted expansion in production has taken place in the United Kingdom during the period considered and, by 1934, output showed an increase of 31% over 1929 and no less than 83% over 1925. From such information as is now available, record production was also registered in Italy, the Netherlands, Sweden and Finland. In North America, which accounts for nearly 45% of known total production of electricity in the world, the Canadian output was the highest on record in 1934, while the United States showed a 7% improvement over 1933. The indices shown above for the U.S.S.R. bring out the remarkable progress made in that country. Production in Japan in 1933 (the latest year for which figures are available) was the highest so far registered and in magnitude was but little behind the United Kingdom.

Owing to the steady increase in the use of electricity, which was but slightly interrupted in 1931 and 1932, the electrical manufacturing industry has fared comparatively well during the depression. Indices relating to its activity are given in Appendix II, Table 13. The production of light electrical apparatus in particular improved in 1933 and 1934.

METALS.

The metal index included in the world index of primary production comprises the pig-iron and ferro-alloys not used for making steel,² crude steel (ingots and castings), and the principal non-ferrous metals. Steel derived from scrap is included in the statistics of steel output, while comprehensive statistics of the secondary production of non-ferrous metals are not available. The statistics of non-ferrous metals on which the index is based relate to mine production in the case of tin, nickel and silver, but to smelter production in that of copper, lead, zinc and aluminium. Consequently, the continental distribution shown in Appendix I, Table 4, must not be interpreted as indicating the primary sources of supply, the figures for Europe and North America being higher, and those for Latin America and Africa being lower, than they would have been had it been possible throughout to employ data relating to the output of mines. As the index is constructed, pig-iron and steel together account for about 70% of the basic aggregates.

The recovery in world metal production, which began in 1933 continued in 1934, the world index rising by a further 21% to a point almost 52% above the index for 1932, though still about 20% below the quinquennial average 1925-1929. National recovery programmes, particularly large construction schemes, together with a widespread tendency to strengthen armaments³ played a part in this revival.

The relative movements within the metal index of pig-iron and steel, on the one hand, and of the non-ferrous metals, on the other, have been in recent years as follows (average 1925-1929 = 100):

	1929	1930	1931	1932	1933	*1934
Pig-iron and steel	116.1	91.9	67.2	48.6	64.5	78.1
Non-ferrous metals	115.0	103.2	85.0	61.8	66.5	80.7

The more even development of non-ferrous metal than of iron and steel production is due to the fact that non-ferrous metals enter to a considerable extent into the manufacture of current consumption goods, and also to the heavy accumulation of stocks of non-ferrous metals up to 1932 and their subsequent reduction.

The mine and smelter production of metals is also included in the national indices of production and consequently in the world industrial index given above. It is therefore convenient to review these industries together with the main metal-working industries.

¹ Assuming a rate of plant efficiency corresponding to the average of the American and British public utility power plants, it would take about 95.5 million tons of coal to replace the water-power employed for generation of electricity in 1932. The aggregates which this amount of coal represents would amount to nearly 7% of the total fuel aggregates for that year.

² This part varies between 15 and 20% of the total world output.

³ Cf. *The Metal Bulletin* (London), April 16th, 1935; *Svensk Finanstidning* (Stockholm), April 27th, 1935, etc.

Iron and Steel.

The annual world output of pig-iron (including ferro-alloys) and crude steel (ingots and castings) since 1929, has been as follows :

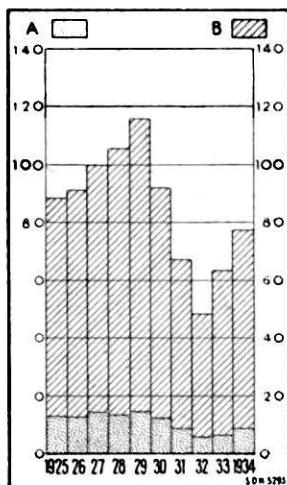
	Metric tons (000's)						Average 1925-1929=100					
	1929	1930	1931	1932	1933	1934	1929	1930	1931	1932	1933	1934
Pig-iron...	98,590	80,070	55,640	39,540	49,350	62,600	115	93	65	46	57	73
Steel	120,710	94,980	69,580	50,680	68,150	81,850	117	92	67	49	66	79

The substitution of steel for iron and the increased use of scrap for steel-making have accounted for the more rapid growth (and less rapid fall) in the production of steel. Steel output was 5.2 million tons higher in 1934, than in 1913; pig-iron output was more than 16.3 million tons lower. In 1934, however, this long-time tendency was temporarily reversed, production of pig-iron expanding 26.8% and that of steel only 20.1%. This was due to a shortage of scrap and consequent rise in scrap prices.

Diagram 18.

WORLD PRODUCTION OF PIG-IRON (NOT USED FOR STEEL-MAKING) AND CRUDE STEEL (INGOTS AND CASTINGS)

A. Pig-iron. B. Steel.



Owing to the exclusion of direct castings and the losses in the rolling process, these figures, despite the inclusion of a small quantity of finished iron, are distinctly lower than those for crude steel. The movement, however, is very similar. For the given countries taken together, the divergence between the indices for crude steel and rolling-mill products in no year exceeds two points: in 1931-1932, rolling-mill products stood slightly higher and, in 1933-1934, a little lower than crude steel.

The United States has remained during the depression the world's greatest producer of pig-iron and crude steel, but its shares dropped from about 46% for iron and 49% for steel in the quinquennium 1925-1929 to 26% and 32% in 1934. The output of pig-iron was, however, 21% higher in 1934 than in 1933 and of steel and rolling-mill products 12% and 13% higher. The motor-car industry was still the largest consumer of finished steel, taking rather more than one out of every five tons rolled.

All of the major European producers of iron and steel, with the notable exception of France, expanded their output in 1934. Germany, where the industry was largely stimulated by Government action, raised her output of pig-iron by 66%, of steel by 57% and of rolling-mill products by 54%, thus becoming the largest iron producer in Europe, apart from the U.S.S.R., and retaining her place

¹ Rolling-mill products comprise girders, railway material, plates, sections, rounds, hoops, strips, galvanised sheets, etc. Finished steel accounts for over 90% of rolling-mill products; in the most recent years, for over 95%, except in the U.S.S.R.

Quarterly indices of pig-iron and steel (ingots and castings) production are shown in Table 25, the countries being arranged in order of importance of their combined iron and steel output in 1934.

It should be noted that the production covered in the above statement and in Table 25 only represents an early stage of the whole iron and steel industry. The subsequent phases, rolling and drawing of semi-finished and finished iron and steel products, are of equal or greater importance in the chief industrial countries. It may therefore be of interest to show the development of the output of rolling-mill products¹ in the most important countries (Table 26).

Diagram 19. — WORLD PRODUCTION OF CRUDE STEEL BY MONTHS, 1932-1935 Metric tons (000's)

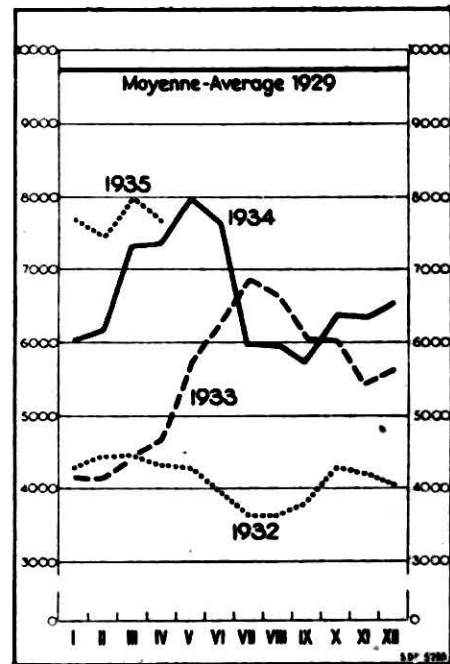


Table 25. — QUARTERLY INDICES OF PIG-IRON AND CRUDE STEEL PRODUCTION.
(Average 1925-1929 = 100.)

Countries	1931	1932	1933				1934				1935
	Average of quarters		I	II	III	IV	I	II	III	IV	I
<i>Pig-iron.</i>											
United States	48.0	22.8	17.5	29.2	54.1	38.1	43.1	59.9	33.4	30.8	51.0
U.S.S.R.	169.2	214.3	195.1	250.0	273.4	282.7	315.0	367.1	385.4	394.2	405.8
Germany*	52.4	34.1	40.4	41.9	46.7	53.1	60.2	74.4	81.0	86.6	87.9
France	86.1	58.1	61.6	68.1	70.3	65.9	64.1	64.7	64.8	65.1	61.0
United Kingdom . . .	62.1	59.2	58.9	66.8	70.6	76.6	90.0	101.8	101.4	102.5	103.1
Belgium	92.1	78.4	82.2	81.3	75.0	74.9	78.3	84.8	84.5	84.1	83.3
Japan	102.7	113.1	128.1	146.9	161.5	177.7	177.7	187.3	179.6	199.6	197.3
World	64.7	45.8	44.6	53.9	68.0	62.1	67.4	81.2	70.4	71.3	80.3
<i>Steel.</i>											
United States	53.3	28.2	25.6	50.4	71.2	46.3	58.5	78.4	34.6	42.2	71.1
U.S.S.R.	148.2	161.0	154.1	177.3	201.5	218.0	232.2	258.9	267.6	286.5	306.6
Germany*	58.0	40.3	44.5	51.5	55.4	60.7	71.9	83.1	86.1	91.2	
France	89.6	64.6	72.6	79.3	77.7	69.3	69.8	70.9	70.6	70.5	66.8
United Kingdom . . .	67.6	68.7	78.7	87.8	93.5	106.3	117.8	117.8	110.9	116.7	123.9
Belgium	88.8	79.3	83.9	83.3	72.8	72.2	78.7	86.1	84.6	86.1	83.1
Japan	108.5	138.2	164.3	175.3	173.5	200.5	204.4	209.4	203.2	238.9	253.2
World	67.6	49.5	51.1	67.2	78.3	68.5	78.5	92.1	70.8	77.2	92.6

Note. — The absolute figures on which the indices are based are given in the *Monthly Bulletin of Statistics* (League of Nations). "World" covers sixteen countries representing 96.3% of the world's total output of pig-iron and 97.1% of that of crude steel in 1934.

* Excluding the Saar.

as the largest European steel producer. The British production, which had not previously decreased as much as that of the United States and Germany, showed a remarkable advance, iron 44.5%, steel 26% and rolling-mill products 22.5%. Comparatively small increases were shown by Belgium and Luxemburg. The iron and steel industries of the U.S.S.R. surpassed the record production of 1933, attaining in 1934 the level provided for in the first Five-Year Plan for 1932. The U.S.S.R. was in 1934 the second largest producer of pig-iron and the third largest producer of steel in the world. In Sweden and also in Japan, India and Australia, the principal producing countries

Table 26. — PRODUCTION OF ROLLING-MILL PRODUCTS (FINISHED IRON AND STEEL).

Country	Metric tons (000's)						1925-1929=100					
	1929	1930	1931	1932	1933	*1934	1929	1930	1931	1932	1933	*1934
United States	41,728	29,987	19,484	10,619	17,004	19,274	113.8	81.8	53.1	27.9	46.4	52.5
Germany	11,292	8,152	5,861	4,234	5,463	8,404	108.3	78.2	56.2	40.6	52.4	80.6
U.S.S.R.	3,836	4,570	4,085	4,289	4,906	6,700	135.4	161.3	144.1	151.3	173.1	236.4
United Kingdom . . .	8,015	6,435	4,900	4,627	5,424	6,644	114.7	92.1	70.1	66.2	77.6	95.1
France	6,911	6,588	5,470	4,129	4,596	4,265	118.3	112.8	93.6	70.7	78.7	73.0
Belgium	3,268	2,723	2,286	2,084	2,148	2,184	118.8	99.0	83.1	75.8	78.1	79.4
Total	75,050	58,455	42,086	29,982	39,541	47,471	114.6	89.2	65.4	45.8	60.4	72.4

*Provisional figures.

outside Europe and North America, the production of steel in 1934 was higher than in any previous year.

Apparent consumption of steel per head of population was in 1934, as in the preceding year, highest in Belgium-Luxemburg, closely followed by the United States. Germany, where per caput consumption increased by 63%, took the third place from the United Kingdom. France was the only important country where consumption declined.

While the total quantity of crude, semi-finished and finished iron and steel entering into international trade is relatively small compared with world production, exports are of considerable importance for the chief producers of the European Continent.¹ Iron and steel exports, while falling not quite as much as production between 1929 and 1932, increased considerably less during the two subsequent years.² In 1934, the combined exports from Belgium-Luxemburg, France, Germany, the United Kingdom and the United States — the five chief exporters in the order of magnitude of their exports — rose by nearly 17%, against less than 1% in the preceding year. The United States exports increased the most by 72%, those of Germany by about 20% and those of the United Kingdom and France by 17% and 14% respectively, but exports from Belgium-Luxemburg, the largest exporter since 1932, rose by only 6%. The total exports from these countries in 1934 were only 58% of the exports in 1929 and 87% on the exports in 1931.

The European trade in iron and steel in recent years has been largely regulated by the International Crude Steel Entente, reorganised in 1933, and by the various specialised steel cartels or agreements. In March 1935, the devaluation of the belga and the increase in the protective duties of the United Kingdom, together with the transfer of the Saar to Germany, caused considerable difficulties. As a result of negotiations, the United Kingdom, which was already a member of the international cartels or agreements concerning rails, slip-plates, tubes and tin plates adhered to the Steel Entente in June 1935. The Continental and International Tube Cartels were dissolved early in 1935.³

Non-Ferrous Metals.

The statistics relating to the production of non-ferrous metals refer to primary production (*i.e.*, output of virgin metal) and exclude secondary production (*i.e.*, metal derived from scrap). On the other hand, data relating to "apparent consumption" are mainly based on refinery production and trade in refined metal, which include a quantity of secondary metal. For that reason, the consumption statistics are not strictly comparable with production, and indices rather than absolute figures are considered in referring to the trends of production and consumption.⁴ Figures of stocks usually refer to visible supplies of metal (whether in ore, in process or finished) with producers, in public warehouses and in transit, but ignore such stocks as are in the hands of manufacturers ("invisible" stocks). They do not always show exactly the movement that seems indicated by the trend of the production and consumption statistics available.

Copper. — The year 1934 saw some improvement in the world copper situation: smelter production of new metal rose by nearly 23% to 1,280,000 metric tons, apparent consumption by about 20% to 1,348,100 tons, while stocks fell by almost 11% to 579,600 tons.

¹ Belgium exports normally 75-80% of its output, Luxemburg almost the whole, Germany and France a proportion which has varied during years around 30%. The largest single market for them all is the United Kingdom, itself an important exporter.

² The export figures considered exclude scrap as well as iron and steel manufactures.

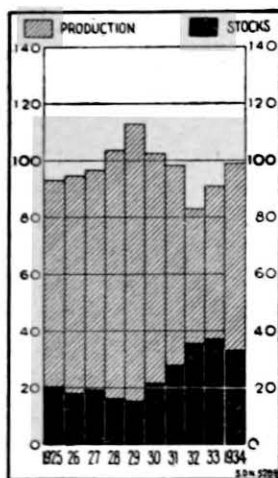
³ Pending the possible reorganisation of the Continental Cartel, a provisional agreement on mutual protection of home markets has been made.

⁴ Secondary production of non-ferrous metals is of great importance in the United States, where secondary production represented the following percentages of primary production (in the case of tin, imports) in 1929 and 1933:

1929: copper 57%, lead 40%, zinc 23%, tin 35%, aluminium 43%;
1933: copper 135%, lead 82%, zinc 29%, tin 31%, aluminium 79%.

Diagram 20 A.

WORLD SUPPLY OF COPPER.



The United States, where the industry is protected by a high tariff, contributed but little to the increase in world production and consumption¹ as will be seen from the following indices (1925-1929 = 100):

	1929	1930	1931	1932	1933	*1934
<i>Production :</i>						
United States	111	81	60	31	25	27
Rest of world	128	121	119	92	115	146
<i>Consumption : ¹</i>						
United States	121	87	65	36	41	45
Rest of world	104	98	88	81	93	116

Smelter output expanded in 1934 by 57% in Chile which became the largest producer in the world and in the Belgian Congo, another low-cost producer, by 65%. It was of record size in Canada, where copper is mainly a by-product of gold and nickel mining, in Northern Rhodesia, a low-cost producer, and also in Europe. World stocks² at the end

of 1934 represented rather less than six months supply at the present rate of consumption.

At the end of March 1935, an agreement was reached at a conference of the world's leading copper producers in New York which provided for the curtailment of production by 240,000 tons per annum from current output. The restriction of output is, subject to certain conditions, to remain in force till July 1st, 1938. The United States, Canada, the U.S.S.R. and Japan are excluded from the scheme; but it is understood that the United States and Canada have agreed to a reduction in copper exports.³ The agreement has had a favourable effect on copper prices.

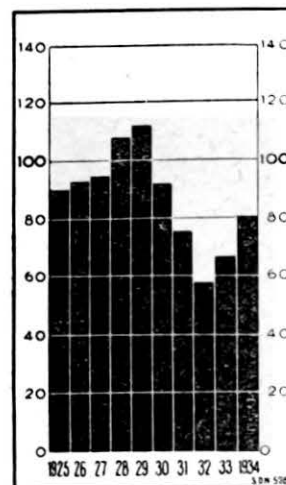
Lead. — Although lead has fared rather less well than other non-ferrous metals, the world smelter production of 1,330,000 metric tons in 1934 showed an increase of 13.4% over the preceding year, due mainly to a sharp rise in the output of North America (17.4%) and of Mexico (42.7%). Production may have been stimulated to some extent by the higher prices obtained in 1934 for silver, in conjunction with which lead is commonly mined. Apparent world consumption, however, slightly exceeded production. End-of-year stocks in the hands of producers are estimated to have fallen from 495,000 tons, in 1932 to 475,000 in 1933 and further to 465,000 in 1934.⁴ Refined stocks of domestic lead in the United States, however, reached their maximum, 218,000 metric tons, at the end of July 1934 and have declined but little since.

Zinc. — World smelter production of zinc rose by nearly 20% in 1934 and reached 1,178,000 metric tons as compared with 782,000 in 1932. The two leading producers, the United States and Belgium, expanded output by over 18% and 27% respectively; the output in 1934 exceeded that in any previous year in no less than eight countries — viz., Canada, Australia, Mexico, Japan (since the war), the U.S.S.R., Italy, Northern Rhodesia and French Indo-China. Apparent world consumption somewhat exceeded production, and approximate end-of-year stocks declined from their maximum 330,000 tons in 1930, to 230,000 in 1933 and, further, to 220,000 tons in 1934.⁴ Stocks in the United States increased, however, by 13% during 1934, but have since declined again.

The International Zinc Cartel came to an end on December 31st, 1934. It had succeeded in reducing the stocks of its members, while their annual production had risen from 555,629 metric tons

Diagram 20 B.

WORLD CONSUMPTION OF COPPER.



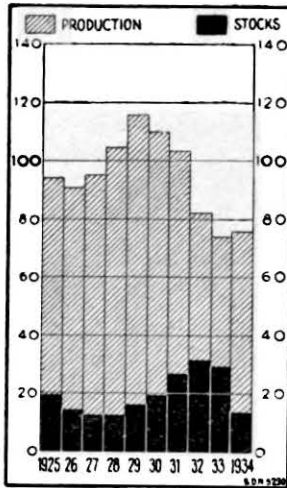
¹ The consumption index is based on statistics published in the *American Bureau of Metal Statistics Year-Book, 1934* (New York 1935).

² See Appendix I, Table 6.

³ *The Economist* (London), April 6th, 1935.

⁴ Estimates of the British Metal Corporation, Ltd., *The Metal Bulletin* (London), January 11th, 1935.

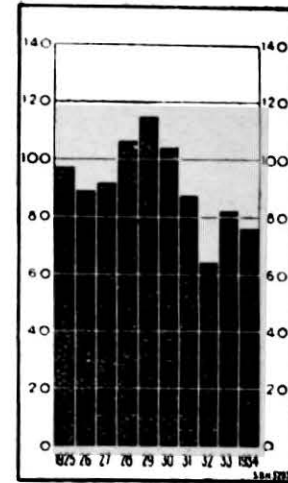
Diagram 21 A.
WORLD SUPPLY
OF TIN.



in 1932 to 775,654 metric tons in 1934. Its dissolution was due to inability to control prices and to difficulties in connection with the Ottawa Agreements and demands for increased quotas on account of increased capacity.

Tin. — World output of tin ore rose in 1934 to 122,000 metric tons — *i.e.*, not less than 38% from the abnormally low level of the preceding year. Production has been largely controlled by the International Tin Committee charged with the application of the restriction scheme inaugurated in 1931. The “original restricting countries” are Bolivia, Malaya, Netherlands Indies, Siam and Nigeria. The following indices illustrate the movement of production in these countries and in the rest of the world, as well as apparent consumption¹ in the United States, by far the largest consumer, and in the rest of the world (average 1925-1929 = 100):

Diagram 21 B.
WORLD CONSUMPTION
OF TIN.



<i>Production</i>	1929	1930	1931	1932	1933	*1934
Original Restricting Countries	119.9	109.0	92.4	55.0	44.8	66.4
Rest of world	93.3	92.8	75.1	91.9	105.4	117.1
<i>Apparent Consumption</i> ¹						
United States	111.1	99.4	82.5	45.8	76.3	56.6
Rest of world	118.6	108.8	92.2	82.4	87.8	95.1

The share of the original restricting countries in mine output fell from 89% in 1930 to 74% in 1933, but recovered to 79% in 1934. In the latter year, however, the United Kingdom (Cornwall), Portugal, French Indo-China and the Belgian Congo joined the restricting countries and the part of world output actually controlled by the International Tin Committee was raised to 86%.

Smelter production, which was maintained at a higher level than mine production in 1933, rose only 15% in 1934. The “apparent consumption” began to fall in the middle of 1934, and averaged for the whole year 7.5% less than in 1933.²

Visible stocks declined from a maximum of 64,100 metric tons at the end of August 1931, to 27,000 at the end of 1933 and further to 15,700 at the end of 1934, while sterling prices doubled during the same period. In the beginning of 1935, a “buffer pool” was constituted (7,600 tons at the end of March 1935), and there is also a “private pool” of some importance. The percentage of apparent consumption represented by visible stocks fell from 59% in 1932 to 19% in 1934.

Aluminium. — World production increased 19.6% to 168,800 metric tons in 1934, due to a sharp rise in output in Europe (28.6%), more especially in Germany (102.2%), and in the U.S.S.R. (227.3%): in North America, output declined over 10%. The Alliance Aluminium Company, controlling about half of the world’s production, is reported to have materially reduced its stocks during 1934; they had already fallen from 218,000 tons at the end of 1931 to 135,000 at the end of 1933. There was also a reduction in the large stock of ingot aluminium in the United States.³

¹ International Tin Research and Development Council, *Statistical Bulletin* (The Hague), April 1935.

² This decline is almost entirely attributable to the United States. However, the fact that end-of-year invisible stocks (*i.e.*, stocks with the manufacturers) fell from 17,800 metric tons in 1933 to 10,200 tons in 1934 suggests that real consumption was maintained at a higher level than apparent.

³ American Bureau of Metal Statistics, *Year-Book*, 1934.

Nickel. — Production of nickel rose from about 20,000 tons in 1932 to over 45,000 in 1933 and it is estimated at about 68,000 in 1934. This last figure may be compared with 56,000 in 1929, the highest previous figure.

Silver. — The world production of virgin silver reached its low point in 1932, increased slightly in 1933 and considerably in 1934, the advance over these two years exceeding 9%. The production of 1934 — 5,664,000 kg. (182.1 million ounces fine) — was, however, still below the 1931 figure. The relative increase was the largest in the United States (22%), but Mexico, Canada, Peru and Japan also expanded considerably their output in 1934.

About half the quantity mined in 1934 appears to have been absorbed by consumption in the arts, the minting of coins and (in India) hoarding. The other half has been available as the first offset against Government purchases. Further supplies became available for this purpose from the sales by the Indian and the U.S.S.R. Governments of about 1,710,700 kg. (55 million oz.) and above all from Chinese exports, which rapidly reached very large proportions, amounting to about 6,220,700 kg. (200 million oz.)¹ or 46% of the total world supply of silver. The United States Government purchased about 9,859,800 kg. (317 million oz.) and other Governments about 311,000 kg. (10 million oz.), the remainder being added to the commercial stocks in the West.²

Under the London Agreement of 1933, the Governments of the United States, Canada, Mexico, Peru and Australia had undertaken to buy out of their mine production an aggregate amount of 1,088,000 kg. (35 million oz.) annually. The purchases by the Government of the United States, however, far exceeded the limits of this programme, owing to the new silver legislation inaugurated at the end of 1933. As a result of this policy, prices of silver appreciated considerably during 1934 and the early part of 1935. This adversely affected countries whose currencies are linked to silver, particularly China, as well as countries such as Mexico and Peru, where the token currency contains a high percentage of silver.³

ENGINEERING.

Owing to the diversity of the products of the engineering industry, measurement of its activity is difficult. Indices are available only for a few countries; they are shown in Appendix II, Table 12 (annual) and in Table 27 below (quarterly). These indices, moreover, differ so widely in scope that any international comparison of the development of engineering based on them would be misleading. Three important industries — viz., the electrical, the motor vehicle and shipbuilding industries — which entirely or in part fall under the category of engineering are reviewed in separate sections below.

The index for France, being based on the consumption of steel, refers to engineering in the widest sense. It suggests that activity in the mechanical industry in France declined since the third quarter of 1933. The British (Board of Trade) and Italian indices are also wide in scope, comprising the electrical, motor vehicle and shipbuilding industries. The remarkable progress of the British engineering industry as a whole, which regained in 1934 the average pre-depression level, was largely due to these important branches; but available indices referring to other branches, such as exports of machinery and unemployment in "general engineering" (as distinct from electrical and marine engineering), also bear witness to an improvement. On the other hand, the Italian industry shows but moderate improvement since 1932.

The indices for Germany, the U.S.S.R. and Japan refer to engineering in a more limited sense — viz., machinery. Machinery manufacturing in Germany, aided by tax exemptions, expanded much more in 1934 than in the preceding year and, at the end of the year, the index for orders stood 3% above the average for 1925-1929 and 21% above the index for deliveries. According to the annual index for the U.S.S.R., production increased fourfold between 1929 and 1933 and expanded a further 25% in 1934. The new index for Japan, which is confined to the period since 1930, also gives striking evidence of industrial advance.

¹ Including some allowance for smuggling.

² Cf. Bank for International Settlements, *Fifth Annual Report (1934/35)*, page 28.

³ For a more detailed survey of these developments, see League of Nations, *Commercial Banks, 1925-1934*, Introduction, pages LXXV-LXXVI and Chapter III below.

Table 27. — QUARTERLY INDICES OF ACTIVITY IN THE ENGINEERING INDUSTRY.
(Average 1925-1929 = 100.)

Country	1931	1932	1933				1934				1935
	Average of quarters		I	II	III	IV	I	II	III	IV	I
Germany* :											
Despatch of machines . .	72	46	41	49	57	56	61	78	85	85	...
Orders received for machines	62	37	35	40	50	53	66	71	79	103	...
France**	104	74	77	84	87	83	77	75	76	74	73
Italy**	(83)	(71)	(69)	(71)	(73)	(73)	(72)	(74)	(78)	(79)	(86)
Poland: Metals and engineering*	68	54	51	55	54	59	60	66	67	73	71
United Kingdom***	85	79	83	86	83	89	96	100	101	103	106
United States :											
Demand for machine tools	38	18	10	14	29	48	47	40	35	50	56
Demand for foundry equipment	34	13	20	20	30	27	39	44	30	44	50
Japan* : Machines	(84)	(107)	(131)	(133)	(133)	(153)	(168)	(178)	(174)	(201)	(206)

* Including electrical machines or engineering. — * Including motor vehicle and shipbuilding industries — * Base : 1928. — * Base : 1924, 1927-1929 (Board of Trade index). — * Base : 1930.

For the United States, no index covering the whole machinery-manufacturing industry is available; the demand for machine tools and foundry equipment, for which indices are given, is undoubtedly rather more sensitive to change than is the activity of the industry as a whole. After a vigorous upward movement and subsequent setback during 1934, the index stood higher at the end of the year than at any time since 1930.

The very insufficient picture of the engineering industry afforded by the production indices may be filled in to some extent by data relating to external trade in machinery. The following quantum indices show the variations in the exports from the three principal exporting countries, as well as in the world imports.¹ Separate figures are shown for the imports into the U.S.S.R., because they have varied in a way directly opposite to that followed by the imports of the rest of the world and have been of sufficient importance to affect the general trend of the world index.

	1929	1930	1931	1932	1933	1934
<i>Exports :</i>						
United States	100	89	59	25	24	38
Germany	100	104	92	68	54	48
United Kingdom	100	87	65	63	62	73
<i>Imports :</i>						
World excluding U.S.S.R.	100	85	54	36	39	50
U.S.S.R.	100	220	300	230	95	40
World	100	93	71	47	42	49

The relatively high level of German exports in 1930-1932 was largely due to orders from the U.S.S.R. During 1933-1934, the United Kingdom's exports were much better maintained than those of its competitors, but the relative increase in 1934 was largest in the United States. The world's largest machinery exporter was the United States in 1929/30, Germany in 1931-1933, and the United Kingdom in 1934.

¹ Estimates of the Institut für Konjunkturforschung, *Vierteljahrshefte*, 10 : 1 : B (Hamburg 1935), p. 45.

Exports of machinery appear to have been maintained better than production in the United States since 1929, and in Germany up till 1933. The opposite was true of the United Kingdom. In certain important countries in process of industrialisation, above all in the U.S.S.R. and Japan, domestic machinery has rapidly gained ground at the expense of imported. It seems likely, therefore, that the world's investments in machinery have been somewhat higher than the index of imports would suggest.

MOTOR-VEHICLE INDUSTRY.

The following figures show the production of motor vehicles since 1929 :

	Number of motor-vehicles (000's)						Average 1925-1929=100					
	1929	1930	1931	1932	1933	1934	1929	1930	1931	1932	1933	1934
Europe (excluding U.S.S.R.)	694	631	552	523	648	777	118	108	94	89	111	133
North America	5,620	3,510	2,472	1,432	1,986	2,896	124	77	54	31	44	64
World	6,315	4,145	3,028	1,979	2,684	3,745	123	81	59	39	52	73

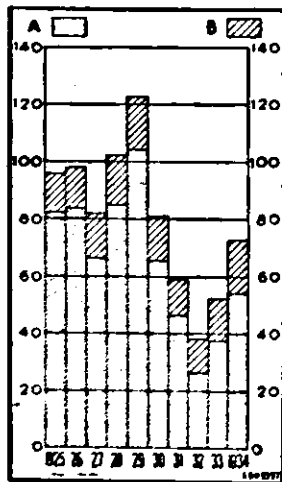
Quarterly indices showing motor-vehicle production in the six principal producing countries are given in Table 28.

Table 28. — QUARTERLY INDICES OF MOTOR-CAR PRODUCTION.
(Average 1925-1929 = 100.)

Country	1930	1931	1932	1933				1934				1935
	Average of quarters			I	II	III	IV	I	II	III	IV	I
United States*	77.8	54.9	32.1	32.6	48.2	56.1	36.6	63.2	74.5	58.0	51.6	95.5
Canada	70.3	36.3	28.4	24.2	36.7	38.7	25.8	54.0	76.5	55.6	22.6	92.6
France*	114.5	97.5	76.6	89.3	87.8	78.9	78.9	81.6	81.8	83.3	77.9	71.8
Germany*	104.9	74.2	45.4	51.3	123.6	112.0	92.6	96.9	198.3	184.0	128.5	197.3
Italy*	(88.3)	(69.6)	(75.5)	(78.5)	(80.9)	(87.3)	(81.5)	(79.3)	(85.2)	(89.9)	(82.3)	(96.3)
United Kingdom	116.4	109.4	120.0	142.7	158.2	115.9	154.7	196.5	178.3	132.6	179.8	226.5
World*	80.7	59.0	38.5	52.3				72.9				...

Diagram 22.

WORLD PRODUCTION OF MOTOR VEHICLES.
A. United States.
B. Rest of World.



* Adjusted for seasonal variations. — * Passenger cars only. — * Base: 1928. — * Annual index including sixteen countries.

The automobile output of the United States increased rapidly in 1934, the total rise for the year being 45%. This has been the most important single factor of the industrial recovery which has so far taken place in the United States, and is stated to have accounted in 1934 for all the net increase in the volume of factory production.¹ But such had been the drop in output during the depression years that the level of production still remained 48% below 1929. Output of commercial vehicles progressed more rapidly than that of passenger cars and was higher in 1934 than in any year except 1929, amounting to 21.2% of the total output; about half of the commercial vehicle sales has been ascribed, directly or indirectly, to the Government programmes, particularly the Public Works Administration.² Much new capital was invested in the industry.

The European motor-vehicle production attained record figures in 1934, exceeding those for 1929 by over 12%. The United Kingdom maintained its lead, held since 1930, increasing output by 20% to reach a new high point. This expansion was mainly attributable to the home market, which was stimulated by increased purchasing power and the reduction of the horsepower tax. In Germany, "motorisation" of the country is a

¹ Cf. The Cleveland Trust Company Business Bulletin, Vol. 16, No. 2.

² Cf., e.g., Iron Age (Philadelphia), January 3rd, 1935.

part of the new economic policy. Production, aided by tax exemptions in 1934 was, in fact, 48% above the previous peak in 1928 and 66% above 1933. The Italian output rose slightly (9.5%) in 1934, but without reaching the level of any of the years between 1926 and 1930, while the French industry stagnated at a point more than 25% below the 1929 level. The industry in the U.S.S.R. and Japan continued to expand in 1933 and 1934, output concentrating mainly on commercial vehicles.¹

The total number of motor vehicles registered in the world at the beginning of 1934 is estimated at 33,331,600, of which not less than 23,827,300 (71%) were in the United States and 5,989,000 (18%) in Europe. The number was somewhat higher in France (1,890,000) than in the United Kingdom (1,725,000), while Germany (690,000) lagged considerably behind, showing a lower ratio of motor vehicles to population than most other Western-European countries.² But "motorisation", as expressed by the ration of new vehicles added to the existing number of vehicles registered, in 1934, proceeded more rapidly in Germany and the United Kingdom than in France and the United States.³ The average life of a car has been lengthened during the depression — from about 6½ years in 1929 to 7¾ years in 1933 in the United States — and the proportion sold of cheaper cars in America and lighter cars in Europe, has increased rapidly during the most recent years.

World exports of motor vehicles more than doubled in the year ending September 30th, 1934. The major part of this expansion was attributable to the United States. The United Kingdom also increased its exports, but lost ground to the United States both in the Dominion and European markets.

MERCANTILE SHIPBUILDING.⁴

The total tonnage launched, including sailing vessels, in the United Kingdom and in the world as a whole (excluding the U.S.S.R.) will be seen from the following figures :

	Gross tonnage launched (000's)						Average 1925-1929=100					
	1929	1930	1931	1932	1933	1934	1929	1930	1931	1932	1933	1934
United Kingdom	1,523	1,478	502	188	133	460	129	125	43	16	11	39
World	2,759	2,889	1,617	726	489	967	120	125	70	32	21	42

Actual and prospective activity in the world's shipbuilding yards is brought out more clearly by the following figures, relating to all vessels over 100 tons, and showing tonnage laid down during the quarter ending with the month indicated and tonnage under construction at the end of the months indicated :

End of :	Tonnage laid down (000's)						Tonnage under construction (000's)					
	1930	1931	1932	1933	1934	1935	1930	1931	1932	1933	1934	1935
March	857	242	80	141	461	322	3,143	2,000	1,298	741	1,079	1,270
June	581	234	71	121	273	...	2,901	1,826	1,110	733	1,216	...
September	480	173	43	111	258	...	2,569	1,531	901	757	1,311	...
December	421	226	84	145	203	...	2,326	1,404	766	757	1,252	...

Quarterly indices of tonnage under construction in the principal shipbuilding countries are given in Table 29.

¹ The second Five-Year Plan provides for a rapid increase in subsequent years, to reach 580,000 vehicles in 1937.

² National Automobile Chamber of Commerce (New York), *Automobile Facts and Figures*, 1934 edition.

³ The percentage of new registrations to total registrations was in 1934, for passenger cars and commercial vehicles respectively, as follows: Germany, 22 and 13; United Kingdom, 17.1 and 19.1; France, 10.7 and 5.4; United States, 9.2 and 14.2. It will be noted that the percentage for commercial vehicle registrations was higher in the United Kingdom and the United States than in Germany and France.

⁴ The source of the shipbuilding statistics is *Lloyd's Register (Shipbuilding Returns)*. Tables showing 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, 1934/35*. Tables 99-102.

Table 29. — QUARTERLY INDICES OF SHIPBUILDING (TONNAGE UNDER CONSTRUCTION AT END OF QUARTER).
(Average 1925-1929 = 100.)

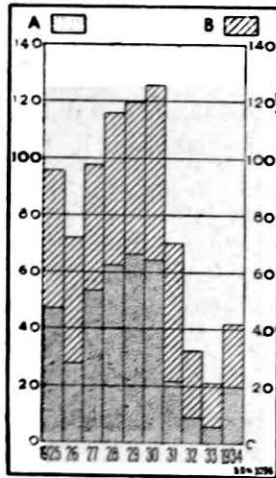
Countries	1931	1932	1933				1934				1935
	Average of quarters		I	II	III	IV	I	II	III	IV	I
United Kingdom	43.3	23.3	21.1	24.1	25.4	27.8	40.3	49.1	50.6	50.0	46.5
Germany	36.5	27.8	15.9	15.1	9.1	6.8	24.9	27.5	36.4	42.1	58.8
France	133.0	84.7	66.6	63.2	65.5	62.0	70.5	71.4	82.6	82.7	82.6
Italy	90.9	73.2	31.5	14.4	14.4	6.0	25.4	25.4	20.2	19.7	19.6
Netherlands	61.4	28.1	20.4	19.9	25.6	25.4	32.2	34.3	44.3	30.3	37.8
Sweden	153.6	104.8	108.0	102.6	93.7	84.8	62.1	64.3	84.7	78.9	109.2
Denmark	109.9	28.5	27.2	36.6	43.1	33.3	68.8	89.9	100.9	105.9	89.7
United States	289.8*	160.6	36.1	3.5	17.1	14.4	31.7	32.1	25.8	23.3	21.5
Japan	57.9	60.9	68.0	100.6	104.7	130.6	149.9	167.9	183.2	127.9	97.2
Other countries	52.2	29.2	32.4	29.9	31.1	29.5	36.3	28.4	25.4	25.7	29.9
World	66.7	40.2	29.2	28.9	29.8	29.9	42.6	48.0	51.7	49.4	50.1

* Excluding shipbuilding on Great Lakes which ceased in 1932.

Diagram 23.

TONNAGE LAUNCHED IN THE WORLD.

- A. United Kingdom.
- B. Rest of world.



Tonnage launched in 1933 was the lowest recorded since the first issue of *Lloyd's Register (Shipbuilding Returns)* in 1888. However, 1934 witnessed a pronounced revival. Despite the completion of tonnage almost double that of the preceding year, there was a considerable increase in the tonnage laid down, so that the total under construction remained throughout the year much above that of 1933. This expansion has been largely due to Government subsidies; in 1934, the United Kingdom joined the countries granting subsidies to shipbuilding.

The tonnage launched in the United Kingdom was only 27% of the world total in 1933, but reached 48% in 1934; moreover, the United Kingdom accounted at the end of 1934 for 48% of the total world tonnage under construction, only a slightly smaller proportion than at the end of 1929. The rationalisation of the industry advanced further, the total number of berths closed down from 1930 to 1934 being 137, with an annual building capacity of about 1,000,000 tons. Japan maintained second rank among the shipbuilding countries and launched in 1934 more than twice as much tonnage as in 1933. Germany and Denmark also recorded remarkable increases and advanced to the third and fourth places. The United States, which still held the second place in 1932, occupied the eighth in 1934. Among the leading shipbuilding countries, only Sweden and France showed a decrease in launchings in 1934. Shipbuilding in the U.S.S.R. (excluded from the statistics given above) increased from 56,700 tons in 1932 to 72,850 tons in 1933 and 79,500 tons in 1934.¹

The technical progress realised by shipbuilding and marine engineering, as well as the keen competition in the freight market, have accelerated the replacement of obsolete vessels. While the total tonnage scrapped was only 2.9 million gross tons in 1926-1929, it amounted to 5.6 millions in 1930-1933, and a further 1.9 millions were scrapped in 1934. As a consequence, the gross tonnage of the world merchant marine decreased from 70.1 million tons on June 30th, 1931 — the peak —

¹ According to the *Wirtschaftsdienst* (Hamburg), Vol. XIX, No. 46, the second Five-year Plan provides for a 72% increase in the merchant fleet, of which about half is likely to be constructed in Russian wharves.

to 65.9 millions on June 30th, 1934, when it just exceeded the level of 1927. At the same time, tonnage laid up decreased from about 15 million tons at the end of 1932 to 12 millions a year later and to 7 millions at the end of 1934. Nevertheless, the world merchant marine still remained in excess of the shrunken freight requirements.¹ The International Shipping Conference, at a meeting held in London in January 1935, discussed plans for scrapping.

NON-METALLIC MINERALS.

This somewhat heterogeneous group now comprises cement, salt, asbestos, sulphur and natural phosphates,² the last two products having been transferred from the chemicals group in the present edition. *Cement*, however, still dominates the index, accounting for two-thirds of the aggregates on which it is based. The decline in the production of cement between 1929 and 1933, the low point, amounting to 36% in all, and the recovery, probably about 15% in 1934, reflects largely the changes of activity in the building and construction industry.³ The world mine output of *sulphur*, on the other hand, was practically the same in 1934 as in the preceding years — *i.e.* about 17% below the average pre-depression level. Early in 1934, the Italian Central Sulphur Sales Bureau was formed, with Government support, to handle domestic and foreign sales.

CHEMICALS (FERTILISERS).

This group embraces nitrates, phosphates and potash, together with copper sulphate, which, while not a fertiliser, is largely employed in agriculture; natural phosphates and sulphur, formerly included here, have been transferred to the non-metallic minerals group. The aggregate production of the chemicals group fell off 36% during the depression, but recovered between 1932 and 1934 by nearly 18%.

Nitrates. — Nitrates form the most important of the subdivisions mentioned above. All the nitrates represent "manufactured nitrogen", with the notable exception of Chilean nitrate of soda (Chile saltpetre). The production and consumption of these two classes of nitrates are shown below in terms of pure nitrogen (metric tons, 000's):

	1925/26	1929/30	1930/31	1931/32	1932/33	1933/34
<i>Chilian nitrates:</i>						
Production	399.4	464.0	250.0	170.0	70.8	85.2
Consumption	324.2	363.9	244.3	138.2	127.2	161.2
<i>Manufactured nitrogen:</i>						
Production	934.3	1,739.5	1,444.3	1,415.2	1,606.1	1,701.6
Consumption	934.3	1,586.9	1,377.0	1,417.1	1,619.7	1,700.9

The largest increase in nitrogen consumption in 1933/34 has been in the United States, Germany, Italy, the U.S.S.R. and Egypt, and the greatest decrease in China. The position of Chile has improved somewhat and the heavy stocks which had been accumulated there, estimated (in terms of pure nitrogen) at 365,000 tons on June 30th, 1933, are being gradually reduced.⁴ It is reported that the agreements between the Continental producers have been renewed and that further arrangements have been made with the Japanese ammonium-sulphate producers and the Chile nitrate industry.⁵

¹ This excess capacity has been most marked in the case of oil tankers. As a result of the great increase in the tanker fleet and the consequent drop in tanker freights, an international tanker pool was constituted in May 1934, which, *inter alia*, pays compensation for vessels laid up or scrapped.

² Superphosphates are in the chemicals group.

³ See Appendix II, Table 14.

⁴ *The Economist* (London), February 17th, 1934, and February 16th, 1935.

⁵ British Sulphate of Ammonia Federation, Ltd.: *Annual Report* for 1933/34.

II. INTERNATIONAL TRADE AND SHIPPING.

“ 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*.¹ It is of particular interest, however, to examine to what extent the changes in the production of primary goods and in industrial activity, as discussed in the preceding chapters, 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 percentage movement of the value of the total trade (imports plus exports) of each continental group, and of the world as a whole, during the period under review was as follows :

Table 1. — PERCENTAGE MOVEMENT OF THE GOLD VALUE OF TRADE.
(Average 1925-1929=100.)

Continental groups	1925	1929	1930	1931	1932	1933	1934
Europe, excluding U.S.S.R. .	98.0	106.0	90.3	66.5	43.7	39.5	37.7
Europe, including U.S.S.R. .	97.8	106.2	91.3	67.8	44.5	39.8	37.8
North America	97.8	104.1	76.6	49.6	32.9	27.0	26.1
Latin America	97.4	106.9	79.1	53.2	35.0	33.4	33.9
Africa	93.4	109.5	93.0	70.4	57.9	56.1	53.0
Asia, excluding Asiatic Russia	103.5	98.4	75.1	53.6	37.7	35.1	35.6
Oceania	104.3	95.5	69.3	39.9	34.7	35.5	33.6
World	98.6	104.6	84.7	60.5	41.0	36.9	35.6

The above figures show the 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 by the following indices (average 1925-1929=100):²

	1925	1929	1930	1931	1932	1933	*1934
Prices (gold)	108	95	83	64.5	50.5	44.5	41.5
Value (gold)	98.5	104.5	84.5	60.5	41	37	35.5
Quantum	91.5	110	102.5	94	81	82.5	85.5

* Provisional figures.

These figures show a very different tendency from those given in Table 1. While, owing to declining prices, trade values continue to fall, the lowest point in the quantum of world trade, as in production, was reached in 1932; since 1932, trade has increased — by about 2% in 1933 and about 3% in 1934.

¹ Last issue, *Review of World Trade*, 1934. League of Nations, Geneva, 1935.

² The calculations are subject to certain qualifications (cf. *Review of World Trade*, 1934).

The information concerning the fluctuations in price and 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 in Table 2.

Table 2. — INDICES OF THE PRICES AND QUANTUM OF GOODS ENTERING INTO THE TRADE OF EUROPE AND NORTH AMERICA.
(Average 1925-1929=100.)

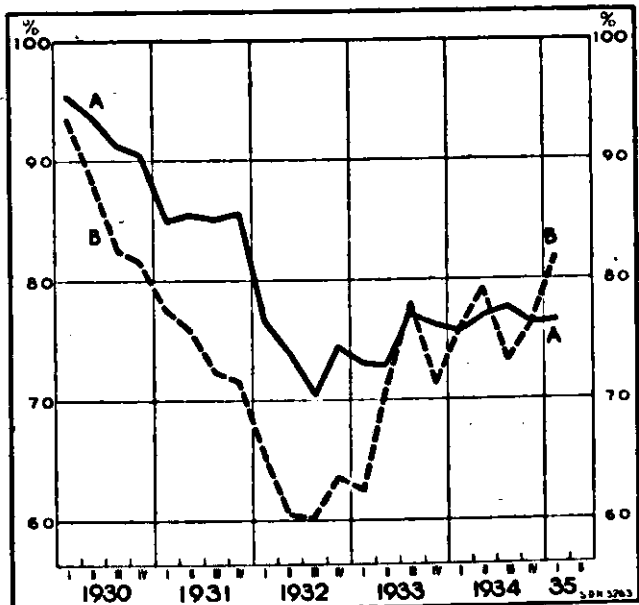
Continental groups	Imports							Exports						
	1925	1929	1930	1931	1932	1933	*1934	1925	1929	1930	1931	1932	1933	*1934
Europe :														
Prices (gold)	107	97	84.5	66	50.5	46	43.5	105.5	96.5	89	73	58	52.5	48.5
Quantum	92.5	108.5	106.5	102.5	89	87	87.5	91.5	111.5	104.5	92.5	75.5	76	77.5
North America :														
Prices (gold)	108.5	91.5	76	58.5	46	36	32.5	110	96	84.5	64.5	53.5	44.5	39.5
Quantum	88	115	102	86	70	72.5	74.5	90.5	107.5	90	76	63	62.5	70

* Provisional figures.

QUARTERLY MOVEMENT OF THE QUANTUM OF WORLD TRADE AND INDUSTRIAL ACTIVITY
(1929=100).

Note. — The curve for the quantum of trade has been roughly adjusted for seasonal variations, in order to render it more comparable with that for industrial activity, based on national indices, most of which are thus adjusted.

- A. Quantum of world trade.
- B. Industrial activity: world, excluding U.S.S.R.



Cf. page 7 above.

The diagram given in the introductory summary of principal facts¹ shows that the quantum of international trade during the early part of the depression fell much more rapidly than primary production, though somewhat less rapidly than general industrial activity.

The changes in world trade and industrial activity deserve a somewhat closer comparison. For this purpose, the diagram opposite has been drawn on the basis of quarterly figures.

In view of the fact that the Union of Soviet Socialist Republics weighs but slightly in the index of world trade, while its inclusion in any international index of industrial activity very markedly affects the general course and level of such an index during the period here considered, that country has not been included in the index represented by curve B in the diagram.

The difference in level between the two curves up to 1932 is largely explained by the fact that foodstuffs (mainly crude), the trade in which was relatively well maintained during the first years of depression, accounts for a considerably larger share in the trade index than does food preparation in the index of industrial activity.

It will be noted that the lowest point of both world trade and industrial activity was

reached in the middle of 1932. Between the third and the fourth quarters of that year, both recovered to a like extent (seasonal variations are roughly eliminated in both indices), thus reflecting the more optimistic though rather short-lived expectations provoked by the Lausanne (reparations) agreement, which had been signed a few months earlier. The marked industrial revival in the spring and summer of 1933 was followed, in the third quarter of that year, by a rise — though much smaller in proportion — in the quantum of world trade. As is suggested by the annual figures given below for main categories of goods, this rise related almost exclusively to the trade in raw materials, factory stocks of which in importing countries had been largely depleted in the course of depression. The subsequent increase in industrial activity — checked in 1934 — was largely confined to the production of goods for domestic markets. It is therefore not surprising to find that the quantum of world trade has hardly risen since the third quarter of 1933. The failure of trade to recover further is clearly largely due to the piling up of obstacles to the international exchange of goods. As long as it persists, it sets obvious limits to the prospect of further recovery in industrial activity.

It may be of interest to compare in some detail the changes since 1929 in production and trade by main categories of goods. In that year, foodstuffs (including live animals) represented about one-quarter, raw materials somewhat more than one-third, and manufactured articles nearly two-fifths of the value of all goods entering into trade. Estimates of the changes since 1929 in the quantum of the world trade in goods belonging to the three groups in question are reproduced below, together with the indices of world production by groups given in Chapter I. In order to facilitate the comparison, the latter indices have been converted to a 1929 basis.

<i>Indices of the Quantum of World Trade</i> (1929=100.)				<i>Indices of World Production.</i> (1929=100.)			
	1932	1933	1934		1932	1933	1934
(1) Foodstuffs . . .	89.5	82.5	84.5	(1) Crude foodstuffs.	102	101.5	98.5
(2) Raw materials ¹ .	81	87.5	88	(2) Raw materials .	72.5	80.5	85
				(2a) Ditto, excluding pig-iron and crude steel. . .	80.5	86.5	89.5
(3) Manufactured articles.	58	59.5	64	(3) Manufacturing : World, exclud- ing U.S.S.R. . .	62	70.5	75.5

The trade and production indices are not strictly comparable. Thus, manufactured food products are included in group (1) of the trade indices (Foodstuffs), not in group (3) (Manufactured articles). Further, it has not proved possible to employ throughout the same principles in allocating semi-manufactured articles. The more important intermediary products — such as yarns or rolled and hammered iron and steel — are, however, considered in the trade indices for manufactured articles as well as in the indices for manufacturing activity. In spite of this lack of correspondence, the figures given may serve as a basis for a rough comparison between the trend of production and trade.

Foodstuffs. — While the production of crude foodstuffs in 1933 and 1934 remained close to the level of 1929, the trade in foodstuffs was lower than in that year by 17.5% in 1933 and — according to the provisional estimate available — by 15.5% in 1934. The difference between the movement of production and trade is largely to be attributed to increased self-sufficiency of numerous food-importing countries. Thus, with the increase in the cereal production in several European industrial countries, the cereal exports of

¹ Group (2) of the trade indices refers to the articles which in the international (Brussels) classification of 1913 are described as "Materials, raw or partly manufactured". As, however, according to this classification, the bulk of the semi-manufactures which are included with group (3) of the production indices are, in fact, also included in group (3) of the trade indices, it has been thought appropriate in this volume to classify group (2) of the trade indices as "Raw materials".

certain other countries, particularly the United States of America, have declined. The quantity of wheat entering into trade fell in 1934 below that in any other post-war year. Similarly, the growing sugar production in the main consuming countries in Europe, North America and Asia has entailed a reduction in the total quantity of sugar exported by Cuba and Java by approximately one-half since 1929. The slight rise in the quantum of the trade in foodstuffs in 1934 is chiefly due to larger United States imports of alcoholic liquors after the repeal of prohibition, and thus cannot be taken as a sign of a reversal of the falling tendency of the preceding years.

Raw materials. — Two production indices have been calculated above, one for raw materials in the aggregate and the other for such materials exclusive of pig-iron and crude steel. The reason for giving the latter index is that pig-iron and crude steel weigh heavily in the production index, as they represent the raw material for all more advanced iron and steel products, while their importance in world trade is relatively small and the proportion of raw iron and steel produced which enters into trade is much smaller than the corresponding proportion of most other raw materials. As a comparison of the two production indices shows, the production of iron and steel fell more heavily than that of the aggregate of other raw materials in the early years of the depression.

The fact that trade in "Materials, raw and partly manufactured" rose from 1933 to 1934 by only about half of 1% (from 87.5 to 88), while the production of raw materials, excluding iron and steel, increased by 3 to 4% (from 86.5 to 89.5), calls for special explanation. The discrepancy is due to the failure of the trade in raw materials to keep pace with production in the second half of 1934, when United States industrial activity and purchases of raw materials declined and severe obstacles to trade in raw materials resulted from the conclusion of numerous clearing agreements between European countries. In particular, Germany experienced difficulties in meeting her requirements of oversea raw materials owing to the reduction in her supply of free exchange, and had to reduce domestic stocks.

Manufactured articles. — As the products of the manufacturing industry of the Union of Soviet Socialist Republics are almost entirely disposed of in the domestic market, it has been thought appropriate to compare the index of trade in manufactured articles with that of manufacturing for the world, exclusive of the Union of Soviet Socialist Republics.

The former index stood at 64 in 1934, while the latter was as high as 75.5. The discrepancy between these figures may be attributed partly to the heavy drop in the import of manufactured articles by non-industrial debtor countries, whose currency situation deteriorated when they were no longer able to raise new loans in industrial creditor countries, and, in consequence, the prices of their own products fell off heavily. In many cases, they have developed their national production of manufactured articles. The results of this industrialisation are very marked in the textile industry, as may be illustrated by the following indices of textile manufacturing in four agricultural debtor countries (1929=100):

	1932	1934		1932	1934
Chile (wool)	284	265	Greece	120	153
Denmark	112	154	Hungary	94	130

In India and China, for which countries corresponding figures are not available, the estimated cotton-mill consumption during the twelve months ending January 31st, 1933 and 1935, represents the following percentages of the figures for the twelve months ending January 31st, 1930:

	Twelve months ending January 31st	
	1933	1935
India	125	126
China	113	119

Simultaneously, the activity of the textile industry in several of the older industrial countries — with the exception of Japan — has fallen greatly below the level of 1929. The industrialisation of agricultural countries is not confined to textile manufacture and

production of other articles of consumption ; India and Brazil, for example, have developed their iron and steel production to a considerable extent.

The exports of manufactured articles from industrial countries have suffered at once from the reduction in the demand on the part of agricultural countries and from a decline in the exchange of such articles between themselves, due to the restrictive commercial policy they have pursued. The share of their industrial production disposed of abroad has accordingly fallen, as may be illustrated by the following indices for manufacturing activity and the quantum of exports of four chief exporters of manufactured goods (1929=100) :

	United States of America		United Kingdom		Germany		France	
	1932	1934	1932	1934	1932	1934	1932	1934
Manufacturing activity .	53	65.5	82.5	100	64.5	88	65.5	70.5
Quantum of manufactured articles exported . . .	35	48	61.5	68.5	59	49.5	56	57.5

The export indices are in each case much below the production indices. The largest discrepancy is recorded for Germany, where the exports of manufactured articles fell, even during 1933 and 1934. The share exported of the German output of a few important industrial products was as follows in 1932 and 1934 (percentage) : ¹

	1932	1934		1932	1934		1932	1934
Textiles	11	6	Machinery . . .	49	16	Motor-cars . . .	21	8
Household goods .	29	22	Cement	11.1	4.4	Cellulose . . .	29.8	26.8
Shoes	2.1	0.9	Iron rolling-mill products . . .	29	18			

Further details concerning the relation between production and exports in the four countries mentioned above are given elsewhere in this volume. ²

It would appear that the divergent movement of production and trade is most striking in the case of consumers' goods. Though capital goods account for the bulk of the recent increase in world manufacturing activities, the production of consumers' goods has increased considerably in the main producing countries since 1932. ³ It is open to doubt, however, whether such an increase has taken place in the trade in industrial products for consumption. Between 1933 and 1934, the increase in the quantum of trade in manufactured articles would appear to be wholly accounted for by heavy metal products, machinery and certain semi-durable articles of consumption, such as motor-cars. The increase in industrial self-sufficiency has naturally called for the foundation or expansion of new industries in many countries ; to some extent, the increase in the trade in machinery and other capital goods is caused by this industrialisation. The quantum of trade in all goods more or less ready for immediate consumption (including foodstuffs) was undoubtedly lower in 1934 than in 1932, when the quantum of world trade as a whole reached its lowest point.

MERCHANT SHIPPING.

It is interesting to compare the movement of the quantum of world trade with the fluctuations in shipping activities as reflected in the tonnage of ships entering or clearing in oversea traffic. Owing to the defectiveness of the information available for numerous countries, it is not possible to compile such complete world statistics for shipping as for trade ; but the indices of shipping activity given in the following table, calculated on the basis of the gross tonnage of the ships cleared in the ports of forty-two countries representing together 83% of world trade, may be taken as representative of the changes which have taken place. In the case of countries for which figures covering the whole period under review were available for all ships (with cargo and in ballast), as well as for ships with cargo only,

¹ Cf. *Weekly Report of the German Institute for Business Research*, No. 14/15, 1935.

² Cf. page 43 above.

³ Cf. page 45 above.

those for all ships were employed. In the case of a few countries, figures for 1934 had to be estimated on the basis of partial information available for that year. At the foot of the table, two other series have been added for purposes of comparison, the one showing the changes of the *active* tonnage of the world's merchant marine (that is, the tonnage of existing merchant vessels less the tonnage of ships laid up),¹ and the other showing the movement of the quantum of world trade, as given above.

Table 3. — NET TONNAGE OF SHIPS CLEARED IN FORTY-TWO COUNTRIES, COMPARED WITH THE ACTIVE GROSS TONNAGE OF THE WORLD'S MERCHANT MARINE, AND THE QUANTUM OF WORLD TRADE.
(Average 1925-1929=100.)

	1925	1929	1930	1931	1932	1933	1934
<i>Tonnage of ships cleared in the ports of:</i>							
Europe	89	112.5	113	103.5	95.5	99.5	103
North America	91	106	105.5	97	87.5	87	87
Latin America	87	114.1	108.5	100	88	94	95
Africa	92.5	112.5	114	108	107	113.5	124
Asia	87.5	113	113	102.5	99	103.5	112
Oceania	100	101.5	101	101	104	109	103
Total	89	111.5	111.5	102	94	98	101.5
<i>Active tonnage of the world's merchant marine, June 30th.</i>	95.5	106	105	97.5	91.5	92.5	95
<i>Quantum of world trade.</i>	91.5	110	102.5	94	81	82.5	85.5

Between 1929 and 1932, the tonnage of ships cleared fell by 16%, the active tonnage of the world's merchant marine by 14%, but the quantum of world trade by as much as 26%. As was shown above, however, the trade in manufactured articles fell most in quantum; the reduction in the quantum of primary products entering into trade was approximately the same as the fall in the tonnage of ships cleared or in the total tonnage of merchant vessels in use. It is naturally the quantum of these products, whose volume is great in relation to their value, which determines the shipping activity, particularly as the greater fall in the quantum of manufactured articles affects shipping from industrial countries alone and is thus largely reflected, not in the tonnage of ships employed, but in the extent to which these ships are loaded on their outward journeys (from industrial countries to countries exporting primary products). That the average utilisation of the loading capacity has fallen during the depression is proved by available figures concerning the tonnage of ships passing through the Suez and Panama canals and the weight of the goods forwarded by these ships. The following figures show the average weight of the goods forwarded per register ton of these ships in the years 1930-1934, as percentage of the corresponding figures for 1929:

	1930	1931	1932	1933	1934
Ships passing through the Suez Canal	87	82	81	85	87
Ships passing through the Panama Canal	92	83	77	81	86

¹ The gross tonnage of existing merchant vessels rose from 64.6 million tons in 1925 to 70.1 million tons in 1931 and fell to 65.5 million tons in 1934; that of ships laid up fell from 6.6 million tons in 1925 to 3.4 million tons in 1929, rose to 14 million tons in 1932 and fell again to 7.7 million tons in 1934. The figures refer to the tonnage on June 30th of each year.

According to these figures, each register ton carried, on an average, about 20% less goods in 1932 than in 1929 ; but, between 1932 and 1934, the extent to which ships were loaded again increased considerably (by 7 and 12% respectively for ships passing through the two canals).

This increase in the utilisation of the capacity of ships does not seem to match very well the figures in the above table, according to which the tonnage of ships cleared in ports rose between 1932 and 1934 by 8%, or more than the quantum of world trade. Recent changes in the geographical distribution of trade have, however, caused an increase in the demand for shipping services exceeding that in the quantum of world trade. Attention should be paid to the fact that, while between 1932 and 1934 the quantum of European trade remained practically stable (imports fell by 2.6% and exports rose by 2.4%), that of other continents rose considerably (imports increased, in the aggregate, by 14% and exports by 7%). Further, the drop in the total European trade is mainly due to the contraction of intra-European trade, for which railway and ships engaged in short routes are the chief means of transport. The trade which has expanded the most is that between continents, particularly between continents other than Europe ; the average length of the routes of the ships is thus likely to have increased.

It may be, however, that the increase in the extent to which ships were loaded, in general, was less than is indicated by the figures given above for the Suez and Panama Canals. Attention should also be paid to the fact that changes in the *quantum* of trade do not necessarily agree with those in the *weight* of the goods entering into trade.

III. PRICE MOVEMENTS.

In a recent publication¹ of the League of Nations, an analysis was made of the movements of wholesale and retail prices during the period 1929-1934, and of the relationships between price movements and exchange rates. These subjects are therefore treated only summarily in the present publication, where attention is concentrated mainly on the price movements of individual commodities and of various significant economic groups.

MOVEMENTS OF THE GENERAL LEVEL OF WHOLESALE PRICES.

Table 1 on page 100 summarises the main features of the movement of the wholesale price indices of forty-one countries from 1929 to March 1935. For each country, the average level of wholesale prices in 1929 is taken as 100 and indices are shown for the lowest point touched for December 1933, December 1934 and March 1935. The percentage change during 1934 (*i.e.*, from December 1933 to December 1934) and from the lowest point reached to March 1935 is also shown.

An examination of column 6 will show that, in most countries, the changes in the general level of wholesale prices were — in comparison with previous years — slight in 1934. In only four of the forty-one countries did the change exceed 10%, and in as many as twenty-seven countries it was less than 5%. The price index rose or was stable in twenty-nine countries and fell in twelve. Of the former, the rise was most marked in Egypt, Hungary and Turkey. The decline was apparently greatest in France, and this fact, taken in conjunction with the increase in the American price level and stability in the British, shows that substantial progress was made towards reducing the over-valuation of the franc in the course of 1934. The general level of wholesale prices also fell in 1934 — though not so sharply — in most other countries adhering to the gold standard — Poland, Belgium, Italy, Switzerland, Indo-China and Danzig. In the Netherlands, the index rose by 1.3%, while the Netherlands East Indies index showed no net change.

A comparison of columns 4 and 5 shows that, during the first quarter of 1935, the deflationary pressure persisted and was renewed in the great majority of countries adhering to the gold standard, while prices continued their upward course in the "dollar" countries and changed but little in most countries of the sterling bloc. In Italy, the general level of wholesale prices reached its lowest point in the middle of 1934 — *i.e.*, after the institution of foreign exchange regulations — and rose almost continuously thereafter. The active public works policy of the Government is partly responsible for this rise. Although the decline of wholesale prices in Belgium was less regular in 1934 than in most other countries on gold, the index in March 1935 was only slightly higher in relation to the 1929 level than in France. It is still² too early to measure the full effect of the devaluation of the belga (which became effective on April 1st, 1935) on the Belgian price level. The wholesale price index rose by nearly 15% from March 15th to April 15th and by a further 4% during the next month. After an initial tendency to rise rapidly, retail prices showed a higher degree of stability, partly, no doubt, as a result of the measures taken by the Government to control an exaggerated rise; the cost-of-living index rose from 75% of its 1929 level in March 1935 to 76% in April, or by 1.3%.

The countries remaining on the gold standard are not the only ones in which prices declined in 1934 and the first quarter of 1935; indeed, in South Africa and Estonia prices

¹ *Commercial Banks, 1929-1934* (Geneva, 1935); Introduction; Section X, Prices; and Section XI, Prices and Exchange Rates.

² June 1935.

fell more than in the majority of gold-standard countries. But the general tendency was for prices to rise or remain stable in the sterling countries as well as in the others with depreciated currencies.

The question of the relationship between prices and exchange rates is a complicated and difficult one; but it has been treated at some length in another publication¹ and it is

Table 1. — WHOLESALE PRICE INDICES.
(1929=100.)

Country	Lowest point	Date	December 1933	December 1934	March 1935	% change December 1933- Dec. 1934	% rise from lowest point to March 1935
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Chile	74.0	X. 1931	167.4	177.7	175.0	+ 6.2	136.5
Egypt	56.0	V. 1933	62.9	84.5	82.8	+34.3	47.9
Greece	78.2	VIII. 1931	108.4	110.1	110.3	+ 1.6	41.0
U. S. A.	62.7	II. 1933	74.3	80.7	83.2	+ 8.6	32.7
Japan	66.6	VI. 1932	79.8	82.4	83.5	+ 3.3	25.4
Roumania	54.0	IX.33,II,IV.1934	56.0	59.0	66.0	+ 5.4	22.2
Hungary	57.9	IX, XI. 1933	58.7	69.4	70.2	+18.2	21.2
Denmark	72.7	VIII, IX. 1931	86.0	90.0	88.0	+ 4.7	21.0
Mexico	80.5	V. 1932	92.8	94.8	94.6	+ 2.2	17.5
Peru	87.6	IV. 1932	100.7	99.6	102.9	- 1.1	17.5
Argentina	86.5	X. 1933	97.1	102.4	100.7	+ 5.5	16.4
Turkey	46.4	V. 1934	47.5	55.9	53.9	+17.7	16.2
Finland	80.6	IX. 1931	90.8	91.8	91.8	+ 1.1	13.9
Canada	66.4	II. 1933	72.2	74.5	75.6	+ 3.2	13.9
Germany	66.1	IV. 1933	70.1	73.6	73.4	+ 5.0	11.0
Sweden	75.0	III, IV. 1933	78.6	82.1	82.1	+ 4.5	9.5
Bulgaria	50.5	I. 1934	52.0	54.6	54.9	+ 5.0	8.7
Portugal	80.6	V. 1933	87.7	87.9	87.4	+ 0.2	8.4
Australia	73.8	II. 1933	79.6	80.9	80.0	+ 1.6	8.4
Czechoslovakia	70.6	I. 1934	70.9	76.0	76.3	+ 7.2	8.1
New Zealand	85.1	I. 1933	88.7	89.9	91.8	+ 1.4	7.9
Albania	49.2	V. 1934	54.3	51.1	53.1	- 5.9	7.9
Norway	78.5	IX. 1931	81.9	83.9	84.6	+ 2.4	7.8
South Africa	74.9	X. 1932	91.4	82.3	80.0	-10.0	6.8
Latvia	67.5	XII. 1931	69.0	71.7	71.7	+ 3.9	6.2
India	58.2	III. 1933	63.1	62.4	61.7	- 1.1	6.0
Italy	63.7	VI, VII. 1934	66.8	65.2	67.3	- 2.4	5.7
Spain	93.3	V. 1933	96.5	98.2	98.6	+ 1.7	5.7
United Kingdom	72.4	III. 1933	76.7	76.9	76.0	+ 0.3	5.0
Austria	80.8	I. 1931	83.1	83.8	84.0	+ 0.8	4.0
Estonia	67.5	IV, VI. 1933	76.1	70.9	70.1	- 6.8	3.9
Yugoslavia	60.3	VIII, IX. 1933	61.9	61.9	62.6	+ 0	3.8
Netherlands	49.7	III, IV. 1933	52.8	53.5	51.6	+ 1.3	3.8
China	90.5	IV. 1934	94.2	94.7	92.2	+ 0.5	1.9
Danzig	64.0	VIII. 1934	66.1	65.0	64.5	- 1.7	0.8
Indo-China	62.7	III. 1935	69.3	63.3	62.7	- 8.7	+ 0
Switzerland	61.2	III. 1935	64.7	63.0	61.2	- 2.6	+ 0
Belgium	54.5	III. 1935	56.9	55.0	54.5	- 3.3	+ 0
Poland	54.1	III. 1935	59.8	55.6	54.1	- 7.0	+ 0
France	53.4	III. 1935	64.9	54.8	53.4	-15.6	+ 0
Netherlands Indies	43.9	III. 1935	45.3	45.3	43.9	+ 0	+ 0

* January. * April. * February.

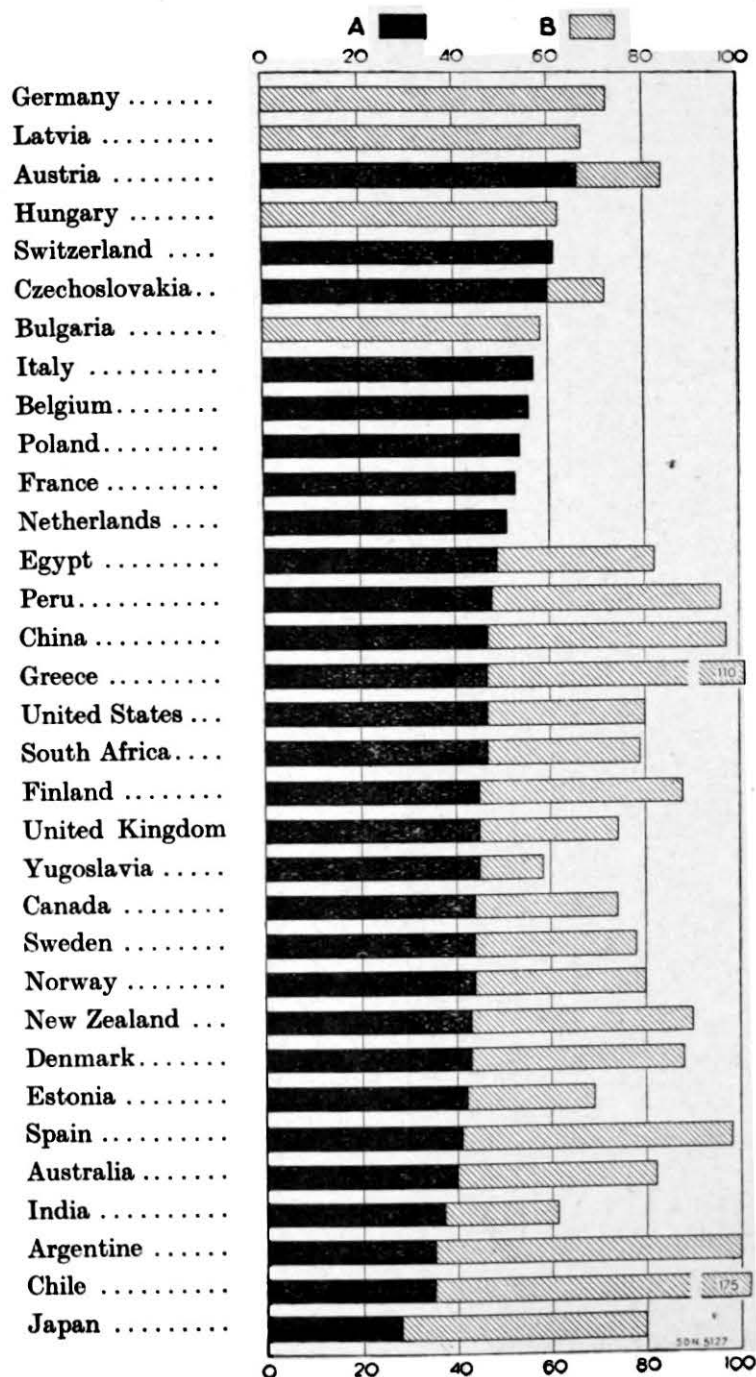
¹ Commercial Banks, 1929-1934: Introduction; Section XI: Prices and Exchange Rates.

necessary to do no more at this point than summarise briefly the results of the earlier analysis. The main conclusion derived from that analysis is that currency depreciation has, up to the present, been more potent as a deflationary (price-lowering) instrument in foreign markets than as an inflationary (price-raising) instrument in the domestic market of the depreciating country. The depreciation of sterling, for example, was not followed by an appreciable rise in the level of wholesale prices in the United Kingdom, but rather by an intensification of the deflationary pressure abroad. In the same way, the depreciation of the dollar did not result in an equivalent rise in wholesale prices (even though policy was directed towards that end), and so brought a pressure to bear on the prices and/or exchanges of foreign countries.

Diagram 1. — WHOLESALE PRICE INDICES IN DECEMBER 1934 AS PERCENTAGE OF 1928.

A. Gold.

B. National currency.



The degree to which prices in various countries have adjusted themselves to changes in exchange rates can be summarised by comparing the level of *gold* prices with reference to some base period. This is done in Diagram 1, which shows the net change which took place in the wholesale price levels of thirty-three countries between 1928 and the end of 1934. For each country, the full bar represents the percentage which whole sale prices in terms of national currencies were of their 1928 level at the end of 1934. For the countries which maintained the gold standard in unrestricted operation at the end of 1934, this full bar is shown in black. For countries whose currencies depreciated in relation to gold, the part shown in black represents the percentage which "gold" prices — taking account, that is, of the depreciation of the currency — were of their 1928 level. For the countries whose currencies were officially maintained at par but where exchange transactions were subjected to restrictions, the full bar is hatched.

In terms of gold, the general level of wholesale prices at the end of 1934 ranged from 72% of the 1928 level in Germany to 28% in Japan. In practically all other countries with depreciated paper currencies, gold prices ranged from 40 to 50% of their 1928 level at the end of 1934; in the full gold

standard countries, they ranged, in general, from 50 to 60%, and in the countries whose currency situation during the past few years has been chiefly characterised by exchange control, 60 to 70% of their 1928 level.

PRICE MOVEMENTS OF INDIVIDUAL COMMODITIES.

Table 2 below shows, for thirty-four important commodities, the sterling prices at various dates as a percentage of 1929, and also the net percentage price change from the end of 1933 to the end of May 1935.

Table 2. — CHANGES IN STERLING PRICES OF COMMODITIES.

Commodity	Lowest point as % of 1929	December 1933 as % of 1929	December 1934 as % of 1929	May 1935 as % of 1929	Percentage change, December 1933—May 1935
Flax	41.8	56.6	97.0	109.1	+ 92.9
Silver	50.8	76.4	99.8	138.5	+ 81.3
Oats	60.0	60.0	76.2	85.7	+ 42.9
Rubber	17.7	42.5	61.3	58.2	+ 36.9
Jute	46.1	49.6	57.3	65.1	+ 31.4
Cotton	37.7	52.1	70.4	67.7	+ 30.0
Lead	47.6	50.6	50.6	64.8	+ 28.0
Wheat	43.7	44.5	48.7	55.5	+ 24.5
Flour	53.3	57.3	61.3	67.8	+ 20.9
Cocoa	56.2	56.2	67.5	67.5	+ 20.0
Rice	47.4	50.9	57.9	60.5	+ 19.0
Bacon	51.6	71.3	76.5	84.2	+ 18.1
Pig-iron	78.4	83.1	91.7	91.7	+ 10.4
Linseed oil	43.2	61.4	60.0	66.2	+ 8.0
Petroleum	75.0	75.0	79.2	79.2	+ 5.6
Sugar	76.9	81.3	81.3	85.7	+ 5.4
Copper	34.1	41.9	36.7	42.5	+ 1.4
Tin	49.8	112.5	112.7	113.7	+ 1.0
Steel rail	97.1	97.1	97.1	97.1	+ 0
Timber	79.2	81.3	81.3	81.3	+ 0
Coal	97.1	97.1	97.1	97.1	+ 0
Hides	41.3	54.3	43.5	56.5	+ 0
Iron bars	99.0	99.0	99.0	99.0	+ 0
Butter	57.4	66.7	80.7	66.0	— 1.0
Tea	44.9	89.0	85.8	87.4	— 1.8
Spelter	40.5	60.3	47.6	58.8	— 2.5
Beef	62.1	81.0	86.2	75.9	— 6.4
Hemp	37.1	40.7	38.5	37.8	— 7.1
Maize	39.2	50.7	56.1	46.1	— 9.1
Cement	82.6	97.3	87.0	87.0	— 10.6
Mutton	51.8	75.0	78.6	66.1	— 11.9
Silk	25.7	37.1	32.3	31.1	— 16.1
Wool	26.7	56.7	36.7	43.3	— 23.5
Barley	63.0	93.3	84.9	70.6	— 24.3

In considering this table, account should be taken of the fact that sterling was quoted at 67% of its gold parity at the end of 1933, 60% at the end of 1934, and 60.5% at the end of May 1935. The decline in the gold value of sterling from the end of 1933 to the end of May 1935 was therefore about 10%. The commodities are ranged in order of the net percentage change in their sterling price during 1934 and the first five months of 1935.

Flax comes at the head of the list with a price rise exceeding 90% in this period. In spite of an increase in production in the Union of Soviet Socialist Republics and the Baltic States, there was no great expansion in the quantities coming on the market, as the linen industry developed rapidly in Russia and there was a tendency to make greater use of domestic fibres in the Baltic countries. Germany made very heavy purchases of flax in 1934 and 1935. Jute also rose considerably in price, no doubt partly under the influence of the Indian Government's scheme for the reduction of acreage, but hemp fell on balance. In spite of a slight fall in the early months of 1935, the price of rubber was still nearly 40% higher at the end of May than at the end of 1933. Reference is made in a previous chapter to the new international rubber agreement concluded during 1934.

The sterling price of cotton rose by over 30% in 1934. The American Government was active in restricting supplies, and the domestic price was virtually pegged at 12 cents per pound, as loans were made to farmers on this basis. There was, in consequence, a shift in foreign demand from American to other sources. Silk, on the other hand, declined in price, in spite of a poor crop in Japan; imports into the United States of America were considerably smaller. Wool had risen considerably in 1933 and a large speculative position appears to have been built up; a sharp setback occurred in 1934, and, although there was some recovery in the first months of 1935, prices were still nearly 25% below the end of 1933 level in May. The withdrawal of Germany from the wool auctions exercised a very depressing influence on prices in 1934, and her reappearance as a buyer in 1935 was partly responsible for the improvement in the first part of that year.

Wheat prices continued to be influenced in 1934 by Government intervention of various sorts, prices were pegged in the chief producing countries and imports into the European consuming countries continued to be restricted. In the United States and Canada, prices were maintained above the export parity, while the Argentine exported large quantities. The American drought caused an upward movement of world prices in the spring and early summer of 1934, but there was a reaction afterwards, both on account of the upward revision of the American production estimates, a rise in production in certain European countries and a large increase in the French carry-over. Prices ruled somewhat higher at the end of 1934 than in December 1933, and rose further in the first months of 1935. During 1934, most other cereals, and in particular maize and rice, rose as a result of smaller world crops, but maize fell rather sharply in the early months of 1935. The tendency towards the segregation of national markets was very marked in the case of sugar in 1934, but forecasts of smaller production tended to maintain prices in 1935. The prices given in the above table for animal foodstuffs are affected by the British quotas and marketing schemes, and reflect to some extent the artificial restriction of supplies.

The most important change during 1934 in the prices of beverages was a rise of 20% in cocoa. Consumption was much larger than in the previous year, and the surplus of production fell appreciably. Coffee prices regained part of their 1933 loss in the spring of 1934, and, although they fell later in the year, at the end of 1934 they were higher than the end of 1933 level. Tea prices, on the other hand, which had been raised considerably as a result of the restriction scheme introduced in April 1933, were weak in 1934, and the International Tea Committee arranged for a reduction in export quotas which became effective on April 1st, 1935. A principal cause in producing the fall in tea prices in 1934 was the increased exports from countries outside the scheme, particularly China.

The prices of the non-ferrous metals were, on the whole, weak in 1934, but there was a considerable recovery, especially in lead and spelter prices, in the first months of 1935. The price of copper was subjected to heavy pressure in the latter half of 1934, as there was fear of a large over-supply on account of higher production in Chile and South Africa and of reduced German purchases. There was also some selling abroad of American stocks which could not be disposed of internally on account of the Copper Code. But negotiations for a new agreement among producers steadied the price and a recovery occurred when this agreement was signed in 1935. The zinc cartel was dissolved at the end of 1934; it

had been ineffective in maintaining prices, and spelter fell fairly continuously during that year; but there was a recovery in 1935. Tin prices, which have been doubled within two years as a result of the tin control, were maintained at £230 per ton during the greater part of 1934 and, contrary to the tendency of the other non-ferrous metals, there was a considerable decline in the consumption of tin. The sterling price of silver rose by about 35% in 1934 and by a further 40% during the first five months of 1935. This rise may be entirely attributed to the purchases effected by the United States Government after August 1934 in pursuance of the Silver Purchase Act of 1934 and to the large speculative position in silver which was built up as a result of the periodic increases in the official American purchase price for domestic silver. One result of the increase in silver prices was the virtual abandonment of the silver standard by China.¹

The prices of coal and of iron and steel products showed their customary inflexibility in 1934. Cement prices, on the other hand, fell by 10%. The "outside" concerns of the British Portland cement industry undercut prices during 1934, and an intensive price war developed. At the end of the year, an agreement for price stabilisation was reached. In spite of a price war in the United States, the world price of petroleum improved somewhat; it may be noted that the German and British Governments subsidised the production of oil from coal by the hydrogenation process in 1934.

At the end of May 1935, the sterling prices of commodities ranged from almost 140% of their 1929 level in the case of silver to only slightly more than 30% in the case of silk. The prices of tin and flax were also well above 1929, and pig-iron, iron bars, steel rails and coal only slightly lower. Of the non-ferrous metals, copper was lowest. The animal foodstuffs, as a group, were higher than the vegetable foodstuffs. Of the industrial raw materials not mentioned, hemp and wool were extremely low; hides and rubber had both recovered to nearly 60% and cotton was quoted at almost 70% of 1929 prices.

INEQUALITIES IN RECENT PRICE MOVEMENTS.

In the first section of this chapter, a summary was made of the recent movements of the general level of wholesale prices in a large number of countries. The fluctuations of these general price indices are usually the result of divergent movement of their component parts. These divergences and consequent distortions of the price structure are of at least as great interest and importance as the movements of the general indices. They were examined at considerable length in previous editions of this volume, and in the last edition it was shown that, in the course of 1933, some progress had been made towards the restoration of more "normal" price relationships. The remainder of this chapter is devoted to an analysis of sectional price movements during 1934 and to a summary of the position at the beginning of 1935 as compared with 1929.

Wholesale and Retail Prices.

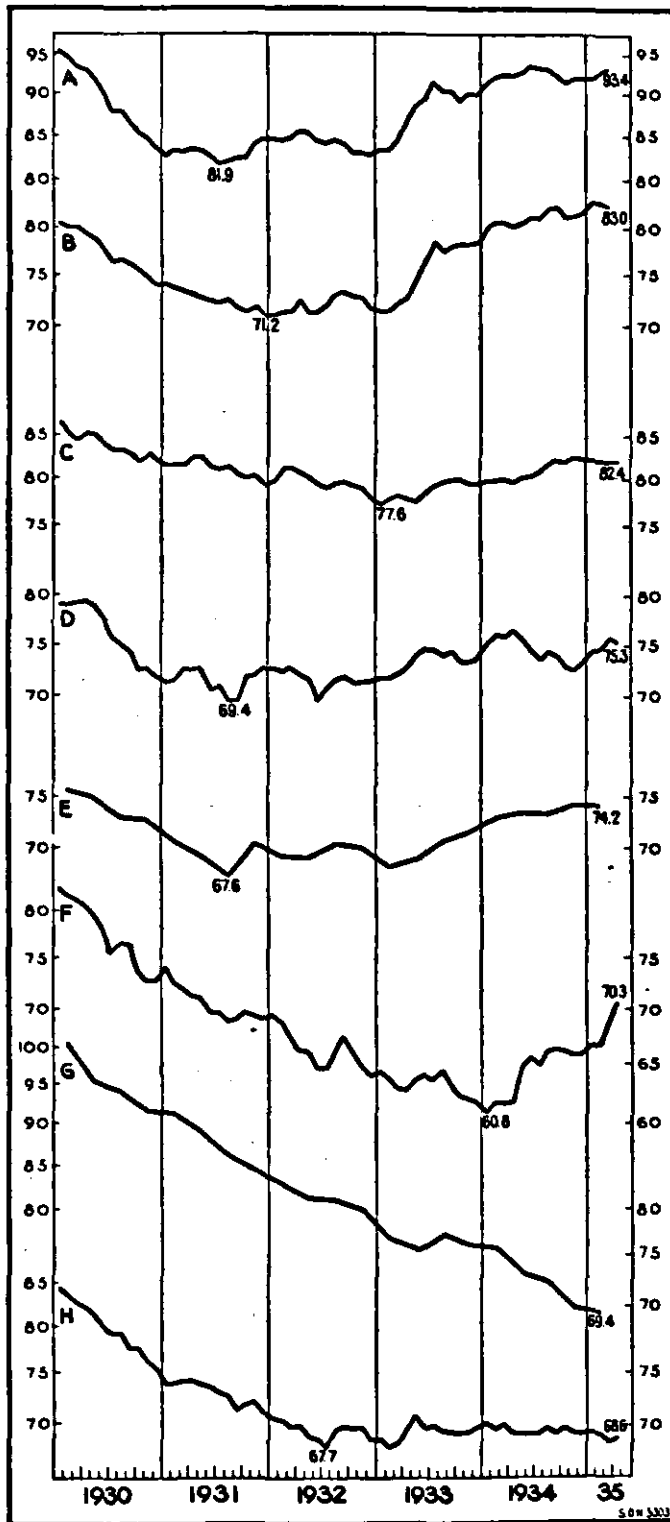
An aspect of price movements to which attention has frequently been drawn in the past few years is the divergent trends of wholesale and retail prices.

The resistance of the cost of living to the downward movement of wholesale prices is symptomatic of the disequilibrium in price and cost relationships which characterises a period of economic depression. Cost-of-living indices are, as a rule, more heavily weighted with elements of fixed cost than are wholesale price indices. The latter are generally more susceptible to monetary influences, and to some extent the discrepancy between the movements of these two indices illustrates the disequilibrium in the price structure which develops during a period of economic depression. It is important to note that the discrepancy only illustrates the disequilibrium and does not measure it; for accurate measurements, more refined instruments would be required.

¹ For further details, see *Commercial Banks, 1929-1934*, pages LXXV and LXXVI.

**Diagram 2. — RATIO OF WHOLESALE PRICES
TO COST OF LIVING.**
(Pre-war base.)

- | | |
|--------------------|-----------------|
| A. Canada. | E. Sweden. |
| B. U.S.A. | F. Italy. |
| C. Germany. | G. France. |
| D. United Kingdom. | H. Switzerland. |



With these qualifications in mind, it is of interest to compare the recent movements of the ratio of wholesale prices to the cost of living in different countries. The selection of a base period for this comparison presents more than usual difficulties. For almost any post-war year, the relationship between the level of wholesale prices and the cost of living in certain important countries was demonstrably "abnormal". In Diagram 2, resort is therefore had to a pre-war base. This is not chosen because of any inherent superiority of 1913 as a base period, but because it is believed that, for the particular purpose in hand, it is less likely to lead to misinterpretation than any post-war base.

The rigidity of the cost of living in all countries resulted in a rapid decline in this ratio when wholesale prices fell rapidly in 1930 and 1931, a decline which occurred concurrently with the fall in the profit margin. For the top five countries on the chart, the general movement of the curves was reversed when wholesale prices began to rise in 1932 or 1933, as the cost of living rose less, if at all. In Italy, in 1934, there was a similar development. In France, on the other hand, the curve shows a continuous and virtually uninterrupted decline, while in Switzerland the two indices have moved practically parallel since the middle of 1932.

In countries whose currencies have depreciated in the course of the past few years, the cost of living has risen relatively little. This is brought out clearly in Table 3, which shows, for ten countries, the net percentage rise in wholesale prices and in the cost of living from their respective low points to March 1935; the percentage appreciation of gold in relation to its mint parity in that month is also shown.

It is not necessary to comment further on the very wide discrepancies between the external depreciation of the various currencies, as measured by the appreciation in the value of gold, and their internal depreciation, as measured by

Table 3. — CURRENCY DEPRECIATION AND MOVEMENTS OF WHOLESALE PRICES AND COST OF LIVING.

Country	Percentage appreciation of gold in March 1935	Wholesale prices		Cost of living	
		% rise from lowest point to March 1935	Month of lowest point	% rise from lowest point to March 1935	Month of lowest point
Chile	304.2	136.5	x. 1931	45.7	ii. 1932
Greece	133.4	41.0	viii. 1931	18.9	ii. 1932
United States	69.0	32.7	ii. 1933	15.2	iv. 1933
Canada	70.6	13.0	ii. 1933	2.7	iv, v. 1933
Sweden	84.0	9.5	iii, iv. 1933	1.3	iii. 33-iii. 1934
Czechoslovakia	20.0	8.1	i. 1934	0.9	i. 1935
New Zealand	116.0	7.9	i. 1933	3.9	v, viii. 1933
United Kingdom	72.2	5.0	iii. 1933	2.2	iv, v. 1933
Austria	28.1	4.0	i. 1931	0	iii. 1935
Estonia	71.3	3.9	iv-vi. 1933	3.6	x. 1934

the rise in the general level of wholesale prices. The differences between the net movements of the wholesale price and cost-of-living indices from their respective low points to March 1935 are equally impressive. Currency devaluation during the past few years was not accompanied by any appreciable rise in the cost of living, except in countries where monetary inflation occurred. In New Zealand, for example, the cost of living in March 1935 was only 4% higher than its low point of the depression, although the gold value of the currency had fallen by over 50%. Nor is this experience confined to the countries of the sterling bloc, the majority of which are producers of foodstuffs and raw materials. Even in highly industrialised States, such as Austria and Czechoslovakia, which depreciated independently of sterling, the depreciation of currencies was not followed by any marked rise in the cost of living.

Raw Materials and Manufactured Goods.

One of the most striking and important price discrepancies which developed in the course of the depression resulted from the very much sharper fall in the prices of raw materials than in those of manufactured goods. The producers of primary products suffered a heavy loss in per unit purchasing power over industrial products, and the excessive decline in the prices of their products found its counterpart in widespread unemployment in manufacturing industry. It was shown in the previous edition of this volume that, in most countries for which information is available, raw materials rose more (or fell less) in prices in 1933 than manufactured goods. Table 4 following shows the percentage changes which took place during 1934, and the price indices of raw materials and manufactured goods for March 1935 as a percentage of 1929.

The countries are ranged in the order of the rise in raw-material prices in 1934. The improvement in price relationships in 1934 was most marked in the countries at the top of the list — i.e., those where the prices of raw materials rose most.

In Italy, the price of raw materials fell slightly in this year and finished products substantially more. Since November 1934, both indices have tended to rise quite sharply, the increase from that month to April 1935 amounting to 12.7% for raw materials (15.5% from October) and 7.1% for finished goods. It may be recalled that the strengthening, in December 1934, of the Italian exchange control enforced in the previous May entailed the virtual suspension of the gold standard; and that, since the end of 1934, the Italian

Table 4. — PRICE INDICES OF RAW MATERIALS AND MANUFACTURED GOODS.

Country	Percentage change, December 1933— December 1934		Price indices in March 1935 (1929 = 100)	
	Raw materials	Manufac- tured goods	Raw materials	Manufac- tured goods
United States	+ 18.1	+ 6.3	78.6	84.9
Canada ^a	+ 9.2	+ 1.0	67.2	79.9
Sweden	+ 5.6	+ 1.8	82.2	81.7
Germany ^a	+ 3.3	+ 4.3	69.2	76.0
Italy	— 2.2	— 5.6	53.3	64.4
United Kingdom	— 5.2	+ 0.5	^b 83.3	^b 94.1
Belgium	^c — 5.8	^c — 9.2	^c 54.0	^c 57.3
Poland	— 9.7	— 2.8	55.4	59.9

^a The raw material indices include some partly manufactured goods.

^b Base 1930: indices for 1929 not available.

^c October 1933-October 1934.

^d January.

lira has been quoted at a discount ranging from 5 to 8% in relation to the "free" gold currencies.

In Germany, the United Kingdom and Poland, raw materials, as a group, lost in purchasing power over finished goods in the course of 1934. The fall in the sterling prices of basic materials was largely due to non-ferrous metals (other than tin) and wool. It was, no doubt, partly as a result of this fall in the sterling prices of raw materials that the prices of finished goods showed so little change in 1934, in spite of the expansion of monetary demand. The rise of 4.6% in the prices of finished products in Germany from January 1934 to January 1935 was entirely due to consumers' goods, which increased by 8.1% (13.9% from April 1933 to March 1935), while the prices of finished producers' goods remained stable. The factors influencing the German price development in recent years are very complex and not easily summarised. The effect of the large Government expenditure for public works and other purposes has been to reverse the earlier deflationary tendencies; at the same time, the difficulty of securing foreign exchange for commercial purchases has resulted in a shortage of certain materials and the development of more expensive domestic substitutes. Moreover, an effect of the various clearing arrangements concluded by Germany would appear to have been to raise prices in that country.

In the course of 1934, the prices of manufactured goods, according to official indices, rose more in the United States than in any other country included in Table 4. From the low point of the depression in February 1933 to March 1935, the prices of these goods increased by nearly 29%. Although this increase was considerably less than the simultaneous rise in raw-material prices (58%), it is, none the less, remarkably large when compared with the experience of previous periods of recovery or with the development in the United Kingdom. The greater part of the increase in the prices of finished goods occurred in the year 1933; in the last half of that year, United States prices rose by 10%. It is likely that the National Industrial Recovery Act, which tended to raise labour costs and encourage price-maintenance practices, was partly responsible for this development. In previous periods of recovery, an expansion of manufacturing production as marked as that which has taken place in the past two years in the United States occurred without nearly so great a rise in selling prices. Normally, the expansion of production itself permits the thinner spreading of the same overhead costs over a large number of units, thus tending, in the final effect upon price, to counteract — in some measure at least — the rise in raw-material prices characteristic of a period of revival.

Table 5. — PERCENTAGE CHANGES IN MANUFACTURING OPERATIONS IN THE UNITED STATES.

	(1)	(2)	(3)	(4)	(5)	(6)
	December 1921-January 1922 to September-October 1922	June-July 1924 to February-March 1925	November-December 1927 to April-May 1929	February-March 1933 to January-February 1935	February-March 1933 to June-July 1933	June-July 1933 to January-February 1935
Gross income and its elements :						
Gross income	+42	+46	+31	+85	+71	+8
1. Production (physical volume)	+33	+36	+31	+49	+57	-5
2. Selling price of products (average)	+7	+7	0	+24	+9	+14
Employment and its elements :						
Total employment (man-hours)	+19	+14	+13	+26	+31	-4
1. Wage-earners employed	+16	+7	+9	+33	+15	+16
2. Working-hours per person (average weekly)	+3	+7	+4	-5	+14	-17
Production and its elements :						
Production	+33	+36	+31	+49	+57	-5
1. Wage-earners employed	+16	+7	+9	+33	+15	+16
2. Output per wage-earner (average)	+15	+27	+20	+12	+37	-18
1. Total employment (man-hours)	+19	+14	+13	+26	+31	-4
2. Output per man-hour	+12	+19	+16	+18	+20	-1
Wage disbursements and elements :						
Wage disbursements	+24	+14	+14	+72	+27	+35
1. Wage-earners employed	+16	+7	+9	+33	+15	+16
2. Earnings per wage-earner (average)	+7	+7	+5	+29	+10	+16
1. Employment (man-hours)	+19	+14	+13	+26	+31	-4
2. Hourly wages (average)	+4	0	+1	+37	-3	+41
1. Production	+33	+36	+31	+49	+57	-5
2. Labour cost per unit (average)	-7	-16	-13	+15	-19	+42

This is illustrated in Table 5 above, which is based on materials published by the National Bureau of Economic Research,¹ showing the movements of important series related to manufacturing operations in the United States during six different periods.

A definite pattern of revival can be discerned in the first three periods of revival analysed in Table 5 : the gross income of manufacturing concerns rose mainly as a result of increased production and only to a much lesser extent, if at all, as a result of an increase in selling prices ; the total volume of employment (man-hours) increased as a result both of a rise in the number of wage-earners employed and an increase in the number of working-hours per person employed ; the increase in production was due less to the increase in the number of wage-earners employed than to a rise in the output per wage-earner ; the increase in wage disbursements was less than the increase in production and was mainly due to an increase in the number of man-hours worked and not to a rise in hourly wages ; and labour costs per unit of product fell.

In almost every respect, the period of revival from the beginning of 1933 to the beginning of 1935, considered as a whole, fails to conform to this pattern. The average selling price of manufactured products rose very markedly ; the increase in the number

¹ National Bureau of Economic Research, *Bulletin* 56 : " Aspects of Manufacturing Operations during Recovery ", by Frederick C. MILLS.

of man-hours worked was entirely due to re-employment, as the average number of hours worked per week declined; the output per wage-earner rose relatively little; wage disbursements increased considerably more than production, and the increase was less due to an increase in the number of man-hours worked than to a rise in average hourly wages; and labour costs per unit of product rose.

But the last two columns of Table 5 show that this period cannot legitimately be regarded as a whole, as it is made up of two periods in which quite opposite tendencies prevailed in most essential respects. In the first of these periods (February/March-June/July 1933), which, as has been shown in Chapter I, Section B, above, was characterised by a marked spurt of industrial activity, the principal elements in American manufacturing operations followed, on the whole, the traditional pattern of revival; in particular, there was a large increase in production, rise in employment and reduction in labour costs. The period from the middle of 1933 to the beginning of 1935 was, in the ordinary economic sense of the term, not a period of revival. The principal tendencies of the first half of 1933 were definitely reversed: there was a net decline in the output of manufacturing concerns and a reduction in the number of man-hours worked. But, in spite of this, the volume of wage disbursements rose by 35%, the fall in employment being much more than compensated by a 41% increase in hourly wages. The fall in employment (man-hours) was about equal to the decline in production, so the whole of the increase in hourly wages represented an increase in labour costs per unit of product.

The most important single element which can be adduced in explanation of this extraordinary reversal is the National Industrial Recovery Act, which was approved in July 1933. The principal aspects of this legislation are well known and need not be mentioned in detail here. It would appear that the N.R.A. was originally conceived as a work-sharing device, and from this point of view it is to be noted that a 16% increase in the number of wage-earners employed did occur during the period from the middle of 1933 to the beginning of 1935, which was characterised by the codes. But, on the other hand, the total volume of employment (man-hours worked) shrank — that is, less work was shared among more workers. Moreover, the 16% increase in members employed may be compared with a 15% increase in the pre-N.R.A. period.

The secondary, if not the primary, objective of the N.R.A. was to increase the aggregate purchasing power of labour, and the 35% rise in wage disbursements during the code period bears witness to the success with which this aim was realised. But, leaving aside the social aspects of the legislation and concentrating on its economic features, it must be pointed out that it was not as a result of increasing production that labour income was expanded, but as a result of higher rates of pay. The results of using more men working fewer hours at higher rates of pay to produce less goods added, of course, enormously to labour costs per unit of product. The increase in wage disbursements combined with the fall in production are sufficient to explain the considerable rise in the prices of manufactured goods during this period.

The fact should be stressed that the N.R.A. was not the only new factor in the American business situation after July 1933. But it would seem that this and other legislation aimed at expanding purchasing power through raising rates of pay, etc., and not through expanding production, was responsible for at least the major part of the specific changes in American manufacturing operations analysed in Table 5.

Agricultural and Non-Agricultural Prices.

Of all groups of producers, farmers, as a class, probably suffered most as a result of the worldwide decline in price from 1929 to 1933. The inflexibility of agricultural output results in a very high degree of flexibility in agricultural prices, while, on the other hand, the production of industrial products is more readily controlled and their prices more easily maintained. In the course of 1933, the terms of exchange between these two groups

of products tended, in many countries, to change to the advantage of agriculturists. The following indices summarise the changes in 1934 and show the position in March 1935 as compared with 1929.

Agricultural and Non-agricultural Prices Indices.

Country	Index number of	Percentage change : December 1933- December 1934	Indices in March 1935 as percentage of 1929
United States . .	Prices received by farmers	+ 29.5	74.0
	Prices paid by farmers	+ 8.6	83.0
	Farm products	+ 29.7	74.6
	Non-agricultural commodities	+ 5.1	84.2
Canada	Canadian farm products	+ 14.9	62.2
	Fertilisers	— 0.5	81.9
	Consumers' goods other than foods	— 0.8	83.5
Italy	National agricultural products	+ 9.4	63.8
Germany	Agricultural products	+ 10.7	76.3
United Kingdom .	Agricultural products	+ 2.8	77.8
Irish Free State .	Agricultural products	+ 3.4	58.9
Poland	Agricultural products	— 10.6	45.1
	Goods bought by farmers	— 5.0	66.1

Poland, the only country included in the above table to show an appreciable decline in the prices of agricultural products in 1934, maintained the gold standard in unrestricted operation in that year. Unlike the other exporting countries, the prices of her agricultural goods were subject to no stimulating influence from a depreciating exchange or from organised attempts to control output and raise prices. The increase in agricultural prices during 1934 was most marked in the United States. From their low point in 1933 to April 1935, the average prices received by American farmers for their products increased by 100%, while the prices paid for articles bought rose by 28%. Several special factors — in addition to those which tended to raise prices in general in the United States during this period — were operative in bringing about this enormous increase in the prices of farm products. The fact that many of these goods are export products meant that the depreciation of the dollar exchange had an impact of special directness on their prices. Secondly, various legislative measures of the Administration — such as the Agricultural Adjustment Act, the Bankhead (Cotton) Act, the Kerr-Smith (Tobacco) Act — tended to raise the prices of particular agricultural commodities. Finally, the drought of 1934, officially described as the worst ever recorded in the country, enormously reduced the yields of food grains and of cotton, cut down the production of feed, forage and pasture, and made necessary a heavy reduction in live-stock numbers. In spite of this disaster, gross farm income was higher in 1934 than in the previous year, as is shown in the following statement :

1929	\$10,479,000,000	1933	\$5,051,000,000
1932	\$ 4,328,000,000	1934 (estimated).	\$6,000,000,000

In April 1935, prices received by farmers were 87% of their pre-war parity with prices paid for goods bought, as compared with 55% at the low point of the depression. The relationship between prices received and prices paid was, on the whole, more favourable to American farmers in April 1935 than at any time since 1929. It is of interest to observe that, in the two-year period ended February 1935, when the prices paid to farmers for foodstuffs rose by over 100%, the retail prices of foodstuffs increased by 45%; the Cornell University index number of the cost of assembling, transporting, processing and distributing food rose by 16%.

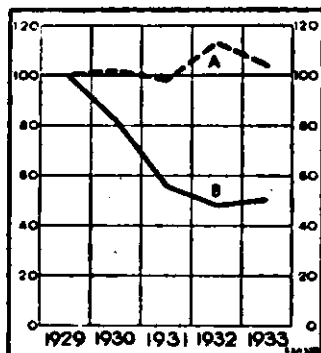
The 10.8% rise in the price of Canadian farm products in 1934 was chiefly due to field crops, which rose by 16.3%, while animal crops increased by only 4.7%. The price position of the Canadian farmer was distinctly improved, as both goods required for exploitation and for personal use would appear, on the whole, to have declined in price. This position was still, however, very unfavourable when compared with 1929: prices

received were 40% lower, while prices paid appear to have been only 10 to 20% lower.

The unfavourable position of the farmer as compared with his suppliers during a period of falling prices is very well illustrated by a set of figures relating to the changes

Diagram 3.

CANADIAN AGRICULTURE.
A. Production.
B. Prices.
 (1929=100.)

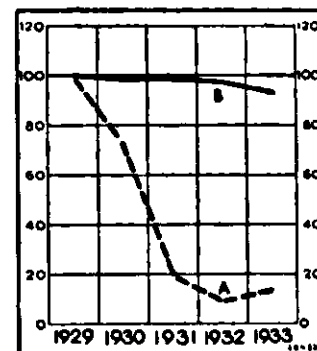


in the prices and production of agricultural products, on the one hand, and agricultural implements, on the other hand, recently published in the report of the Canadian Royal Commission on Price Spreads. These are shown in Diagrams 3 and 4.

The case of agricultural implements is an extreme one, as competition is almost non-existent in this industry in Canada; but it differs only in degree from many other industries. The maintenance of prices at a level which was extremely high in relation to the prices of agricultural products was one of the most important factors leading to the virtual cessation of sales. It should be noted that, in spite (or because)

Diagram 4.

CANADIAN AGRICULTURAL IMPLEMENTS.
A. Production.
B. Prices.
 (1929=100.)



of the maintenance of the prices of agricultural implements, virtually unchanged in the course of the depression, the gross income from their production fell very much more than the gross income from the production of agricultural goods, whose prices fell by 50%.

The Terms of Trade.

The evidence of the two preceding paragraphs suggests that, during 1934, an improvement occurred in the terms of trade of producers of primary products. This is confirmed by price indices of different categories of goods entering international trade compiled by the Economic Intelligence Service of the League of Nations.¹ The movement of the average prices in terms of gold is estimated as follows:

Estimated Price Movement of Goods entering International Trade.

	1929	1932	1933	1934
Foodstuffs	100	52.5	46	42
Materials, raw and partly manufactured	100	44.5	40.5	40
Manufactured articles	100	64	55.5	50
All articles	100	53	47	44

According to these estimates, the average prices of raw and partly manufactured materials showed very little change in 1934, while the average prices of manufactured goods, which had already fallen sharply in 1933, underwent a further considerable decline. The exporters of foodstuffs had to face a further decline in the gold prices of their products in 1934; but the ratio of exchange between foodstuffs and manufactured articles was substantially the same as in 1933.

Investment and Consumption Goods.

The diagrams contrasting the price and production movements of agricultural goods and agricultural implements in Canada during the depression years illustrate a problem of wider significance than the particular case covered — namely, the varying degree of flexibility of different sorts of prices. The producers of certain products are, during a period of profound economic disturbance, better able than others to control the prices of their products by varying the amounts produced. The degree of control which the individual producer exercises over price ranges from the complete and conscious control

¹ See *Review of World Trade, 1934*, page 16.

exercised by the powerful monopolist, who may decide at what price to market his product and adjust his production to the level which will just satisfy the market demand at that price, through the partial and unconscious control exercised by the manufacturer in a competitive industry who tends to restrict his production when he does not cover his overhead costs, and so contributes to keeping the prices of manufactured goods at a level high relatively to those of basic materials, to the complete lack of control generally exercised in the highly competitive and unorganised agricultural industry by the individual farmer, who frequently reacts to a fall in prices with perverse elasticity, expanding output in the attempt to increase his returns.

Even the industries which are able to control the prices of their products cannot, however, escape the consequences of economic disturbances; in their case, the variations are concentrated on production, but gross income falls just as much, it would seem, as in other industries. It is possible to fix a price, but no monopolist, however powerful, can fix the amount which shall be purchased at that price.

It is not possible to analyse here all the implications of the different degrees of price flexibility in modern economic society. It would not involve undue exaggeration to maintain that these differences constitute the central problem of the price system. The rigidity of certain prices concentrates the main effect of economic, and particularly monetary, change on the ever-narrowing flexible segment of the economic structure. Disturbances in price relationships, with their attendant well-known effects on the profitability of production and the generation of purchasing power, tend to become more marked and stubborn, and consequently more serious in their results.

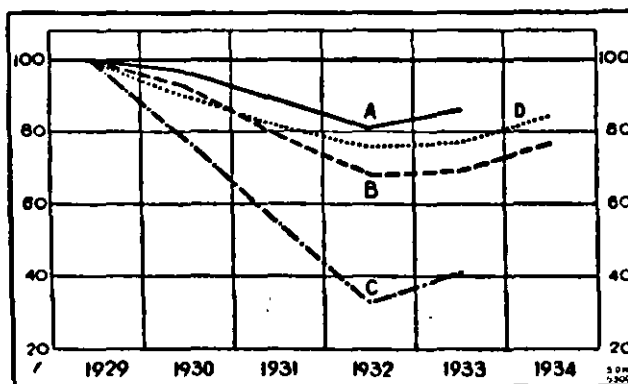
A good example of the consequences of rigidities is furnished by the behaviour of the prices of capital goods in certain countries in recent years. It has frequently been shown in this volume that the production of capital goods fell very much more than the production of consumers' goods in the course of the depression, and that, in most countries, the bulk of unemployment was concentrated in the heavy industries. The fact that, in many countries, the industries producing capital goods are highly organised and subject to quasi-monopolistic control would not appear to have been without influence in achieving this result. Many other factors were no doubt at work, such as the existing over-capacity of plant. But a large part of the output of the capital industries is normally destined for the replacement and not the extension of plant, and the fact that the prices of capital goods were maintained at levels very high in relation to the prices of the consumption goods which they are designed to make must have been of great importance in influencing business-men to allow their plant to depreciate and become obsolescent without replacing it.

The divergences between the price and production movements of capital equipment and non-durable consumers' goods are shown in Diagram 5 opposite, which shows the variations in the National Bureau of Economic Research indices relating to these groups.

If the fluctuations in demand exercised a determining influence on price, one would expect the price of capital equipment to fall more during a period of economic depression than the price of consumers' goods. That it does not do so is indicative of the higher degree of control exercised by the producers of

Diagram 5. — CAPITAL GOODS AND NON-DURABLE CONSUMERS' GOODS : PRICES AND PRODUCTION IN THE UNITED STATES. (1929=100.)

- A. Production of consumers' goods.
- B. Prices of consumers' goods.
- C. Production of capital goods.
- D. Prices of capital goods.



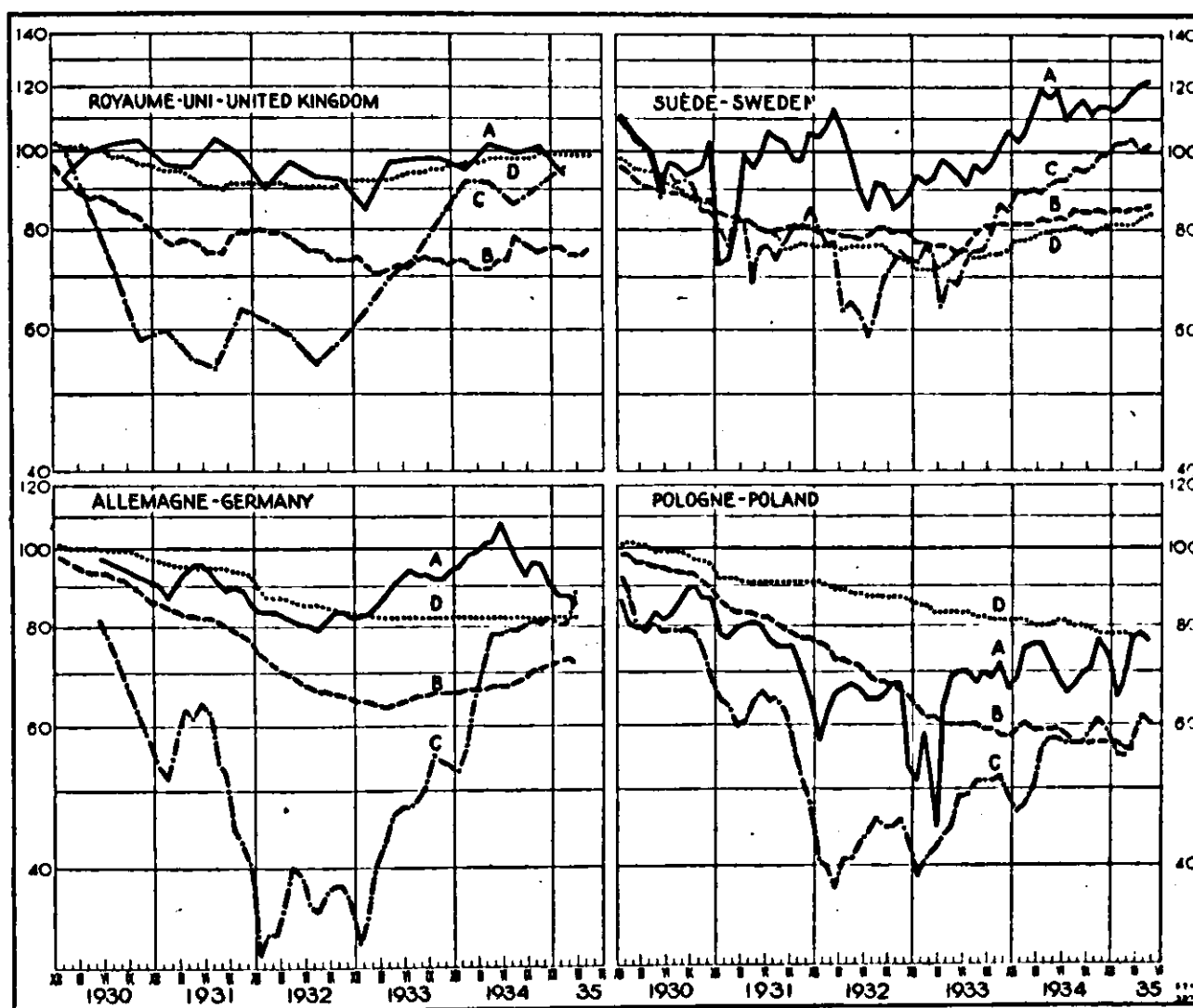
capital goods and their ability to maintain prices by restricting output. The peculiar relationship between the prices of capital goods and of consumers' goods which develops in this way goes a long way towards explaining the failure of low interest rates to stimulate a marked expansion in investment. Although, in many countries, capital-disposal became cheaper in price as the depression deepened,¹ capital equipment itself remained high in relation to the prices which could be obtained for the goods produced by it.

Diagram 6 below illustrates the recent changes in the prices and production of capital and consumption goods (or certain categories of these goods) in four countries.

Diagram 6. — PRICES AND PRODUCTION OF CERTAIN CATEGORIES OF GOODS.
(1929=100.)

A. Production of consumers' goods.
B. Prices of consumers' goods.

C. Production of capital goods.
D. Prices of capital goods.



By and large, the movements shown in this diagram are similar to those already discussed in the case of the United States. In the United Kingdom, for example, the production of iron and steel (which is taken as representative of capital goods) shows a very much sharper fluctuation than its price, while the contrary is true of food, drink and

¹ For a study of the recent movements of interest rates, see *Commercial Banks, 1929-1934*.

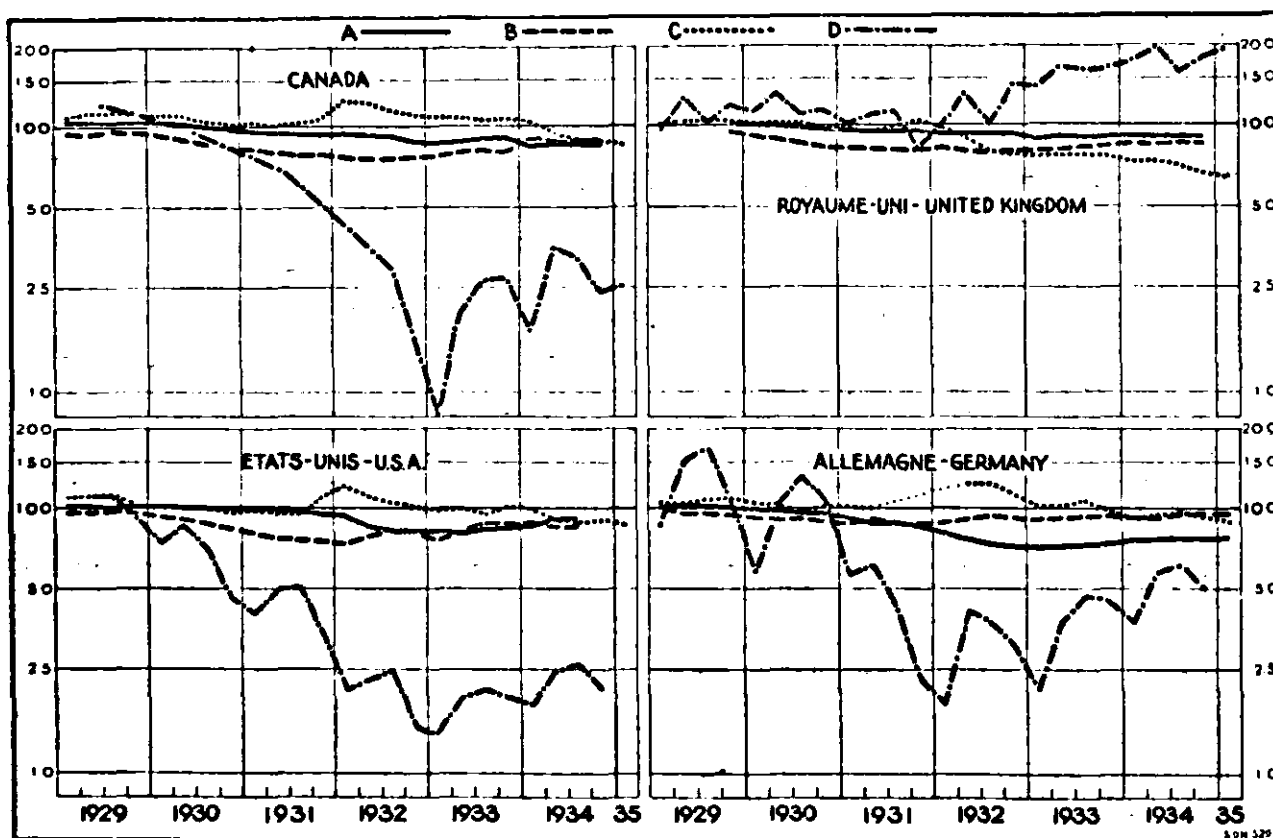
tobacco (taken as representative of consumers' goods). In Germany, the movement of the indices is similar to the United States, although the recovery in the heavy industries in 1933 was much more marked in the former country. The price curves of producers' and consumers' goods move closer together in Sweden than in any other country shown, and it is to be observed that the output of producers' goods fell proportionately less during the depression and has recovered to a relatively higher level than in any other country. The relative flexibility of the prices of investment goods in Sweden is apparently connected with the fact that many are typically export products, whose prices are determined on world markets.

Building Costs and Building Activity.

The cost of capital-disposal (*i.e.*, the money rate of interest) would normally be expected to have a particularly direct effect on the volume of building activity. In recent years, however, the relationship has not been very direct in certain countries. Some of the essential factors affecting the volume of business activity are summarised in Diagram 7 below. This diagram shows, for four countries, the quarterly changes, since 1929, in interest rates (the yield on Government bonds), the cost of building, the volume of building activity, and the purchasing power of commodities in general over "building costs".

Diagram 7. — BUILDING COSTS AND BUILDING ACTIVITY.
(1928=100.)

- A. Building costs.
- B. Purchasing power of commodities in general over "building costs".
- C. Yield of Government bonds.
- D. Building activity.



It is not possible in this brief summary to analyse all the factors which have been operative in determining the recent evolution of building activity in the various countries. The previous building cycle was not uniform — in certain countries, the years before the

depression were marked by much more building activity than in others, and this fact itself is sufficient to account for part of the differences after 1929. The fact that a particular set of factors is stressed in subsequent paragraphs is, therefore, not to be taken as indicating that these are alone of importance.

The principal contrast illustrated in Diagram 7 is between the development in the United States and the United Kingdom. In the former country, the cost of building in the first years of depression fell very much less than the general level of wholesale prices. This is reflected in the steady downward movement of the curves representing the changes in the purchasing power of commodities in general over "building costs". In spite of the fairly continuous decline in interest rates in the United States, the disparity which developed between building costs and money incomes was instrumental in bringing about a sharp fall in the demand for building; the cost of building showed very little change until 1932, and, in spite of a considerable fall in that year, building costs in general were only 20% below their 1928 level at the beginning of 1933, while commodities in general were nearly 40% lower. After the second quarter of 1933, building costs began to rise quite rapidly, partly, it would appear, as a result of the operation of the N.R.A., and the volume of construction remained at very low levels. Since the middle of 1934, there has been some tendency for the cost curve of building to flatten out.

In the United Kingdom, building costs had, on the whole, tended to fall, even in the years preceding the depression, and, although they fell relatively less than the general index of wholesale prices after 1929, they continued to decline, while wholesale prices were steady or rising, and so the purchasing power of goods in general rose fairly steadily after the middle of 1932. In these circumstances, there was no hindrance to the normal stimulating effect of cheap money, and the very considerable fall in interest rates of recent years was, as is shown in the diagram, accompanied by a very marked expansion of the building industry in the United Kingdom.

APPENDICES.

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 representative "world" prices (in 1930), expressed in 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^1 , 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.

Table 1 below shows the aggregates from which the general indices have been calculated.

Appendix I. Table 1.

PRODUCTION AGGREGATES IN TERMS OF DOLLARS ACCORDING TO 1930 PRICES (000,000's omitted).

GROUPS OF COMMODITIES	Average 1925/29	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
Cereals and other food crops	18,002.2	17,864.0	17,577.2	17,806.0	18,522.8	18,240.6	18,509.8	18,190.7	18,789.6	18,602.2	17,360
Meat *	11,103.1	10,486.1	10,700.2	11,143.0	11,578.8	11,607.7	11,718.0	11,629.8	11,697.2	11,718.6	12,200
Wine and hops	721.5	783.1	569.7	694.1	785.4	775.3	665.0	729.8	765.9	703.3	845
Coffee, tea, cocoa	619.8	538.6	553.0	608.5	695.3	703.6	686.1	642.3	708.6	712.8	600
Tobacco	848.6	860.7	836.8	830.9	827.8	886.9	928.1	904.5	784.5	850.4	...
Vegetable-oil materials	1,619.0	1,539.3	1,526.7	1,684.3	1,624.7	1,720.1	1,848.0	1,694.9	1,654.1	1,706.3	4,600
Textiles	3,552.7	3,418.8	3,571.2	3,349.9	3,666.0	3,757.7	3,685.6	3,730.5	3,496.0	3,856.0	3,780
Rubber	162.5	129.3	155.0	151.6	163.0	213.6	203.2	196.6	174.6	208.7	252
Wood-pulp	524.7	447.6	493.7	521.0	545.8	615.7	598.7	544.5	517.1	584.8	...
Fuels	5,581.3	5,188.1	5,198.0	5,695.7	5,687.5	6,137.2	5,882.4	5,146.1	4,678.3	4,972.5	5,350
Metals	4,665.1	4,121.7	4,255.6	4,605.7	4,938.8	5,403.6	4,418.9	3,339.6	2,420.2	3,033.8	3,700
Non-metallic minerals	849.2	735.7	793.8	858.1	901.3	956.9	925.7	803.0	654.7	675.4	750
Chemicals (fertilisers)	649.1	571.2	558.7	612.8	726.8	776.5	729.9	539.1	496.1	544.3	...
Crude foodstuffs	30,446.6	29,671.8	29,400.1	30,251.6	31,582.1	31,327.2	31,578.9	31,192.6	31,961.3	31,736.9	31,000
Raw materials	18,452.2	17,012.4	17,389.5	18,309.5	19,081.7	20,468.2	18,818.5	16,899.0	14,875.6	16,432.2	17,400
TOTAL	48,898.8	46,684.2	46,789.6	48,561.1	50,663.8	51,795.4	50,397.4	48,091.6	46,836.9	48,169.1	48,400
TERRITORIAL DIVISIONS											
Europe, excl. U.S.S.R.	14,697.0	13,992.9	13,076.2	14,737.5	15,239.0	16,439.1	15,212.7	14,758.8	14,710.3	15,085.7	15,550
Europe, incl. U.S.S.R.	19,243.2	18,069.7	17,616.8	19,310.0	19,945.3	21,273.9	20,773.2	19,614.7	19,403.6	20,497.4	21,300
North America	15,204.8	14,754.1	15,170.0	14,921.6	15,684.4	15,493.9	14,283.0	13,683.9	12,567.2	12,245.8	11,600
Latin America	3,881.1	3,677.3	3,744.7	3,852.5	4,134.9	3,996.4	4,112.9	3,863.5	3,760.8	3,933.1	4,090
Africa	1,452.9	1,394.0	1,385.0	1,412.9	1,502.0	1,570.8	1,555.2	1,509.7	1,545.1	1,614.5	1,710
Asia	8,130.2	7,870.4	7,877.6	8,093.2	8,359.1	8,450.5	8,579.6	8,325.3	8,373.8	8,735.7	8,570
Oceania	986.6	918.7	995.5	970.9	1,038.1	1,009.9	1,093.5	1,094.5	1,186.4	1,142.6	1,135
WORLD	48,898.8	46,684.2	46,789.6	48,561.1	50,663.8	51,795.4	50,397.4	48,091.6	46,836.9	48,169.1	48,400

*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	1933	*1934
<i>Cereals and other food crops</i> ¹										
Wheat	95	99	101	109	97	110	104	103	108	102
Rye	105	97	102	96	100	107	94	103	111	96
Barley	94	92	91	107	115	110	94	105	104	98
Oats	97	99	94	108	102	103	88	96	91	87
Maize	106	100	98	96	100	89	102	110	96	80
Rice	100	99	98	102	101	107	104	104	106	101
Potatoes	95	88	102	104	111	112	110	113	112	...
Sugar { Beet sugar	90	93	100	109	109	132	102	91	103	112
Cane sugar	94	94	99	106	107	99	101	91	91	85
<i>Meat</i> ¹										
Beef	*98	*100	*100	*100	*102	*103	*97	*99	*99	...
Veal	*99	*98	*99	*100	*104	*108	*100	*101	*101	...
Pork, bacon, etc.	*92	*93	*101	*107	*106	*104	*111	*110	*108	...
Mutton and lamb	*90	*97	*102	*103	*108	*120	*112	*111	*110	...
<i>Wine and hops</i>										
Wine	109	79	96	109	107	92	102	107	100	118
Hops	89	89	99	99	124	95	74	63	80	88
<i>Coffee, tea, cocoa</i>										
Coffee	80	82	95	123	120	122	104	121	128	82
Tea	91	97	100	104	109	99	102	107	99	...
Cocoa	97	93	104	99	107	104	107	112	118	111
<i>Tobacco</i>	101	99	98	98	105	109	107	92	100	...
<i>Vegetable-oil materials</i>										
Cotton-seed	105	105	90	101	99	98	102	91	101	89
Linseed	106	103	108	100	83	110	111	89	85	95
Rape-seed	121	93	103	90	93	111	101	101	103	101
Hemp-seed	104	101	104	107	84	80	69	61	62	...
Sesamum	89	92	107	105	108	123	114	113	113	93
Soya beans	92	101	103	102	102	114	115	96	113	...
Copra	86	95	91	112	116	100	99	97	119	...
Palm and palm-kernel oil (crude)	100	96	99	100	105	112	106	121	124	129
Olive oil (crude)	78	68	125	80	149	54	101	103	92	85
Ground-nuts	87	91	106	111	105	121	104	126	130	...
<i>Textiles</i>										
Cotton	105	106	90	100	99	97	103	90	100	88
Flax	103	95	86	101	115	119	129	113	128	129
Hemp	106	97	101	100	96	90	72	62	60	56
Manila hemp	97	98	93	96	115	105	87	70	73	...
Jute	87	118	99	96	100	109	54	69	78	77
Wool	93	98	100	105	105	102	102	102	100	100
Raw silk	87	93	99	108	113	110	107	97	100	...
Artificial silk	62	71	98	122	146	142	165	177	257	304

* Partly based on estimates.

¹ 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	1933	*1934
<i>Rubber (crude)</i>	80	95	93	100	131	125	121	107	129	154
<i>Wood-pulp</i>										
Mechanical pulp	88	96	98	104	114	111	102	95	101	...
Chemical pulp	84	93	100	104	119	115	104	99	115	...
<i>Fuels</i>										
Coal	95	95	103	100	107	98	87	77	81	88
Lignite	91	91	98	106	113	96	88	82	83	88
Petroleum	86	88	101	106	119	113	109	104	114	119
<i>Metals (smelter production)</i>										
Pig-iron: total production	90	92	101	103	115	93	65	46	57	73
" other than for steel-making	*95	*92	*107	*99	*107	*92	*65	*44	*50	*65
Steel	88	90	99	106	117	92	67	49	66	79
Copper	88	93	94	106	119	99	86	58	65	79
Lead	91	97	103	103	106	99	82	68	68	77
Zinc	87	94	100	108	112	107	76	60	76	90
Tin	88	90	98	108	117	107	90	60	53	73
Aluminium	81	90	96	109	124	121	99	70	64	77
Nickel	88	80	82	118	132	128	84	46	107	160
Silver	96	99	100	101	104	97	76	65	65	72
<i>Non-metallic minerals</i>										
Cement	86	93	101	107	113	107	93	74	72	84
Asbestos	90	98	95	102	116	97	68	*60	*76	*78
Salt	90	94	100	104	112	109	101	96	104	...
Natural phosphates	89	97	103	103	108	121	87	76	83	88
Sulphur	75	96	107	102	119	128	110	58	83	83
<i>Chemicals (fertilisers)</i>										
Nitrate of soda	96	77	67	128	132	103	51	36	27	...
Nitrate of lime	97	95	97	105	106	177	134	133	150	...
Cyanamide of calcium	80	93	95	108	124	122	68	79	*93	...
Sulphate of ammonia	76	77	103	114	129	121	107	103	*110	...
Natural guano	112	78	88	104	118	106	78	109	126	...
Superphosphates of lime	94	96	97	103	109	108	76	72	83	...
Basic slag	82	90	102	108	118	96	74	54	65	...
Potash	94	83	96	109	118	110	76	64	78	91
Sulphate of copper	85	95	105	120	95	94	112	116	112	...

* 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	1933	*1934
WORLD : General Index	95	96	99	104	106	103	98	96	99	99
<i>Crude foodstuffs</i>	97	97	99	104	103	104	102	105	104	102
Cereals	100	99	99	103	100	102	99	104	102	92
Cereals and other food crops	99	98	99	103	101	103	101	104	103	96
Meat	*95	*97	*101	*104	*105	*106	*105	*105	*106	*110
Wine and hops	109	79	96	109	107	92	101	106	97	117
Coffee, tea, cocoa	87	89	98	112	114	111	104	114	115	93
<i>Raw materials</i>	92	94	99	103	111	102	92	81	89	94
Tobacco	101	99	98	98	105	109	107	92	100	...
Vegetable-oil materials	95	94	104	100	106	102	105	102	105	96
Textiles	96	101	94	103	106	104	105	98	109	106
Rubber	80	95	93	100	131	125	121	107	128	154
Wood-pulp	85	94	99	104	117	114	104	99	111	...
Fuels	93	93	102	102	110	102	92	84	89	96
Metals (smelter production)	88	91	99	106	116	95	72	52	65	79
Non-metallic minerals	87	93	101	106	113	109	95	77	80	88
Chemicals (fertilisers)	88	86	94	112	120	112	83	76	84	...
EUROPE (excluding U.S.S.R.):										
<i>General Index</i>	95	89	100	104	112	104	100	100	103	106
<i>Crude foodstuffs</i>	98	92	97	103	109	104	106	111	112	111
Cereals	103	95	92	98	112	103	101	110	118	107
Cereals and other food crops	102	92	94	99	112	105	102	111	115	109
Meat	*91	*93	*102	*108	*106	*106	*113	*114	*111	*114
Wine and hops	112	78	97	107	107	90	100	99	92	110
<i>Raw materials</i>	90	84	105	105	116	102	90	81	87	97
Tobacco	101	99	102	88	110	115	105	89	94	86
Vegetable-oil materials	80	71	125	80	144	58	99	97	89	83
Textiles	89	90	99	106	115	108	103	106	115	130
Wood-pulp	87	91	100	103	119	118	104	107	120	...
Fuels	96	81	106	104	113	104	95	87	88	94
Metals (smelter production)	87	84	106	107	116	97	77	61	72	87
Non-metallic minerals	84	91	100	108	117	110	100	90	94	103
Chemicals (fertilisers)	86	86	101	109	118	113	87	82	89	...
EUROPE (including U.S.S.R.):										
<i>General Index</i>	94	92	100	104	111	108	102	101	107	111
<i>Crude foodstuffs</i>	96	95	98	103	108	109	104	106	111	111
Cereals	101	100	95	98	106	107	99	104	118	111
Cereals and other food crops	100	97	96	99	107	108	101	105	116	113
Meat	*89	*93	*102	*108	*108	*111	*109	*108	*105	...
Wine and hops	112	78	97	107	107	90	100	99	92	110
<i>Raw materials</i>	89	85	104	105	117	107	98	90	97	109
Tobacco	108	106	99	86	101	107	109	95	102	...
Vegetable-oil materials	84	75	118	87	136	72	109	104	97	...
Textiles	90	89	98	108	114	113	112	108	126	135
Wood-pulp	86	91	100	103	120	120	107	111	123	...
Fuels	93	82	106	105	115	109	104	97	100	109
Metals (smelter production)	85	84	106	108	117	102	83	69	81	101
Non-metallic minerals	82	90	100	109	119	116	107	98	100	110
Chemicals (fertilisers)	85	86	101	109	118	114	88	84	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	1933	*1934
NORTH AMERICA: General Index	97	100	98	103	102	94	90	83	81	76
<i>Crude foodstuffs</i>	100	98	101	106	96	94	98	102	90	81
Cereals	101	96	102	109	93	91	96	104	77	55
Cereals and other food crops	100	96	102	109	93	92	96	104	78	57
Meat	99	100	99	102	101	98	99	100	105	112
Wine and hops	82	98	97	107	116	85	98	89	135	136
<i>Raw materials</i>	94	102	95	101	108	93	82	62	71	71
Tobacco	101	95	90	102	113	121	117	78	102	81
Vegetable-oil materials	104	110	93	96	96	95	108	87	81	66
Textiles	102	114	86	97	101	96	117	93	98	79
Wood-pulp	86	97	98	105	115	107	100	85	98	...
Fuels	93	102	101	98	106	94	82	70	77	81
Metals (smelter production)	92	98	93	104	113	85	57	31	45	52
Non-metallic minerals	93	97	101	104	105	101	81	51	50	56
Chemicals (fertilisers)	88	91	93	111	117	113	71	51	76	73
LATIN AMERICA: General Index	95	96	99	107	103	106	100	97	101	105
<i>Crude foodstuffs</i>	96	98	101	106	100	105	100	101	105	104
Cereals	94	100	106	111	90	108	105	104	109	119
Cereals and other food crops	94	99	103	109	94	104	101	99	103	109
Meat	*100	*99	*100	*100	*101	*104	*99	*98	*102	...
Wine and hops	79	80	115	123	103	91	64	130	97	...
Coffee, tea, cocoa	81	83	94	123	119	122	103	118	126	80
<i>Raw materials</i>	92	93	95	108	112	107	99	84	91	107
Tobacco	92	93	104	100	111	108	107	91	97	...
Vegetable-oil materials	102	108	109	104	77	107	120	88	93	117
Textiles	95	103	98	99	105	100	103	105	128	138
Rubber	117	103	120	83	77	53	40	23	33	30
Fuels	88	87	90	110	125	123	108	106	108	126
Metals (smelter production)	81	87	98	112	122	103	92	58	64	87
Non-metallic minerals	65	81	99	116	139	134	158	157	173	...
Chemicals (fertilisers)	101	80	65	125	128	98	46	31	23	...
AFRICA: General Index	96	95	97	103	108	107	104	106	111	118
<i>Crude foodstuffs</i>	96	95	99	103	106	105	110	112	112	119
Cereals	93	94	98	103	112	97	108	100	103	116
Cereals and other food crops	96	93	100	102	110	100	105	104	107	117
Meat	*96	*99	*103	*101	*101	*108	*110	*110	*111	...
Wine and hops	103	79	76	123	119	125	142	170	156	200
Coffee, tea, cocoa	94	92	107	96	111	111	115	121	131	124
<i>Raw materials</i>	96	96	94	104	111	110	94	97	109	115
Tobacco	99	101	121	94	85	94	101	101	86	...
Vegetable-oil materials	97	96	94	101	112	109	89	106	114	116
Textiles	99	96	88	106	111	108	97	93	110	105
Rubber	97	122	110	97	73	61	49	24	25	37
Fuels	94	101	99	102	104	99	87	78	83	94
Metals (smelter production)	83	84	91	112	131	129	112	101	134	196
Non-metallic minerals	86	92	110	102	110	131	92	89	94	...
Chemicals (fertilisers)	89	100	97	109	105	102	85	92	101	...

* 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	1933	*1934
<i>ASIA: General Index</i>	97	97	100	103	104	106	102	103	107	105
<i>Crude foodstuffs</i>	99	98	99	102	102	103	105	104	106	101
Cereals	100	99	103	94	104	109	104	99	105	105
Cereals and other food crops	*99	99	99	101	102	103	105	103	106	100
Meat	*97	*96	98	*105	*104	*105	*105	*110	*110	...
Wine and hops	73	101	107	108	100	96	59	89	92	...
Coffee, tea, cocoa	91	96	100	104	108	98	101	108	98	100
<i>Raw materials</i>	94	94	100	105	107	110	99	101	110	111
Tobacco	101	99	100	100	101	104	97	102	99	...
Vegetable-oil materials	95	93	104	106	101	113	103	109	118	99
Textiles	96	95	99	106	104	106	88	93	103	108
Rubber	78	95	92	101	135	129	126	113	134	163
Wood-pulp	76	93	102	110	120	122	109	107	122	137
Fuels	94	93	99	105	108	108	101	100	107	115
Metals (smelter production)	84	90	100	106	120	119	103	94	104	125
Non-metallic minerals	82	95	100	105	118	109	108	105	122	130
Chemicals (fertilisers)	80	90	99	115	116	151	177	197	220	232
<i>OCEANIA: General Index</i>	93	101	98	105	102	111	111	120	116	115
<i>Crude foodstuffs</i>	93	102	97	106	102	119	118	131	123	120
Cereals	84	115	91	115	94	148	132	150	118	101
Cereals and other food crops	87	109	94	113	97	140	129	143	120	106
Meat	*96	*98	*99	*102	*105	*108	*113	*125	*126	...
Wine and hops	91	113	99	105	92	75	80	91	78	...
Coffee, tea, cocoa	79	96	101	109	113	119	114	118	126	...
<i>Raw materials</i>	93	100	100	104	103	99	100	105	105	108
Tobacco	119	83	100	100	100	93	476	476	476	...
Vegetable-oil materials	87	93	95	111	115	111	98	93	99	99
Textiles	91	101	98	106	104	101	110	115	111	112
Fuels	105	104	107	96	87	81	71	72	75	...
Metals (smelter production)	96	97	102	99	106	98	83	92	111	118
Non-metallic minerals	84	91	101	112	111	101	70	65	70	...
Chemicals (fertilisers)	91	88	97	111	113	108	83	82	96	...

* Partly based on estimates.

Appendix I. Table 4.

PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF PRIMARY COMMODITIES,
WEIGHTED BY 1930 VALUES, BY CONTINENTAL GROUPS.

World Totals = 100.

Groups of Products and Continents	Average 1925/29	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
TOTAL PRODUCTION :											
Europe (excluding U.S.S.R.)	30.1	30.0	28.0	30.4	30.1	31.8	30.2	30.7	31.4	31.3	32.1
Europe (including U.S.S.R.)	39.4	38.7	37.7	39.8	39.4	41.1	41.2	40.8	41.4	42.5	44.1
North America	31.1	31.6	32.4	30.7	30.9	29.9	28.3	28.5	26.8	25.4	23.9
Latin America	7.9	7.9	8.0	7.9	8.2	7.7	8.2	8.0	8.0	8.2	8.4
Africa	3.0	3.0	3.0	2.9	3.0	3.0	3.1	3.1	3.3	3.4	3.5
Asia	16.6	16.8	16.8	16.7	16.5	16.3	17.0	17.3	17.9	18.1	17.7
Oceania	2.0	2.0	2.1	2.0	2.0	2.0	2.2	2.3	2.6	2.4	2.4
World	100	100	100	100	100	100	100	100	100	100	100
CRUDE FOODSTUFFS :											
Europe (excluding U.S.S.R.)	30.3	30.6	28.8	29.7	30.1	32.2	30.5	31.5	32.1	32.6	33.1
Europe (including U.S.S.R.)	42.7	42.2	41.9	42.3	42.3	44.6	44.7	43.3	43.1	45.4	46.8
North America	25.8	26.4	26.1	26.2	26.3	24.2	23.5	24.6	25.2	22.2	20.6
Latin America	9.5	9.4	9.7	9.7	9.8	9.3	9.7	9.3	9.2	9.6	9.8
Africa	3.0	2.9	2.9	3.0	3.0	3.1	3.0	3.2	3.2	3.2	3.5
Asia	17.1	17.3	17.4	17.0	16.7	16.9	16.9	17.4	16.9	17.4	17.0
Oceania	1.9	1.8	2.0	1.8	1.9	1.9	2.2	2.2	2.4	2.2	2.3
World	100	100	100	100	100	100	100	100	100	100	100
Cereals :											
Europe (excluding U.S.S.R.)	30.4	31.3	29.2	28.3	29.1	34.0	30.5	30.8	32.2	35.1	35.4
Europe (including U.S.S.R.)	48.4	49.0	48.9	46.7	46.3	51.1	50.6	48.2	48.4	56.1	58.6
North America	34.6	34.9	33.8	35.7	36.6	32.1	31.1	33.5	34.5	26.1	20.6
Latin America	6.9	6.5	7.1	7.4	7.5	6.2	7.3	7.3	7.0	7.4	9.0
Africa	2.7	2.5	2.6	2.7	2.7	3.1	2.6	3.0	2.6	2.7	3.5
Asia	6.1	6.0	6.1	6.3	5.5	6.3	6.5	6.3	5.7	6.2	6.9
Oceania	1.3	1.1	1.5	1.2	1.4	1.2	1.9	1.7	1.8	1.5	1.4
World	100	100	100	100	100	100	100	100	100	100	100
Cereals and other food crops :											
Europe (excluding U.S.S.R.)	27.1	27.9	25.7	25.8	26.1	30.1	27.7	27.5	28.8	30.3	30.9
Europe (including U.S.S.R.)	41.4	41.7	41.4	40.4	40.0	43.7	43.6	41.3	41.8	46.7	48.9
North America	24.5	24.7	24.1	25.2	25.9	22.4	21.9	23.3	24.3	18.4	14.4
Latin America	6.5	6.2	6.6	6.7	6.9	6.0	6.5	6.5	6.2	6.4	7.4
Africa	2.4	2.3	2.3	2.4	2.4	2.6	2.4	2.5	2.4	2.5	2.9
Asia	24.1	24.1	24.4	24.2	23.6	24.2	24.1	25.0	23.8	24.7	25.2
Oceania	1.1	1.0	1.2	1.1	1.2	1.1	1.5	1.4	1.5	1.3	1.2
World	100	100	100	100	100	100	100	100	100	100	100

* Partly based on estimates.

Appendix I. Table 4 (continued).

**PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF PRIMARY COMMODITIES,
WEIGHTED BY 1930 VALUES, BY CONTINENTAL GROUPS.
World Totals = 100.**

Groups of Products and Continents	Average 1925/29	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
<i>Meat :</i>											
Europe (excluding U.S.S.R.)	33.6	32.3	32.5	34.1	34.8	34.0	33.6	36.2	36.3	35.3	35.0
Europe (including U.S.S.R.)	44.3	41.9	42.7	44.9	45.8	46.0	46.7	46.2	45.6	44.0	...
North America	31.0	32.4	32.1	30.6	30.3	29.9	28.7	29.4	29.6	30.8	32.0
Latin America	12.7	13.5	13.1	12.6	12.1	12.2	12.5	12.0	11.8	12.2	...
Africa	3.2	3.3	3.3	3.3	3.1	3.1	3.3	3.4	3.4	3.4	...
Asia	5.4	5.5	5.4	5.3	5.4	5.4	5.4	5.4	5.6	5.6	...
Oceania	3.4	3.4	3.4	3.3	3.3	3.4	3.4	3.6	4.0	4.0	...
World	100	100	100	100	100	100	100	100	100	100	...
<i>Wine and hops :</i>											
Europe (excluding U.S.S.R.)	85.3	87.7	84.7	85.6	83.6	84.8	83.1	84.8	80.0	80.8	80.3
Europe (including U.S.S.R.)	85.3	87.7	84.7	85.6	83.6	84.8	83.1	84.8	80.0	80.8	80.3
North America	0.9	0.6	1.1	0.9	0.8	0.9	0.8	0.8	0.7	1.2	1.0
Latin America	5.9	4.3	6.0	7.1	6.7	5.7	5.8	3.8	7.3	5.9	5.9
Africa	7.2	6.8	7.2	5.7	8.2	7.9	9.7	10.1	11.5	11.6	12.3
Asia	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Oceania	0.5	0.5	0.8	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
World	100	100	100	100	100	100	100	100	100	100	100
<i>Coffee, tea, cocoa :</i>											
Latin America	47.0	43.9	43.7	45.1	51.5	49.1	51.6	46.8	48.7	51.6	40.3
Africa	10.6	11.5	10.9	11.5	9.1	10.4	10.6	11.8	11.3	12.1	14.2
Asia	42.2	44.4	45.2	43.2	39.2	40.3	37.6	41.2	39.8	36.1	45.3
Oceania	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
World	100	100	100	100	100	100	100	100	100	100	100
RAW MATERIALS :											
Europe (excluding U.S.S.R.)	29.6	28.9	26.5	31.4	30.0	31.0	29.7	29.2	29.9	29.0	30.4
Europe (including U.S.S.R.)	33.8	32.5	30.5	35.6	34.5	35.7	35.4	36.2	37.7	37.1	39.3
North America	39.8	40.8	43.1	38.3	38.7	38.7	36.5	35.6	30.5	31.7	29.8
Latin America	5.3	5.3	5.2	5.1	5.5	5.3	5.6	5.7	5.5	5.4	6.0
Africa	3.0	3.1	3.0	2.8	3.0	3.0	3.2	3.0	3.5	3.6	3.6
Asia	15.9	16.1	15.9	16.0	16.1	15.3	17.2	17.1	19.9	19.6	18.8
Oceania	2.2	2.2	2.3	2.2	2.2	2.0	2.1	2.4	2.9	2.6	2.5
World	100	100	100	100	100	100	100	100	100	100	100
<i>Tobacco :</i>											
Europe (excluding U.S.S.R.)	14.0	14.0	14.1	14.6	12.6	14.7	14.7	13.7	13.5	13.2	...
Europe (including U.S.S.R.)	20.5	21.8	22.1	20.7	18.1	19.7	20.1	20.9	21.0	20.8	...
North America	28.6	28.4	27.5	26.3	29.8	30.8	31.6	31.5	24.0	29.2	...
Latin America	9.2	8.4	8.7	9.8	9.5	9.8	9.1	9.3	9.1	9.0	...
Africa	2.8	2.8	2.9	3.5	2.7	2.3	2.5	2.7	3.1	2.4	...
Asia	38.8	38.5	38.8	39.6	39.8	37.3	36.7	35.4	42.6	38.4	...
Oceania	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.2	...
World	100	100	100	100	100	100	100	100	100	100	...

* Partly based on estimates.

Appendix I. Table 4 (continued).

**PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF PRIMARY COMMODITIES,
WEIGHTED BY 1930 VALUES, BY CONTINENTAL GROUPS.**

World Totals = 100.

Groups of Products and Continents	Average 1925/29	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
<i>Vegetable-oil materials :</i>											
Europe (excluding U.S.S.R.) . . .	14.3	12.0	10.7	17.1	11.4	19.4	8.1	13.5	13.6	12.0	12.4
Europe (including U.S.S.R.) . . .	19.0	16.7	15.2	21.5	16.5	24.3	13.5	19.7	19.3	17.4	18.1
North America	15.8	17.3	18.4	14.1	15.1	14.2	14.8	16.3	13.5	12.2	10.9
Latin America	9.0	9.6	10.4	9.5	9.4	6.5	9.5	10.4	7.8	8.0	11.0
Africa	11.6	11.8	11.8	10.4	11.7	12.3	12.5	9.9	12.0	12.5	14.0
Asia	43.8	43.8	43.4	43.7	46.4	41.8	48.8	42.9	46.7	49.1	45.1
Oceania	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.8	0.9
World	100	100	100	100	100	100	100	100	100	100	100
<i>Textiles :</i>											
Europe (excluding U.S.S.R.) . . .	11.8	11.0	10.5	12.4	12.2	12.9	12.3	11.6	12.7	12.5	14.5
Europe (including U.S.S.R.) . . .	20.0	18.7	17.7	20.8	20.9	21.6	21.8	21.4	22.0	23.2	25.4
North America	31.1	32.9	35.2	28.5	29.3	29.8	28.8	34.7	29.3	28.2	23.2
Latin America	5.8	5.7	5.9	6.0	5.6	5.8	5.6	5.7	6.2	6.8	7.5
Africa	5.9	6.0	5.7	5.5	6.0	6.2	6.1	5.4	5.6	6.0	5.8
Asia	29.6	29.5	27.9	31.3	30.4	29.2	30.3	24.9	28.1	28.1	30.1
Oceania	7.6	7.2	7.6	7.9	7.8	7.4	7.4	7.9	8.8	7.7	8.0
World	100	100	100	100	100	100	100	100	100	100	100
<i>Rubber :</i>											
Latin America	4.5	6.6	4.8	5.8	3.7	2.6	1.9	1.5	1.0	1.2	0.9
Africa	1.2	1.5	1.6	1.4	1.2	0.7	0.6	0.5	0.3	0.2	0.3
Asia	94.3	91.9	93.6	92.8	95.1	96.7	97.5	98.0	98.7	98.6	98.8
World	100	100	100	100	100	100	100	100	100	100	100
<i>Wood-pulp :</i>											
Europe (excluding U.S.S.R.) . . .	47.9	48.7	46.6	48.4	47.3	48.6	49.7	48.0	52.2	51.6	...
Europe (including U.S.S.R.) . . .	49.0	49.2	47.5	49.5	48.4	50.0	51.7	50.5	55.0	54.2	...
North America	47.2	47.4	48.7	46.6	47.6	46.1	44.2	45.5	40.9	41.6	...
Latin America	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	...
Asia	3.6	3.2	3.6	3.7	3.8	3.7	3.9	3.8	3.9	4.0	...
World	100	100	100	100	100	100	100	100	100	100	...
<i>Fuels :</i>											
Europe (excluding U.S.S.R.) . . .	34.5	35.6	30.1	35.8	35.4	35.4	35.3	35.5	35.7	33.9	34.0
Europe (including U.S.S.R.) . . .	37.9	37.9	33.2	39.2	39.2	39.5	40.7	42.5	43.8	42.3	43.3
North America	49.7	49.8	54.5	49.0	48.0	47.9	45.8	44.0	41.6	43.3	41.9
Latin America	4.1	3.8	3.8	3.6	4.4	4.6	4.9	4.7	5.2	4.9	5.3
Africa	0.9	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Asia	6.6	6.7	6.6	6.4	6.8	6.5	7.1	7.3	7.9	8.0	8.0
Oceania	0.8	1.0	1.0	1.0	0.8	0.7	0.7	0.7	0.7	0.7	0.7
World	100	100	100	100	100	100	100	100	100	100	100

* Partly based on estimates.

Appendix I. Table 4 (concluded).

**PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF PRIMARY COMMODITIES,
WEIGHTED BY 1930 VALUES, BY CONTINENTAL GROUPS.**

World Totals = 100.

Groups of Products and Continents	Average 1925/29	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
<i>Metals (smelter production):</i>											
Europe (excluding U.S.S.R.) . .	37.7	37.2	34.8	40.6	38.2	37.7	38.7	40.6	44.7	42.0	41.9
Europe (including U.S.S.R.) . .	40.5	39.0	37.4	43.5	41.3	41.1	43.6	46.9	54.2	50.8	52.2
North America	48.6	50.8	52.1	45.7	47.7	47.6	43.7	38.4	29.1	34.0	31.9
Latin America	4.3	3.9	4.1	4.3	4.5	4.5	4.7	5.5	4.8	4.2	4.8
Africa	1.0	0.9	0.9	0.9	1.0	1.1	1.3	1.5	1.9	2.0	2.4
Asia	4.5	4.2	4.4	4.5	4.5	4.7	5.6	6.4	8.1	7.2	7.1
Oceania	1.1	1.2	1.1	1.1	1.0	1.0	1.1	1.3	1.9	1.8	1.6
World	100	100	100	100	100	100	100	100	100	100	100
<i>Non-metallic minerals:</i>											
Europe (excluding U.S.S.R.) . .	38.8	37.7	37.8	38.5	39.4	40.3	39.3	41.0	45.4	46.0	...
Europe (including U.S.S.R.) . .	42.3	40.0	40.8	42.0	43.4	44.8	45.1	47.7	53.7	53.4	...
North America	44.7	47.8	46.4	44.9	43.7	41.8	41.3	38.1	29.3	28.1	...
Latin America	0.9	0.7	0.8	0.9	1.0	1.1	1.1	1.5	1.8	2.0	...
Africa	3.0	2.9	2.9	3.2	2.8	2.9	3.5	2.9	3.4	3.5	...
Asia	7.8	7.4	7.9	7.7	7.7	8.1	7.8	8.9	10.7	11.9	...
Oceania	1.3	1.2	1.2	1.3	1.4	1.3	1.2	0.9	1.1	1.1	...
World	100	100	100	100	100	100	100	100	100	100	...
<i>Chemicals (fertilisers):</i>											
Europe (excluding U.S.S.R.) . .	66.4	64.7	66.6	71.2	64.6	65.6	66.9	69.9	71.7	70.3	...
Europe (including U.S.S.R.) . .	66.8	64.9	67.0	71.6	65.0	66.2	67.7	71.2	73.8	73.0	...
North America	11.4	11.3	12.1	11.2	11.3	11.2	11.4	9.7	7.6	10.3	...
Latin America	11.7	18.0	14.6	10.9	17.6	16.9	13.7	8.8	6.4	4.2	...
Africa	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.5	...
Asia	2.7	3.4	3.9	3.9	3.8	3.6	5.0	7.9	9.6	9.8	...
Oceania	2.0	2.0	2.0	2.0	1.9	1.8	1.9	2.0	2.1	2.2	...
World	100	100	100	100	100	100	100	100	100	100	...

* Partly based on estimates.

Appendix I. Table 5 (concluded).

**PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF PRIMARY COMMODITIES,
WEIGHTED BY 1930 VALUES, BY GROUPS OF PRODUCTS.**

Total Production of Each Continent = 100.

Continents and Groups of Products	Average 1925/29	1925	1926	1927	1928	1929	1930	1931	1932	1933	*1934
ASIA :											
<i>Crude foodstuffs</i>	63.9	65.2	64.9	63.7	63.2	62.9	62.3	65.3	64.6	63.1	61.8
Cereals	9.1	9.4	9.4	9.5	8.3	9.1	9.5	9.2	8.8	8.9	...
Food crops other than cereals	44.2	45.4	45.1	43.7	44.1	43.1	42.5	45.3	44.6	43.7	...
Meat	7.4	7.4	7.3	7.3	7.5	7.3	7.3	7.6	7.9	7.6	...
Coffee, tea, cocoa	3.2	3.0	3.1	3.2	3.3	3.4	3.0	3.2	3.3	2.9	...
<i>Raw materials</i>	36.1	34.8	35.1	36.3	36.8	37.1	37.7	34.7	35.4	36.9	38.2
Tobacco	4.1	4.2	4.1	4.1	3.9	3.9	4.0	3.8	4.0	3.7	...
Vegetable-oil materials	8.7	8.6	8.4	9.1	9.0	8.5	9.3	8.7	9.2	9.6	...
Textiles	12.9	12.8	12.7	12.9	13.3	13.0	13.0	11.2	11.7	12.4	...
Rubber	1.9	1.5	1.8	1.7	1.9	2.4	2.3	2.3	2.1	2.4	...
Wood-pulp	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	...
Fuels	4.6	4.4	4.4	4.6	4.7	4.8	4.7	4.5	4.4	4.5	...
Metals (smelter production)	2.6	2.2	2.4	2.6	2.6	3.0	2.9	2.6	2.3	2.5	...
Non-metallic minerals	0.8	0.7	0.8	0.8	0.8	0.9	0.8	0.9	0.8	0.9	...
Chemicals (fertilisers)	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	...
Total Production	100	100	100	100	100	100	100	100	100	100	100
OCEANIA :											
<i>Crude foodstuffs</i>	59.0	58.9	59.5	58.5	59.3	58.9	63.4	63.0	64.3	62.9	61.6
Cereals	15.9	14.4	18.1	14.7	17.4	14.6	21.2	18.9	19.8	16.3	...
Food crops other than cereals	4.7	4.8	4.1	5.0	4.7	4.9	4.8	5.0	4.6	5.0	...
Meat	37.9	39.2	36.7	38.3	36.7	38.9	37.0	38.7	39.5	41.2	...
Wine and hops	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	...
Coffee, tea, cocoa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	...
<i>Raw materials</i>	41.0	41.1	40.5	41.5	40.7	41.1	36.6	37.0	35.7	37.1	38.4
Tobacco	—	0.1	—	—	—	—	—	0.2	0.2	0.2	...
Vegetable-oil materials	1.4	1.3	1.3	1.3	1.5	1.5	1.4	1.2	1.1	1.2	...
Textiles	27.3	26.7	27.2	27.2	27.4	27.6	24.9	27.0	26.1	26.0	...
Fuels	4.8	5.4	5.0	5.2	4.4	4.1	3.5	3.1	2.4	3.1	...
Metals (smelter production)	5.1	5.3	4.9	5.3	4.8	5.3	4.5	3.8	3.9	4.9	...
Non-metallic minerals	1.1	1.0	1.0	1.2	1.2	1.2	1.0	0.7	0.6	0.7	...
Chemicals (fertilisers)	1.3	1.3	1.1	1.3	1.4	1.4	1.3	1.0	0.9	1.0	...
Total Production	100	100	100	100	100	100	100	100	100	100	100

* Partly based on estimates.

NOTES to Appendix I. Table 6.

Sources: 1-4, Stanford University (U.S.A.), *Wheat Studies*; 5, International Institute of Agriculture (Rome), *Monthly Crop Report and Agricultural Statistics*; 6, 33-36, 50, U.S. Dept. of Commerce, *Survey of Current Business*; 7-14, *Statistisches Jahrbuch für das Deutsche Reich* and International Institute of Agriculture (Rome), *Monthly Crop Report and Agricultural Statistics*; 15, 17-18, 43, 45-46, London and Cambridge Economic Service; 16, *Bulletin de la Statistique générale de la France*; 19, *Economisch-Statistisch Kwartaalbericht* (Rotterdam); 20, 27, 31, *Statistisches Jahrbuch für das Deutsche Reich und Wirtschaft und Statistik*; 21-23 *Commercial and Financial Chronicle* (New York); 24, *International Cotton Bulletin* (Manchester); 25, *The Economist* (London); 26, *The Wool Record and Textile World* (Bradford); 28-30, *Statistical Bulletin of the International Rubber Regulation Committee* (London); 32, 37-38, *Annales des Mines* (Paris); 39-42, 47-49, The American Bureau of Metal Statistics, *Year Book and Reports*; 44, *The Metal Bulletin* (London).

General Note. Unless otherwise stated, annual figures are yearly averages and those for the months of 1933-1935 refer to the beginning of the month indicated.

* Estimate or provisional figure. — a) 1.VIII. — b) Beginning of year. — c) End of month. — d) 30.VI. — e) Including stocks in Mexico. — f) Includes "Buffer" stock of 7,596 metric tons.

Wheat: 1. World wheat stocks less Russia covering U.S.A., Canada, Australia, Argentine (4 chief exporters), Lower Danube, India, North Africa, European importers, Afloat to Europe and Afloat to ex-Europe, Japan. — 5. Stocks of old crop wheat on August 1st (including flour in terms of wheat) in the 4 principal exporting countries and Afloat, less the minimum carry-over. — 6. 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: 7. Stocks in North America and Afloat. — 8. Stocks in commercial elevators and mills.

Barley: 9. Stocks in North America, Afloat, and U.K. ports. — 10. Stocks in commercial elevators and mills.

Oats: 11. Stocks in North America, Afloat and U.K. ports. — 12. Stocks in commercial elevators and mills.

Maize: 13. Stocks in North America, Afloat and U.K. ports.

Sugar: 15. Stocks in Germany, Czechoslovakia, France, Netherlands, Belgium, Poland, United Kingdom, U.S. ports, Cuba ports and, since July 1926, Cuba Interior.

Wine: 16. Wholesalers' stocks.

Coffee: 17. Visible supply in Europe, U.S.A., Brazil (Rio, Santos, Bahia), plus, since January 1926, stocks in Interior of São Paulo, since July 1928, stocks in Interior of Rio de Janeiro and, since April 1930, the São Paulo Government stocks.

Tea: 18. 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: 20. Stocks in France, United Kingdom, Sweden, Lisbon and New York.

Cotton: 21. 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, Asia and Africa. — 22. Visible supply 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. — 24. 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.

Wool: 25. Raw wool stocks at end of season in Australia (in stores and selling centres), in New Zealand (all centres) and in the ports of the Union of S. Africa (sold and unsold). — 26. Stocks of wool tops in the combing establishments of Belgium, France, Germany and Italy.

Raw Silk: 27. Stocks in U.S.A., Japan, Canton, Shanghai, London and Milan.

Rubber: 28. Stocks outside "regulated" areas, viz. at Singapore and Penang (dealers and Port), at Para and Manaus, in the U.K. and the U.S.A., and Afloat, plus, since 1928, stocks, inside "regulated" areas, viz. dealers' and estate stocks in Malaya, Netherlands Indies, Ceylon, India (excl. Burma), North Borneo, Sarawak and French Indo-China (dealers', brokers' and merchants' stocks only). — 29. Stocks with manufacturers, importers, dealers, etc. — 30. Stocks in public warehouses in London and Liverpool.

Coal: 31. 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. — 32. Series includes coke and briquettes in terms of coal. — 33. 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: 34. 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.

Iron Ore: 36. Stocks at furnaces and on Lake Erie docks. — 37. Stocks at mines. — 38. Stocks at mines in Algeria and Tunisia.

Copper: 39. 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: 41. 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. — 42. Stocks of refined pig and antimonial lead of domestic origin. — 43. Stocks in official warehouses only which have never represented anything like the total reserves in the country.

Zinc: 44. Series cover 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. The Cartel was dissolved on December 31st, 1934. — 45. Stocks in public warehouses.

Tin: 46. 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.

Silver: 47. Stocks at refineries in the U.S.A. and Canada. — 48. Stocks in sycee, Mexican dollars and bars expressed in terms of fine silver. — 49. Currency returns showing reserve in silver coin and bullion, here expressed in terms of fine silver.

Cement: 50. Stocks of finished cement and of "clinker" (unground cement).

Appendix II. Table 1.

GENERAL INDICES OF INDUSTRIAL PRODUCTIVE ACTIVITY.

Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>Africa:</i>										
Union of South Africa ¹ (annual)	84	94	98	108	116	124	...	...	...	...
<i>America:</i>										
Canada ² (monthly)	83	93	98	109	118	100	84	68	71	87
United States ³ (monthly)	95	99	97	101	109	88	74	58	69	72
Chile ⁴ (a) (monthly) . . . . .	.	.	(86)	(94)	(117)	(118)	(91)	(102)	(112)	(123)
<i>Asia:</i>										
Japan ⁵ (monthly) . . . . .	.	.	97	105	117	111	107	114	133	151
U.S.S.R. ⁶ (annual)	58	82	94	118	148	192	240	274	298	354
<i>Europe:</i>										
Germany: ⁷										
Annual index	89	85	107	109	110	97	79	66	74	93
Monthly index	87	87	109	108	109	97	80	66	75	93
Austria ⁸ (monthly)	89	89	100	110	113	96	84	72	74	81
Belgium: ⁹										
Annual index	82	95	103	109	111	98	91	77	78	78
Monthly index	80	96	99	112	112	95	85	71	75	74
Denmark ¹⁰ (a) (annual) . . . . .	.	.	(100)	(108)	(117)	(127)	(117)	(106)	(122)	(131)
Finland ¹¹ (monthly)	79	92	104	114	111	101	89	92	106	121
France ¹² (monthly)	88	103	90	104	114	115	102	79	88	81
Greece ¹³ (monthly)	95	90	100	106	108	112	116	109	119	136
Hungary ¹⁴ (a) (quarterly) . . . . .	.	.	(100)	(101)	(103)	(97)	(90)	(79)	(87)	(101)
Italy ¹⁵ (a) (monthly) . . . . .	.	.	.	(100)	(109)	(100)	(85)	(73)	(80)	(88)
Norway ¹⁶ (annual)	101	90	92	102	114	115	89	105	107	114
Netherlands ¹⁷ (monthly)	86	89	99	112	115	105	91	72	79	80
Poland ¹⁸ (monthly)	84	82	102	116	115	95	80	62	64	73
Roumania ¹⁹ (monthly)	77	89	102	112	120	116	122	106	123	149
United Kingdom: ²⁰										
Board of Trade (quarterly)	b (94)	.	(101)	(100)	(105)	(97)	(88)	(88)	(93)	(104)
London and Cambridge (quarterly)	99	76	109	104	112	100	85	86	92	103
Sweden: ²¹										
Kommerskollegium (annual)	87	95	98	104	117	116	111	105	112	...
Sveriges Industriförbund (monthly)	91	94	97	105	112	108	94	88	91	112
Czechoslovakia ²² (monthly)	90	87	101	109	114	101	92	72	68	75
<i>Oceania:</i>										
New Zealand ²³ (annual)	93	102	102	98	106	112	110	116	119	...

(a) Original basis has not been changed, as figures for all years are not available. b 1924. —
¹ Original basis 1920-21: Index of volume of output, all classes of industry (years ending 30. VI): Office of Census and Statistics. — ² Original basis 1926: Dominion Bureau of Statistics. —
³ Original basis 1923-1925: Federal Reserve Board. — ⁴ Basis 1927-1929: Dirección General de Estadística. —
⁵ Original basis 1931-1933: Ministry of Commerce and Industry. Figures for 1927-1929 have been obtained by linking up this index with that of the Mitsubishi Economic Research Bureau. — ⁶ Original basis 1928: Index based on aggregate values of industrial production at 1926-27 prices: Gosplan. — ⁷ Original basis 1928: Institut für Konjunkturforschung. — ⁸ Original basis 1923-1931: Österreichisches Institut für Konjunkturforschung. — ⁹ Original basis 1923-1925: Institut des Sciences économiques, Louvain. — ¹⁰ Basis 1927: Statistische Department. — ¹¹ Original basis 1926: Nordiska Föreningsbanken — Pohjoismaiden Yhdyspankki. — ¹² Original basis 1913: Statistique générale. — ¹³ Original basis 1928: Conseil supérieur économique — ¹⁴ Basis 1927: Ungarisches Institut für Wirtschaftsforschung. — ¹⁵ Basis 1928: Direzione Generale dell'Industria, Ministero delle Corporazioni. — ¹⁶ Original basis 1927: Statistische Centralbyrå. — ¹⁷ Original basis 1922-1925: Index based on net imports of raw materials: Centraal Bureau voor de Statistiek. — ¹⁸ Original basis 1928: Institute for Economic Research. — ¹⁹ Original basis 1927: Institutul Românesc de Conjunctura. — ²⁰ Board of Trade. Original basis 1924, recalculated on the basis: average 1924, 1927-1929 = 100. London and Cambridge, original basis 1924. — ²¹ Kommerskollegium, all classes of industry, original basis 1913. Sveriges Industriförbund, sample of important industries original basis 1925-1930. — ²² Original basis 1929: *Obzor Národohospodářský*, Dr. K. Maiwald. — ²³ Index of values added by manufacture, at 1925-26 prices; years ending 31. III. of following year: Census and Statistics Office.

Appendix II. Table 2.

COMPOSITE INDICES OF ACTIVITY IN THE TEXTILE INDUSTRIES.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America :</i>										
Canada ¹	84	95	103	110	108	101	99	94	102	...
United States ²	96	96	104	99	106	84	87	76	89	78
<i>Asia :</i>										
Japan ³	89	95	101	103	111	105	110	117	127	141
<i>Europe :</i>										
Germany ⁴ { Monthly	95	87	115	106	98	95	93	84	96	104
{ Annual	95	85	117	105	98	95	88	80	90	100
Belgium ⁵	82	93	107	112	107	88	81	69	69	52
Denmark ⁶ . . . . .	.	.	(92)	(96)	(112)	(114)	(116)	(126)	(149)	(168)
Finland ⁷ . . . . .	.	(89)	(104)	(105)	(102)	(95)	(89)	(90)	(105)	(120)
France ⁸	97	104	95	106	98	91	76	64	79	67
Greece ⁹	75	92	101	116	117	128	135	140	157	178
Hungary ¹⁰	95	89	100	108	108	110	111	95	114	136
Italy ¹¹ . . . . .	.	.	.	(100)	(102)	(91)	(82)	(67)	(76)	(74)
Norway ¹²	102	89	96	99	114	125	106	132	139	...
Netherlands ¹³	91	95	102	105	107	102	93	81	82	...
Poland ¹⁴	82	78	115	118	108	83	79	68	71	80
Roumania ¹⁵ . . . . .	.	.	(103)	(90)	(108)	(114)	(109)	(139)	(159)	(182)
United Kingdom ¹⁶ { Board of Trade	a (100)	.	(102)	(100)	(99)	(80)	(77)	(85)	(90)	(92)
{ London & Cambridge: Quarterly	106	92	105	98	99	79	78	88	96	98
{ Annual	103	96	104	98	98	79	82	87	94	97
Sweden ¹⁷ { (a)	86	96	103	108	108	114	105	118	121	...
{ (b)	89	98	102	107	106	107	94	114	115	...
Czechoslovakia ¹⁸	93	85	111	106	105	95	87	71	66	80
U.S.S.R. ¹⁹	61	83	101	119	136	124	126	137	...	...

a 1924. — ¹ Annual index: Dominion Bureau of Statistics. — ² Federal Reserve Board. — ³ Ministry of Commerce and Industry. — ⁴ Institut für Konjunkturforschung. — ⁵ Institut des Sciences économiques, Louvain. — ⁶ Basis 1927-1929; annual index: Statistiske Departement. — ⁷ Basis 1926-1929: Nordiska Föreningsbanken — Pohjoismaiden Yhdyspankki. — ⁸ Statistique générale de la France — ⁹ Conseil Supérieur Economique. — ¹⁰ Index based on number of workers employed: Ungarisches Institut für Wirtschaftsfor-schung. — ¹¹ Basis 1928: Direzione Generale dell' Industria. — ¹² Annual index: Statistiske Centralbyrå. — ¹³ Index based on number of workers employed: Centraal Bureau voor de Statistiek. — ¹⁴ Index based on total number of hours worked: Polish Institute for Economic Research. — ¹⁵ Basis 1927-1929: Institutul Românesc de Conjunctura. — ¹⁶ Board of Trade, basis 1924, 1927-1929. Quarterly and annual indices of the London and Cambridge Economic Service. — ¹⁷ (a) Annual index including hosiery and clothing; (b) Index based on figures of total production of yarn and tissues: Kommerskollegium. — ¹⁸ *Obzor Národohospodářský*. — ¹⁹ *Konjunktura mirovozo khoziaistva (Survey of World Economics)*.

Appendix II. Table 3.
ACTIVITY IN THE COTTON-SPINNING INDUSTRY.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America :</i>										
Canada ¹ { (a)	89	102	104	102	103	77	73	75	95	114
{ (b)	90	99	108	100	103	86	79	82	89	...
United States ²	94	98	108	97	103	79	79	73	91	79
<i>Asia :</i>										
China ³	(88)	.	(103)	(108)	.	(121)	(113)	(112)	(115)	(112)
India ⁴	91	107	107	86	110	115	128	134	122	129
Japan ⁵	95	102	99	96	109	98	100	110	121	135
<i>Europe :</i>										
Germany ⁶ . . . . .	.	.	.	(106)	(94)	(92)	(88)	(88)	(106)	(111)
Austria ⁷	102	87	108	102	101	94	88	87	90	112
Belgium ⁸	86	92	101	115	107	95	80	69	72	67
Bulgaria ⁹ . . . . .	.	.	.	.	(100)	(169)	(204)	(241)	(344)	(499)
Denmark ¹⁰	89	87	105	102	116	115	123	133	167	187
Spain ¹¹	105	93	109	96	97	104	97	103	96	96
Estonia ¹²	96	89	107	99	108	101	64	65	58	89
Finland ¹³	92	99	109	109	90	89	86	89	108	...
France ¹⁴	97	99	98	104	102	94	64	46	66	54
Greece ¹⁵	90	99	104	102	105	124	130	130	145	166
Hungary ¹⁶	59	69	92	113	167	193	194	231	291	330
Italy ¹⁷ { (a)	102	103	90	100	105	88	73	82	95	81
{ (b) . . . . .	.	.	.	(100)	(105)	(89)	(80)	(84)	(95)	(86)
Norway ¹⁸ . . . . .	.	.	(87)	(100)	(113)	(127)	(100)	(148)	(148)	...
Netherlands ¹⁹ . . . . .	.	(87)	(97)	(106)	(110)	(108)	(96)	(72)	(83)	(84)
Poland ²⁰ . . . . .	.	.	(109)	(104)	(88)	(81)	(78)	(75)	(86)	(95)
Portugal ²¹ . . . . .	.	.	.	.	.	(100)	(82)	(98)	(89)	(85)
Roumania ²²	80	100	89	107	124	123	116	135	137	...
United Kingdom ²³ { (a)	a (94)	.	(108)	(100)	(99)	(72)	(75)	(83)	(87)	(86)
{ (b)	112	94	105	95	94	68	74	76	82	83
{ (c)	109	94	106	95	96	74	72	79	83	82
Sweden ²⁴	84	99	104	110	103	107	95	118	118	...
Czechoslovakia ²⁵	108	79	117	99	97	89	73	64	56	62
U.S.S.R. ²⁶ . . . . .	.	(81)	(94)	(108)	(116)	(100)	(111)	...	...	...

a 1924.
¹ Indices based : (a) on raw cotton imports, (b) on cotton-thread production : Dom. Bureau of Statistics.
² Index based on mill consumption of raw cotton : Federal Reserve Board.
³ Basis 1925, 1927, 1928. Index based on figures of cotton-yarn production : Nankai Institute of Economics, Tientsin.
⁴ Index based on yarn production ; years ending 31. III of following year (1934 calendar year) : Cotton (Manchester).
⁵ Index based on figures of cotton-yarn production : Japanese Cotton Spinners' Association.
⁶ Basis 1928-1929. Index based on cotton industry : Institut für Konjunkturforschung.
⁷ Index based on cotton-yarn production : Österreichisches Institut für Konjunkturforschung.
⁸ Index based on figures of cotton-yarn production ; years ending January 31st of following year : Banque Nationale de Belgique.
⁹ Basis 1929. Index of cotton-yarn production : Direction Générale de la Statistique.
¹⁰ Index based on figures representing cotton-yarn production : Statistiske Departement.
¹¹ Index based on figures of cotton-yarn sold at Barcelona : Institut d'investigacions econòmiques, Barcelona.
¹² Index of raw-cotton consumption : Konjunktuurinstituut.
¹³ Index based on figures of cotton-yarn production : Central Statistical Bureau.
¹⁴ Index based on figures of cotton-yarn production : Statistique générale de la France from Syndicat général de l'Industrie cotonnière française.
¹⁵ Index of cotton-yarn production : 1934 half-year : Conseil Supérieur Economique.
¹⁶ Index of cotton-yarn production : Ungarisches Institut für Wirtschaftsforschung.
¹⁷ (a) Index based on raw-cotton imports. (b) Basis 1928. Index of cotton-yarn production : Direzione Generale dell'Industria.
¹⁸ Basis 1927-1929. Index based on figures of cotton-yarn production : Statistiske Centralbyrå.
¹⁹ Basis 1926-1929. Index of cotton-yarn production : Centraal Bureau voor de Statistiek.
²⁰ Basis 1927-1929. Index based on figures of cotton-yarn production : Central Statistical Office.
²¹ Basis 1930. Index based on figures of cotton-yarn production : Direcção Geral de Estatística.
²² Index based on figures of cotton-yarn production : Institutul Românesc de Conjunctura.
²³ (a) Based on quantities of raw cotton delivered to mills. Basis 1924, 1927-1929 : Board of Trade ; (b) annual and (c) quarterly indices based on yarn produced and yarn manufactured : London and Cambridge Economic Service.
²⁴ Index based on figures of cotton-yarn production : Kommerskollegium.
²⁵ Index based on figures of raw-cotton consumption : Státnj Úrad Statistický.
²⁶ Basis 1925-26 to 1928-29. Index based on mill consumption of raw cotton ; years ending 30. IX (1931 : calendar year) : Sowjetwirtschaft und Aussenhandel.

Appendix II. Table 4.

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

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America:</i>										
Canada ¹	82	103	106	109	101	89	87	84	105	...
Chile ²	.	.	(94)	(96)	(110)	(122)	(100)	(154)	(223)	(284)
United States ³ {			[79]	(94)	(106)	(84)	(96)	(97)	(116)	.
(a)	99	102	106	94	100	66	62	57	68	.
(b)										
<i>Asia:</i>										
China ⁴	(43)	.	(98)	(159)	.	(160)	(157)	(196)	(195)	(227)
India ⁵	90	104	110	86	109	114	130	135	125	138
Japan ⁶	89	93	98	104	116	105	106	116	126	136
<i>Europe:</i>										
Germany ⁷	100	78	117	110	94	102	88	74	...	...
Austria ⁸	99	89	110	100	101	106	117	114	105	134
Belgium ⁹	79	88	102	117	114	91	84	72	72	...
Bulgaria ¹⁰	.	.	.	.	(100)	(94)	(97)	(133)	(119)	(132)
Denmark ¹¹	106	94	95	92	112	110	111	118	142	157
Finland ¹²	92	96	111	111	90	87	86	84	103	...
France ¹³	96	99	100	101	103	104	77	59	93	72
Greece ¹⁴	73	84	98	111	133	156	164	164	328	361
Hungary ¹⁵ {	73	86	117	105	119	116	114	132	164	183
(a)	77	92	120	105	106	105	90	99	123	137
(b)		(87)	.	.	(113)	.	(106)	(163)	(169)	...
Irish Free State ¹⁶	.	.	.	(100)	(105)	(86)	(75)	(76)	(84)	(79)
Italy ¹⁷	.	.	(94)	(97)	(109)	(127)	(97)	(158)	(139)	...
Norway ¹⁸	.	(91)	(98)	(104)	(107)	(98)	(82)	(63)	(61)	(63)
Netherlands ¹⁹	.	.	(109)	(103)	(89)	(80)	(70)	(61)	(72)	...
Poland ²⁰	63	65	85	137	151	175	167	203	268	...
Roumania ²¹	83	99	105	106	107	112	101	129	112	...
Sweden ²²										
U.S.S.R. ²³	67	91	104	115	123	86	83	109	113	108

¹ Index of production of cotton yarn and cotton tissues : Dominion Bureau of Statistics.

² Basis 1927-1929. Index of production of cotton tissues : Dirección General de Estadística.

³ Indices based on figures of production of finished cotton cloth : U.S. Dept. of Commerce. (a) Base 1928-1929, printed only, 1927 average of 6 months, (b) white, dyed and printed.

⁴ Basis : 1925, 1927, 1928. Index based on figures of production of cotton cloth : Nankai Institute of Economics, Tientsin.

⁵ Index based on figures of production of cotton manufactures : years ending 31. III of following year (1934, calendar year) : Cotton (Manchester).

⁶ Index based on figures representing cotton-cloth produced : Japanese Cotton Spinners' Association.

⁷ Annual index : Institut für Konjunkturforschung.

⁸ Index based on the consumption of yarn by weavers : Österreichisches Institut für Konjunkturforschung.

⁹ Index based on the figures of production of cotton tissues : Institut des Sciences économiques, Louvain.

¹⁰ Basis 1929. Index of production of cotton tissues : Direction Générale de la Statistique.

¹¹ Index based on figures of cotton-cloth production : Statistiske Departement.

¹² Index based on figures of cotton-cloth production : Central Statistical Bureau.

¹³ Index based on figures of cotton-tissues production : Statistique Générale de la France from Syndicat général de l'Industrie cotonnière française.

¹⁴ Index of production of cotton-tissues ; 1934 half-year : Conseil Supérieur Economique.

¹⁵ Indices of (a) output of weaving mills, and (b) output of finished cotton goods : Ungarisches Institut für Wirtschaftsforschung.

¹⁶ Basis : 1926 and 1929. Index of production of cotton tissues : Department of Industry and Commerce.

¹⁷ Basis : 1928. Index of production of cotton tissues : Direzione Generale dell' Industria.

¹⁸ Basis : 1927-1929. Index based on figures of production of cotton cloth : Statistiske Centralbyrå.

¹⁹ Basis : 1926-1929. Index based on the consumption of yarn by weavers : Centraal Bureau voor de Statistiek.

²⁰ Basis : 1927-1929. Index based on figures of production of cotton cloth : Central Statistical Office.

²¹ Index based on figures of production of cotton tissues : Institutul Românesc de Conjunctura.

²² Index based on figures of production of cotton tissues : Kommerskollegium.

²³ Index based on figures of production of cotton cloth : Narodnoie khoziaistvo S.S.S.R. (National Economy of the U.S.S.R.).

Appendix II. Table 5.

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

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
America :										
Canada ¹ : Linen, hemp and jute	87	94	101	108	109	93	83	77	75	...
Jute	80	85	114	112	109	76	80	36	64	64
Flax	95	123	81	100	102	119	56	63	84	82
United States ² : Linen	156	112	83	82	68	71	50	25	31	33
Sisal and henequen	106	92	92	105	105	67	69	131	98	61
Manila	103	114	85	78	119	106	51	42	54	69
Kapok	116	96	111	90	86	98	95	94	76	77
Total	99	96	97	100	108	79	69	82	78	64
Asia :										
India ³ : Jute industry	93	96	99	104	107	95	73	76	76	75
Japan ⁴ : Hemp, jute and flax yarns	84	76	59	114	167	143	127	141	173	...
Europe :										
Germany ⁵ : Linen industry	124	81	133	85	78	69	61	58	66	111
	Linen-spinning	128	84	133	82	72	68	59	61	69
	Linen-weaving	119	79	133	87	82	58	53	45	...
	Hemp-spinning	87	82	118	107	106	86	73	64	74
Belgium ⁶ : Jute-spinning	102	80	102	113	103	73	61	50	...	...
	Linen industry	78	92	99	126	105	84	64	66	54
Denmark ⁷ : Linen-weaving	80	83	104	97	136	158	213	209	249	332
	Jute-spinning	78	68	158	115	81	105	159	181	232
Finland ⁸ : Linen-spinning	90	77	114	118	101	87	65	57	66	...
	Jute-spinning	106	105	102	97	90	68	50	44	56
	Jute-weaving . . . . .	..	..	(60)	(116)	(123)	(98)	(84)	(119)	(129)
Hungary ⁹ : Jute-weaving	86	62	105	117	130	120	75	61	90	67
	Linen- and hemp-spinning . . . . .	..	..	..	(100)	(97)	(83)	(77)	(84)	(90)
Italy ¹⁰ : Linen- and hemp-weaving . . . . .	..	..	..	(100)	(104)	(92)	(82)	(73)	(74)	(75)
	Jute-spinning . . . . .	..	..	(100)	(105)	(92)	(81)	(70)	(78)	(90)
	Jute-weaving . . . . .	..	..	(100)	(105)	(90)	(79)	(66)	(75)	(88)
Irish Free State ¹¹ : Linen-weaving . . . . .	..	(80)	..	..	(120)	..	(102)	(130)	(118)	...
	Jute-weaving . . . . .	..	(82)	..	(118)	..	(79)	(75)	(102)	...
Norway ¹² : Hemp-spinning . . . . .	..	..	(88)	(105)	(107)	(112)	(94)	(118)	(131)	...
	Linen- and jute-weaving . . . . .	..	..	(86)	(92)	(122)	(110)	(61)	(104)	(105)
Poland ¹³ : Linen-spinning . . . . .	..	..	(82)	(111)	(107)	(84)	(90)	(130)	(169)	(267)
	Jute-spinning . . . . .	..	..	(80)	(105)	(115)	(82)	(58)	(50)	(48)
	Hemp-spinning . . . . .	..	..	(52)	(162)	(86)	(83)	(64)	(57)	(61)
	Linen-weaving . . . . .	..	..	(79)	(115)	(107)	(93)	(90)	(135)	(216)
	Jute-weaving . . . . .	..	..	(81)	(103)	(115)	(86)	(58)	(47)	(45)
Roumania ¹⁴ : Hemp-weaving . . . . .	..	..	(10)	(167)	(124)	(194)	(176)	(161)	(96)	(142)
Roumania ¹⁴ : Linen, hemp and jute	102	92	68	159	79	280	364	459	535	...
United Kingdom ¹⁵ : Jute, hemp, linen	97	73	121	101	107	78	78	75	87	101
Sweden ¹⁶ : Linen- and hemp-spinning	99	101	103	107	90	89	80	97	82	...
	Linen- and hemp-weaving	98	93	102	106	102	100	86	96	95
	Jute-spinning	94	91	97	105	113	112	87	104	129
Jute-weaving	99	89	98	103	110	110	92	115	128	
Czechoslovakia ¹⁷ : Jute industry	99	82	107	102	110	116	101	49	78	110
	Linen-spinning	94	94	125	92	94	88	80	69	61
U.S.S.R. ¹⁸ : Linen industry . . . . .	..	..	(97)	(93)	(111)	(115)	(112)	(76)	(80)	(90)

¹ Index of production in the hemp, flax and jute industries: Dominion Bureau of Statistics. ⁹ Indices based on imports of unmanufactured fibres. ² Index based on exports of jute bags and tissues. ⁴ Index based on production figures: Ministry of Commerce and Industry. ⁵ Indices of the Institut für Konjunkturforschung. ⁶ Index based on imports of flax. ⁷ Indices based on production figures: Statistiske Departement. ⁸ Indices based on production figures; jute: basis 1927-1929; Central Statistical Bureau. ⁹ Index of the Ungarisches Institut für Wirtschaftsforschung. ¹⁰ Basis 1928: Direzione Generale dell'Industria. ¹¹ Basis 1926 and 1929. Indices based on production figures: Department of Industry and Commerce. ¹² Basis 1927-1929. Indices based on production figures: Statistiske Centralbyrå. ¹³ Basis 1927-1929. Indices based on production figures: Central Statistical Office. ¹⁴ Index based on figures of production of linen, hemp and jute tissues: Institutul Românesc de Conjunctura. ¹⁵ Quantities of raw material retained, plus home crops: London and Cambridge Economic Service. ¹⁶ Indices based on production figures: Kommerkollegium. ¹⁷ Indices based on imports of jute and production of linen yarn: *Obzor Narodohospodárský*. ¹⁸ Basis 1927-1929. Index based on figures of production of linen tissues: *Sowjetwirtschaft und Aussenhandel and Cotton* (Manchester).

Appendix II. Table 6.

ACTIVITY IN THE WOOL INDUSTRY.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America :</i>										
Canada ¹ { (a)	93	110	101	112	85	69	75	71	132	126
{ Spinning (b)	84	94	103	107	111	81	85	99	125	...
{ Weaving (c)	96	98	102	111	92	76	94	109	127	...
Chile ² . . . . .	.	.	(73)	(101)	(124)	(154)	(228)	(354)	(315)	(329)
United States ³	102	95	100	98	105	75	85	66	90	70
<i>Asia :</i>										
Japan ⁴ { Spinning	75	72	106	115	132	139	189	205	237	221
{ Weaving	81	104	98	113	105	99	99	105	82	68
<i>Europe :</i>										
Germany ⁵ { Spinning	93	89	107	107	104	111	107	98	...	...
{ Weaving	81	100	124	100	95	86	77	69	...	...
Belgium ⁶	76	84	114	115	111	85	80	66	81	44
Bulgaria ⁷ { Spinning . . . . .	.	.	.	.	(100)	(214)	(138)	(136)	(124)	(103)
{ Weaving . . . . .	.	.	.	.	(100)	(95)	(95)	(134)	(147)	(131)
Denmark ⁸ { Spinning	86	92	101	108	113	112	138	168	176	164
{ Weaving	100	85	95	107	114	110	97	105	143	154
Spain ⁹	89	102	94	112	104	116	132	140	117	112
Finland ¹⁰ { Spinning	97	99	105	108	90	69	72	96	131	...
{ Weaving	103	109	109	99	80	81	76	95	127	...
France ¹¹	96	103	97	105	100	94	83	73	90	72
Greece ¹² : Weaving	72	92	92	132	112	125	122	122	171	188
Hungary ¹³ { Spinning . . . . .	.	.	(92)	(108)	(100)	(80)	(77)	(108)	(133)	(115)
{ Weaving . . . . .	.	.	(112)	(99)	(89)	(76)	(60)	(77)	(97)	(84)
Irish Free State ¹⁴ : Weaving . . . . .	.	(86)	.	.	(114)	.	(91)	...	...	...
Italy ¹⁵ . . . . .	.	.	.	(102)	(98)	(90)	(83)	(76)	(83)	(81)
Norway ¹⁶ { Spinning . . . . .	.	.	(99)	(98)	(103)	(105)	(96)	(125)	(126)	...
{ Weaving . . . . .	.	.	(100)	(95)	(105)	(115)	(99)	(136)	(140)	...
Netherlands ¹⁷ { Spinning	78	86	109	113	114	121	109	105	114	...
{ Weaving	88	88	101	109	113	...	...	...	...	...
Poland ¹⁸ { Spinning . . . . .	.	.	(108)	(99)	(93)	(72)	(79)	(67)	(74)	...
{ Weaving . . . . .	.	.	(113)	(104)	(83)	(63)	(58)	(45)	(51)	...
Roumania ¹⁹ { Spinning	83	117	136	93	70	62	42	81	91	...
{ Weaving	87	122	115	94	83	77	59	86	102	...
United Kingdom ²⁰	97	109	100	98	95	85	82	84	89	89
Sweden ²¹ { Spinning	96	99	97	105	103	102	87	96	108	...
{ Weaving	97	97	98	103	105	108	92	102	106	...
Czechoslovakia ²²	79	89	107	107	119	103	101	83	84	90
U.S.S.R. ²³ : Weaving	69	89	112	104	126	141	144	117	107	90
<i>Oceania :</i>										
Australia ²⁴ { Spinning	68	86	115	114	116	120	98	149	195	190
{ Weaving	67	80	114	130	109	104	113	164	202	218
New Zealand ²⁵ { Spinning	100	84	103	113	99	55	116	176	172	...
{ Weaving	91	100	120	106	82	69	79	94	98	...

¹ Indices of (a) raw wool and woollen yarn imports, (b) woollen yarn production and (c) cloth production: Dom. Bureau of Statistics. — ² Basis: 1927-1929. Index of production of wool for weaving: Dir. Gen. de Estadística. — ³ Index compiled from wool consumption, machinery, carpet- and rug-loom activity: Fed. Res. Board. — ⁴ Indices based on figures of production of woollen yarn and of woollen cloth, flannel, etc.; the spinning index for 1925-1929 relates to all factories in Japan proper, for 1930 and 1931 only to 12, and since 1932 only to the 10 biggest companies: Ministry of Commerce and Industry. — ⁵ Annual indices based on output of yarn from carded wool and output of woollen tissues: Institut für Konjunkturforschung. — ⁶ Index based on figures of wool conditioned at Verviers and Dison: Bq. Nat. de Belgique. — ⁷ Basis 1929: Indices of production of woollen yarn and cloth: Direction générale de la Statistique. — ⁸ Indices based on figures of production of woollen yarn and cloth: Statistiske Departement. — ⁹ Index based on figures of wool conditioned at Sabadell and Terrassa: Institut d'investigacions econòmiques, Barcelona. — ¹⁰ Indices based on figures of production of woollen yarn and tissues: Central Statistical Bureau. — ¹¹ Index based on wool conditioned at Roubaix, Tourcoing and Mazamet and on loom activity: Statistique générale de la France. — ¹² Index of production of woollen cloth: 1934 half-year: Conseil Supérieur Economique. — ¹³ Basis: 1927-1929. Indices based on production of woollen yarn and woollen goods: 1934 I-III quarters: Ungarisches Institut für Wirtschaftsforschung. — ¹⁴ Basis: 1926 and 1929. Index based on figures of production of woollen tissues: Department of Industry and Commerce. — ¹⁵ Basis: 1928-1929. Index based on loom activity: Ministero delle Corporazioni. — ¹⁶ Basis: 1927-1929. Indices based on figures of production of

(Continued at foot of page 139.)

Appendix II. Table 7.

ACTIVITY IN THE NATURAL SILK INDUSTRY.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America:</i>										
Canada ¹	51	73	105	122	149	179	223	286	332	...
United States ² { Deliveries and	93	92	99	104	112	104	104	92	a 91	...
{ loom activity. .	91	92	100	104	113	106	108	100	86	84
{ Deliveries										
<i>Asia:</i>										
Japan ³ { Spinning	70	82	107	98	141	125	142	147	107	...
{ Weaving . . . . .	.	.	.	.	.	(100)	(102)	(108)	(120)	(130)
<i>Europe:</i>										
Germany ⁴ : Weaving	86	87	115	103	110	82	59	44	...	...
France ⁵	101	106	88	112	92	75	61	35	42	45
Greece ⁶ : Weaving	64	89	95	114	139	196	240	296	288	342
Hungary ⁷ { Spinning . . . . .	.	.	(93)	(100)	(106)	(128)	(154)	(158)	(146)	...
{ Weaving . . . . .	.	.	(86)	(116)	(99)	(136)	(90)	(43)	(17)	(11)
Italy ⁸ { Spinning . . . . .	.	.	.	(100)	(94)	(97)	(83)	(46)	(51)	(48)
{ Weaving . . . . .	.	.	.	(100)	(105)	(94)	(89)	(68)	(79)	(81)
Poland ⁹ : Weaving . . . . .	.	.	[63]	(92)	(108)	(102)	(116)	(71)	(100)	...
Portugal ¹⁰ : Spinning . . . . .	.	.	.	.	(1)	(100)	(181)	(148)	(265)	(407)
Roumania ¹¹ . . . . .	.	.	(83)	(92)	(125)	(158)	(183)	(191)	(274)	(274)
United Kingdom ¹² { (a)	b. (78)	.	(92)	(114)	(116)	(114)	(119)	(126)	(136)	(175)
{ (b)	92	97	90	104	117	103	110	141	167	206
{ (c)	86	77	92	119	127	112	122	163	191	217
Switzerland ¹³	95	81	114	121	88	52	41	28	24	31

a Average of January-June. — b 1924.

¹ Index of production of silk and silk manufactures: Dominion Bureau of Statistics.

² Indices compiled by the Federal Reserve Board.

³ Index based on figures of production of silk yarn and index of production of silk tissues, basis 1930: Ministry of Commerce and Industry.

⁴ Institut für Konjunkturforschung.

⁵ Index representing silk conditioned at Lyons: Statistique générale de la France.

⁶ Index of production of silk tissues; 1934 half-year: Conseil Supérieur Economique.

⁷ Basis: 1927-1929. Indices of production of silk yarn and silk tissues, 1934, I-III quarters: Ungarisches Institut für Wirtschaftsforschung.

⁸ Basis: 1928. Direzione Generale dell'Industria.

⁹ Basis: 1928-1929. Index based on figures of production of tissues of silk, half-silk, artificial silk and half-artificial silk; figure for 1927 is not strictly comparable: Central Statistical Office.

¹⁰ Basis: 1930: Direcção Geral de Estatística.

¹¹ Basis: 1927-1929: Institutul Românesc de Conjunctura.

¹² (a) Index based on deliveries of natural silk for home consumption. Basis: 1924, 1927-1929: Board of Trade; (b) annual and (c) quarterly indices, the former based on silk consumed and the latter on silk consumed and artificial silk produced: Lond. and Camb. Econ. Service.

¹³ Index based on figures of silk conditioned at Zurich and Basle: Banque Nationale Suisse.

NOTES to Table 6 of Appendix II (continued from page 138).

woollen yarn and cloth: Statistiske Centralbyrå. — ¹⁷ Index of production of woollen yarn: Centraal Bureau voor de Statistiek and index based on figures of production of woollen cloth, flannel, etc.: Handels Hoogeschool. Economisch-Technologisch Instituut, Tilburg. — ¹⁸ Basis: 1927-1929. Indices based on figures of production of woollen yarn and tissues: Central Statistical Office. — ¹⁹ Indices based on figures of production of woollen yarn and cloth: Institutul Românesc de Conjunctura. — ²⁰ Annual index based on wool and worsted retained: Lond. and Camb. Econ. Service. — ²¹ Indices based on figures of production of woollen yarn and tissues: Kommerskollegium. — ²² Index of wool imports: *Obzor Narodohospodátský*. — ²³ Index based on figures of production of woollen tissues: *Narodnoie khoziaistvo S.S.S.R. (National Economy of the U.S.S.R.)*. — ²⁴ Indices based on figures representing scoured wool used by mills (Spinning), and tweed, cloth and flannel produced (Weaving); years ending 30. VI: Commonwealth Bureau of Census and Statistics. — ²⁵ Indices based on figures of production of woollen yarn (Spinning), and of woollen tweed, cloth and flannel (Weaving); years ending 31. III. of following year: Census and Statistics Office.

Appendix II. Table 9.
ACTIVITY IN THE RUBBER INDUSTRY.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America :</i>										
Canada ¹ : Tyres and tubes	84	82	103	116	116	87	65	43	51	67
United States ² : Tyres and tubes	92	92	95	114	107	79	76	62	71	74
<i>Asia :</i>										
Japan ³ : Rubber footwear	54	70	79	121	175	219	149	159	189	...
<i>Europe :</i>										
Germany ⁴	106	57	111	105	121	109	53	45	...	...
Bulgaria ⁵ : Rubber footwear . . . . .	.	.	.	.	(100)	(171)	(424)	(634)	(601)	(446)
Denmark ⁶ { Tyres and tubes	122	109	90	77	102	112	90	82	115	128
	100	89	77	102	132	127	91	95	178	233
Denmark ⁶ { Other rubber products	109	97	83	91	120	120	91	87	152	190
Denmark ⁶ { Total	109	97	83	91	120	120	91	87	152	190
Finland ⁷ : Rubber footwear	87	89	75	96	152	154	110	107	74	...
France ⁸	81	97	88	95	139	145	145	107	145	144
Italy ⁹	90	80	92	102	135	152	82	125	158	176
Netherlands ¹⁰ : Bicycle tyres and tubes	92	83	97	104	125	142	141	134	163	161
Poland ¹¹ { Rubber footwear . . . . .	.	.	(40)	(111)	(149)	(142)	(111)	(100)	(98)	(136)
	.	.	.	.	(100)	(95)	(82)	(74)	(99)	...
United Kingdom ¹² { Board of Trade	a (49)	.	(95)	(103)	(152)	(158)	(165)	(180)	(169)	(235)
	74	72	100	99	155	159	163	169	161	223
United Kingdom ¹² { London and Cambridge Economic Service	74	72	100	99	155	159	163	169	161	223
Sweden ¹³ : Rubber goods	87	82	95	114	122	100	122	128	135	...
Czechoslovakia ¹⁴	61	64	99	113	163	160	254	319	343	357
U.S.S.R. ¹⁵ { Rubber shoes . . . . .	.	.	(83)	(100)	(116)	(113)	(172)	(173)	(166)	(173)
	.	.	.	(85)	(115)	(157)	(214)	(288)	(301)	...

a 1924. — ¹ Dom. Bureau of Statistics. — ² Fed. Res. Board. — ³ Ministry of Com. and Ind. — ⁴ Annual Index of the Inst. für Konjunkturforschung. — ⁵ Basis: 1929: Direction générale de la Statistique. — ⁶ Indices based on figures of values of production: Statistiske Departement. — ⁷ Cent. Stat. Bureau. — ⁸ Index based on consumption of crude rubber: Stat. gén. de la France. — ⁹ Index based on figures of net imports of crude rubber. — ¹⁰ Centraal Bureau voor de Statistiek. — ¹¹ Indices of production of rubber footwear, basis 1927-1929, and of other rubber goods, basis 1929, based on figures of the Cent. Stat. Office. — ¹² Board of Trade: basis 1924, 1927-1929; index of crude rubber available for manufacture. Lond. and Camb. Econ. Service: Index based on quantities of rubber, gutta-percha and balata retained in the U. K. — ¹³ Index based on figures of values of production of rubber goods at 1913 prices: Kommerkollegium. — ¹⁴ Index based on figures of consumption of rubber and gutta-percha: Státnj Úrad Statistický. — ¹⁵ Basis: 1927-1929. Index based on figures of production of rubber shoes and index based on values of production of rubber goods at 1926-27 prices (Basis 1928-1929): Gosplan.

Appendix II. Table 10.

ACTIVITY IN THE TIMBER INDUSTRY.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America :</i>										
Canada ¹ (Exports)	111	108	104	88	89	77	48	35	49	69
United States ²	107	104	97	96	96	68	43	26	34	34
<i>Asia :</i>										
Turkey ³	128	115	83	83	92	94	95	89	...	...
<i>Europe :</i>										
Austria ⁴ (Exports)	90	81	101	126	102	83	56	41	47	54
Denmark ⁵ { Activity . . . . .	.	.	(94)	(98)	(109)	(119)	(125)	(97)	(113)	(137)
{ Planks and timber . . . . .	.	(82)	(97)	(100)	(122)	(124)	(112)	(84)	(129)	(226)
Finland ⁶ . . . . .	.	(93)	(111)	(105)	(91)	(73)	(60)	(62)	(73)	(88)
Netherlands Indies ⁷	77	76	96	113	138	101	94	63	69	...
Irish Free State ⁸ . . . . .	.	(97)	.	.	(103)	.	(111)	...	...	...
Norway ⁹	111	89	89	105	106	105	80	87	83	...
Poland ¹⁰ { Activity	95	88	103	109	105	88	64	50	57	68
{ Sawn timber . . . . .	.	(95)	(105)	(106)	(94)	(91)	(72)	(64)	(76)	...
Roumania ¹¹	110	119	94	91	86	73	53	49	53	74
Sweden ¹²	88	94	101	108	110	104	97	87	87	...
Czechoslovakia ¹³	98	83	94	120	106	90	71	53	51	55
Yugoslavia ¹⁴ (Exports)	82	88	98	118	114	95	63	42	53	61
U.S.S.R. ¹⁵	71	86	102	109	132	174	190	194	180	...
<i>Oceania :</i>										
Australia ¹⁴ : Sawn timber	102	119	103	95	82	78	46	38	48	60
New Zealand ¹⁷ { Sawn timber	119	103	91	91	95	77	52	56	68	...
{ Planed flooring, etc.	(120)	(100)	(86)	(97)	(103)	(89)	(56)	(52)	(54)	...

¹ Index of exports of boards and planks : Dom. Bureau of Statistics.
² Index of lumber cut : Federal Reserve Board.
³ Index of production of timber : Central Statistical Office.
⁴ Index of exports of sawn timber.
⁵ Index of activity in the wood industry (basis 1927-1929) and index based on production of planks and timber (basis 1926-1929) : Statistiske Departement.
⁶ Index of production of sawn timber, basis 1926-1929 : Nordiska Föreningsbanken — Pohjoismaiden Yhdyspankki.
⁷ Index of wood cut : Centraal Kantoor voor de Statistiek.
⁸ Index of production of sawn timber, basis 1926 and 1929 : Department of Industry and Commerce.
⁹ Index of activity : Statistiske Centralbyrå.
¹⁰ Index of activity based on number of hours worked : Institute for Econ. Research. Index based on figures of production of sawn timber : Central Statistical Office (basis 1926-1929).
¹¹ Index based on figures of production of planks : Institutul Românesc de Conjunctura.
¹² Index covering total production : Kommerskollegium.
¹³ Index of activity : *Obzor Národohospodárský*.
¹⁴ Index of exports of sawn timber.
¹⁵ Index based on figures of production of sawn timber : Gosplan.
¹⁶ Index based on the figures of sawmill output of native timber : Commonwealth Bureau of Census and Statistics. Years ending 30.VI.
¹⁷ Index based on surface-area of rough sawn timber and index of planed flooring, skirting, and, since 1928, also moulding, etc. (basis 1928-1929). Figures published by the Census and Statistics Office. Years ending 31.III of following year.

Appendix II. Table 11.

ACTIVITY IN THE PAPER AND PRINTING INDUSTRIES.

Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	
<i>America :</i>											
Canada ¹	Paper	74	90	98	113	125	115	102	88	113	...
	Paper-boards	80	86	89	107	138	129	112	116	128	...
	Wood-pulp	82	95	97	107	119	107	94	79	88	...
United States ²	Newsprint	72	89	98	113	129	118	103	90	95	123
	Paper and printing	93	99	97	103	108	98	92	79	82	.
	Wood-pulp, paper and paper-boards	95	99	96	103	107	95	87	74	79	.
Chile ³	Printing	87	98	100	104	111	104	100	85	81	94
	Paper . . . . .	.	.	(88)	(95)	(120)	(142)	(114)	(210)	(244)	(246)
Paper-boards . . . . .	.	.	(36)	(137)	(142)	(173)	(67)	(109)	(141)	(123)	
	<i>Asia :</i>										
India ⁴	Paper	82	93	98	110	117	115	117	115	124	123
Japan ⁵	Paper	80	89	98	112	121	117	114	112	123	136
	Paper-boards	87	90	89	106	128	118	115	110	140	...
<i>Europe :</i>											
Germany ⁶	Paper	88	86	105	110	111	104	97	86	92	101
	Paper-boards	92	82	108	110	108	102	88	83	83	96
	Printing	91	88	104	112	106	105	90	77	...	...
Austria ⁷	Paper	90	93	100	109	108	99	99	95	95	94
	Paper-boards	92	99	104	103	101	109	55	42	53	60
Belgium ⁸	Paper and paper-boards	88	93	98	108	113	99	104	86	90	88
	Paper	90	101	104	103	101	106	103	107	111	114
Denmark ⁹	Paper-boards	81	88	97	117	118	127	114	129	208	431
	Wood-pulp and newsprint . . . . .	.	(84)	(94)	(108)	(115)	(132)	(135)	(150)	(168)	(190)
France ¹⁰	Paper	92	100	92	97	118	145	120	114	141	159
Greece ¹¹	Paper and paper-boards	50	45	83	145	176	182	190	186	209	294
	Paper . . . . .	.	.	(45)	(74)	(181)	(266)	(283)	(237)	(241)	(304)
Hungary ¹²	Paper-boards . . . . .	.	.	(91)	(92)	(117)	(152)	(138)	(138)	(134)	(153)
	Paper and paper-boards	117	100	88	95	101	100	96	97	107	125
Norway ¹³	Paper and paper-boards	95	85	101	105	114	106	63	103	97	96
	Printing	102	95	98	101	105	109	90	109	108	...
Netherlands ¹⁴	Paper	83	89	97	110	120	123	124	118	122	124
	Paper	88	86	98	114	113	110	97	92	90	101
Poland ¹⁷	Printing	93	84	98	111	115	112	98	82	82	88
	Paper . . . . .	.	.	.	.	(100)	(120)	(104)	(131)	(145)	(147)
Portugal ¹⁸	Paper	84	95	104	110	108	110	102	99	110	141
Roumania ¹⁹	Paper and paper-boards	88	94	105	94	119	109	102	119	124	142
United Kingdom ²⁰	Paper	91	97	99	96	116	105	117	115	120	...
	Paper-boards	86	93	96	105	120	117	88	91	99	...
	Printing	87	94	100	105	114	118	127	127	127	...
Czechoslovakia ²¹	Paper	81	93	105	106	115	111	107	93	85	93
	Printing . . . . .	.	.	.	(94)	(106)	(103)	(100)	(97)	(96)	(101)
U.S.S.R. ²²	Paper	71	87	101	114	126	161	158	150	159	178
<i>Oceania :</i>											
New Zealand ²⁴	Printing	87	95	103	102	112	109	94	87	90	...

¹ Dom. Bureau of Statistics. — ² Printing : newsprint consumption. Fed. Res. Board. — ³ Original basis 1927-1929. Dir. Gen. de Estadística. — ⁴ Dept. of Commercial Intelligence and Statistics. — ⁵ Ministry of Commerce and Industry. — ⁶ Inst. für Konjunkturforschung. — ⁷ Bundesamt für Statistik. — ⁸ Inst. des Sciences écon., Louvain. — ⁹ Statistiske Departement. — ¹⁰ Basis 1926-1929 : Nordiska Föreningsbanken-Pohjoismaiden Yhdyspankki. — ¹¹ Index based on the apparent consumption of wood-pulp : Stat. gén. de la France. — ¹² Conseil Supérieur Economique. — ¹³ Basis 1927-1929. Indices of production of paper (newsprint, book and writing) and paper-boards : Ungarisches Institut für Wirtschaftsforschung. — ¹⁴ Istituto Centrale di Statistica. — ¹⁵ April to Sept. 1931, labour dispute in the paper industry. Statistiske Centralbyrå. — ¹⁶ Centraal Bureau voor de Statistiek. — ¹⁷ Polish Institute for Economic Research. — ¹⁸ Basis 1929 : Direcção Geral de Estatística. — ¹⁹ Inst. Românesc. de Conjunctura. — ²⁰ Index of estimated production of paper from esparto and pulp : Lond. and Camb. Econ. Service. — ²¹ Printing industry : value of output at 1913 prices : Kommerskollegium. — ²² *Obzor Národohospodářský*, Printing : (basis 1928-1929). — ²³ *Konjuktura mirovozo khoziaistva (Survey of World Economics)*. — ²⁴ Index based on figures of consumption of paper for newspaper and for job-printing : years ending 31. III of following year : Census and Statistics Office.

Appendix II. Table 12.

ACTIVITY IN THE ENGINEERING INDUSTRY.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America :</i>										
United States ¹ { Demand for machine tools	78	84	71	122	145	66	38	18	25	43
{ Demand for foundry equipment	86	92	81	113	128	68	34	13	24	39
<i>Asia :</i>										
Japan ²						(100)	(94)	(107)	(138)	(180)
<i>Europe :</i>										
Germany ³ { Despatch of machines	86	74	97	121	122	101	72	46	51	77
{ Orders received for machines	86	73	108	114	119	87	62	37	44	80
Denmark ⁴ : Value of machine production	97	99	80	104	120	125	92	74	88	113
Finland ⁵ : Metalwork and machinery		(85)	(87)	(112)	(116)	(90)	(76)	(76)	(83)	(88)
France ⁶	88	101	87	105	120	120	104	74	82	75
Greece ⁷	95	87	103	111	104	98	96	80	75	153
Hungary ⁸ : Net value of production			(84)	(101)	(116)	(99)	(68)	(53)	(40)	...
Italy ⁹				(100)	(104)	(95)	(83)	(71)	(72)	(75)
Netherlands ¹⁰ { Value of products	78	85	93	112	131	125	89	48	53	...
{ Workers employed	88	87	92	109	124	118	88	62	70	69
Poland ¹¹ : Metals and engineering	83	76	98	122	122	92	68	54	55	67
United Kingdom { Board of Trade ¹²	α (89)		(103)	(101)	(108)	(104)	(85)	(79)	(85)	(100)
{ London and Cambridge Economic Service ¹³	87	89	102	122	101	120	49	11	21	16
Sweden ¹⁴	76	90	94	114	126	131	126	109	107	...
U.S.S.R. ¹⁵ { Machine production	48	69	90	120	173	259	448	562	657	819
{ Prod. of agricult. machinery	35	68	86	125	186	354	535	624	...	...
<i>Oceania :</i>										
New Zealand ¹⁶	73	83	102	123	119	88	54	38	48	...

α 1924. — ¹ U.S. Dept. of Commerce. — ² Basis 1930. Ministry of Commerce and Industry. — ³ Inst. für Konjunkturforschung. — ⁴ Statistiske Departement. — ⁵ Basis 1926-1929. Nordiska Föreningsbanken-Pohjoismaiden Yhdyspankki. — ⁶ Index based on consumption of steel by mechanical industry: Stat. gén. de la France. — ⁷ Conseil Supérieur Economique. — ⁸ Basis 1927-1929. Index based on value added by manufacture: Ungarisches Institut für Wirtschaftsforschung. — ⁹ Basis 1928: Direzione Generale dell'Industria. — ¹⁰ Indices based on figures of the Centraal Bureau voor de Statistiek. Workers employed on 15. IX. — ¹¹ Index based on hours worked in the metal and engineering trades: Inst. for Econ. Research. — ¹² Basis 1924, 1927-1929. Index of production in engineering and shipbuilding. — ¹³ Production of railway locomotives, wheels and axles. — ¹⁴ Index based on figures of values of production of shipbuilding, vehicles, machines, instruments and watches at 1913 prices: Kommerskollegium. — ¹⁵ Indices based on values of production at 1926-27 prices: *Konjunktura mirovozo khoziaistva (Survey of World Economics)*. — ¹⁶ 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 13.

ACTIVITY IN THE ELECTRICAL MANUFACTURING INDUSTRY.
Average 1925-1929 = 100.

Country	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
<i>America :</i>										
United States ¹ : Value of production	88	97	90	98	127	97	69	34	39	52
<i>Europe :</i>										
Germany ² { Prod. of electr. bulbs	88	86	106	112	107	96	72	...	...	...
{ Prod. of wireless equipment	25	28	68	186	193	256	241	221	...	...
Denmark ³ : Value of production	83	87	91	106	133	154	120	102	124	151
Italy ⁴ { Machines				(100)	(114)	(112)	(98)	(83)	(83)	(92)
{ Bulbs	69	80	95	107	150	169	149	136	173	177
Netherlands ⁵ { Value of products	75	75	100	104	147	144	94	69	62	...
{ Workers employed	82	86	95	111	126	119	103	76	77	89
Poland ⁶			(69)	(108)	(124)	(96)	(74)	(67)	(77)	(116)
United Kingdom ⁷	82	95	123	91	110	111	79	61	66	86
Sweden ⁸ : Value of production	75	91	100	117	118	126	113	92	92	...
U.S.S.R. ⁹	51	70	83	116	180	357	589	679	...	...

For footnotes, see page 146.

NOTES to Table 13 of Appendix II.

- ¹ Index based on values of new orders of electrical goods. Figures relate to about 58% of industry : U.S. Dept. of Commerce.
- ² Institut für Konjunkturforschung.
- ³ Statistiske Departement.
- ⁴ Machines: Basis 1928; Direzione Generale dell'Industria. Bulbs: Istituto Centrale di Statistica.
- ⁵ Indices based on figures of workers employed on September 15th: Centraal Bureau voor de Statistiek.
- ⁶ Basis 1927-1929. Index based on figures of monthly average of workers employed: Central Statistical Office.
- ⁷ Index of activity in the electrical manufacturing industry: British Electrical and Allied Manufacturers' Association (BEAMA).
- ⁸ Komersekollegium.
- ⁹ Index based on value of output of electro-technical machinery at 1926/27 prices: *Konjunktura mirovozo khoziaistva* (*Survey of World Economics*).

NOTES to Table 14 of Appendix II.

- * Provisional figures, a 1924.
- ¹ Urban areas. Absolute figures published by the Office of Census and Statistics. Years ending 30. VI. Indices for 1933 and 1934 based on less complete monthly series.
- ² General index based on value of contracts adjusted for changes in costs and on building permits: Dom. Bureau of Statistics.
- ³ Indices based on figures of contracts awarded relating to area of new buildings in 37 States: F. W. Dodge Corp. Index of volume of construction based on consumption of materials: *Survey of Current Business*.
- ⁴ Ground area of new buildings in Buenos Aires: *Revista de Economia Argentina*.
- ⁵ Basis 1929. Index based on figures representing area of new buildings in 9 municipalities: Dir. Gen. de Estadística.
- ⁶ Ground area of new buildings in Bogotá: *Revista del Banco de la República*.
- ⁷ Basis: 1929. Index based on figures of building permits issued in Shanghai, Tientsin and Tsingtao: Directorate of Statistics, Nanking.
- ⁸ Indices based on figures of ground area of new buildings completed in Tokyo. About 95% of the dwellings and 73% of the business buildings are wooden: Municipal Bureau of Statistics.
- ⁹ (a) Indices of building permits and buildings completed in 96 towns, number of dwellings, cubic volume of other buildings (basis 1929), based on figures of the Inst. für Konjunkturforschung. (b) Index based on statistics published in *Vierteljahrshefte zur Statistik*.
- ¹⁰ Basis 1927-1929. Index based on figures of building permits in 114 towns and localities: Bq. Nat. de Belgique.
- ¹¹ Index of number of apartments completed in the capital and 85 provincial towns (since 1930, adjusted to include suburbs). 1925 to 1928, years ending Oct. Index of numbers of apartments under construction (basis 1929) in the same towns on Jan. 1 of following year. Indices based on figures of the Statistiske Departement.
- ¹² Indices based on figures of building permits in Barcelona: Institut d'investigacions econòmiques, Barcelona.
- ¹³ Index based on figures of actual number of dwelling-rooms (including kitchen) completed in 38 localities: Central Statistical Bureau.
- ¹⁴ Index based on actual number of building permits (when possible, number of floors) issued in the principal towns: Stat. gén. de la France.
- ¹⁵ Index compiled by the Conseil Supérieur Economique.
- ¹⁶ Basis 1930. Index of net increase of number of dwelling-rooms: Central Statistical Office.
- ¹⁷ Basis 1928. Index based on figures of building permits in the principal towns: Direzione Generale dell'Industria.
- ¹⁸ Basis 1929. Index of number of dwelling-rooms completed in about 60 localities: *Valsts Statistiskā Pārvalde*.
- ¹⁹ Index based on figures of net increase of number of dwellings in towns of over 2,000 inhabitants: Statistiske Centralbyrå.
- ²⁰ Basis 1926-1929. Index based on figures of number of dwellings completed on new ground (i.e., excl. rebuilding): Centraal Bureau voor de Statistiek.
- ²¹ Index of activity based on total number of hours worked: Institute for Economic Research, and indices based on figures of number of buildings completed in towns of over 25,000 inhabitants, since 1931, over 20,000 inhabitants: Central Statistical Office.
- ²² Basis 1929. Index of floor area of dwelling permits in 36 localities: Institutul Românesc pe Conjunctura.
- ²³ Basis: 1924, 1927-1929. Indices of estimated cost of plans approved by 146 local authorities. "Other buildings" include additions and alterations to existing buildings.
- ²⁴ Index based on estimated number of houses completed in England and Wales. Year ending March 31st of the following year.
- ²⁵ Indices based on absolute figures published by the K. Socialstyrelsen. Index of pwellings permits based on the number of rooms (incl. kitchens) (basis 1927-1929) relates to towns of over 10,000 inhabitants.
- ²⁶ Basis 1926-1929. Indices based on figures relating to 351 localities: Office fédéral de l'Industrie, des Arts et Métiers et du Travail.
- ²⁷ Index of dwellings completed in 65 localities: Státnj Úřad Statistický.
- ²⁸ Basis 1932. Index of building permits in Capital cities and suburbs: Commonwealth Bureau of Census and Statistics.
- ²⁹ Indices based on figures published by the Census and Statistics Office. Permits, calendar years (basis 1926-1929); buildings completed, years ending 31. III of following year.